



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

OPEN EDUCATIONAL RESOURCES:

A FACILITATOR OF OPEN EDUCATION

Dr. Ranjan Samanta¹, Totan Maity², Dr. Biswajit Das³

¹Librarian, ²Library Trainee, ³University Librarian

¹Naba Ballygunge Mahavidyalaya, Kolkata, WB, India

²Aliah University, Kolkata, WB, India

³University of Gour Banga, Malda, WB, India

Abstract: Open Education Resources (OER) are teaching, learning materials in any medium that reside in the public domain under an open license. The main purpose of this present study is to reveal the concept of OER and how various OERs facilitate open education. In this study, we analyze various OERs initiatives that promote open education. This paper focuses on significant development in the area of open education, the role of OER as a promoter of open education. The OER has empowered students, teachers, researchers to become more innovative in their teaching-learning through openness and flexibility. Various OER initiatives are greatly supported to open education and these are accessed remotely by the learners. This paper gives a detailed account of various OER initiatives which will be helpful to learners at different levels to acquire their diversified needs of information.

Index Terms: *Open Educational Resources, Open Education, Openness, E-learning, Teaching-Learning.*

1. INTRODUCTION

The term OER was initially adopted in 2002, UNESCO Forum on the Impact of Open Courseware for Higher Education in Developing Countries to refer some related contents such as “open courseware”, “open learning resources” and “open teaching / learning resources”. With the globalization of the education system, many students now like to gain degrees from open education at their convenient time. The emergence and development of Open Educational Resources (OERs) can add great value to this venture. Openness suggests flexibility and easy access to information and data. This empowers educators to design and distribute individualized learning materials for learners to access and use at their own time and pace. UNESCO stated in the Millennium Development Goals “not to leave any child (person) out of the education scene”. Caswell & others (2008), argued that OER promotes universal education as it allows access to more learners. Smith & Cassey (2006) observed that OER content may lead to high quality products as creators of content open up their materials to be used by others. Therefore, the importance of integrating OER in open education cannot be overemphasized. This paper focuses on the significant developments in the area of open education, in particular the role that OERs can play in higher education, teaching, learning and scholarship.

2. CONCEPT OF OPEN EDUCATIONAL RESOURCES (OER)

Open Educational Resources are teaching, learning, and research materials that are either in the public domain or licensed in a manner that provides everyone with free and perpetual permission to engage in the 5R activities.

- Retain – make, own, and control a copy of the resource
- Reuse – use your original, revised, or remixed copy of the resource publicly
- Revise – edit, adapt, and modify your copy of the resource
- Remix – combine your original or revised copy of the resource with other existing material to create something new
- Redistribute – share copies of your original, revised, or remixed copy of the resource with others

3. LITERATURE REVIEW

Smith, M. S., & Cassey, C. M. (2006) have explored some of the progress toward open academic knowledge and also examined some of the challenges of publishing open content. **Caswell, Tom & others (2008)** told that new distance education technologies, such as Open Course Wares, act as enablers to achieving the universal right to education. **Antoni, S. (2009)** identified the open education movement issues and addressed the ultimately implications for education systems and institutions, learners and educators. **Hilton III, J., Wiley, D., Stein, J., & Johnson, A. (2010)** discussed how the licensing and technical aspects of open educational resources affect the relative openness of an open educational resource and implications for those creating open educational resources are discussed. **Jinot, Belle Louis (2012)** has examined the implications of the implementation of a policy that promotes open teaching in an emerging open university. He has described the benefits and risks associated with such implementation within the context of Mauritius and emphasised the adoption of MOOCs which is more student-generated MOOCs that encourages student engagement based on socio-constructivism and heutagogy, instead of behaviourism and cognitivism. **Marcus-Quinn, Ann and Diggins, Yvonne (2012)** focused on the significant developments in the area of open education, in particular the role of Open Educational Repositories (OER). **Pandey, D (2013)** has focused on accentuating the history, development and present techniques which are followed for distant education at present in India. **Hilton J., Robinson T., Wiley D. (2014)** have reported on the cost savings achieved by students at eight colleges when these colleges began utilizing OER in place of traditional commercial textbooks. **Krelja Kurelovic, Elena (2016)** have analysed the attitudes toward OER among the scholars at few smaller public faculties in Croatia and their practice of sharing knowledge and teaching materials. **Rabiya Mushtaq, Asifa Ali, Masood Ahmad Bhat (2017)** have given a detailed account of various OER initiatives in India. **Thanuja Chandani Sandanayake (2019)** has evaluated the learner perceptions on OER-based blended learning. The study further elaborates on effective assessment activities which need to be used in OER-based blended learning. **Karalis, T & Raikou, N. (2021)** have presented the results of a pilot implementation of the flipped classroom methodology during the second semester of the COVID-19 pandemic and also suggested the term Remote Flipped Classroom for the flipped classroom mode in online environments, especially in case of emergency.

4. OBJECTIVES

- To know the major Indian initiatives of Open Education Resources
- To know how various OERs has promoted open education
- To study and evaluate the benefits of OERs that enhanced open education

5. METHODOLOGY

To address the goal of providing an overview of OER and how it facilitates open education, we gathered information from various resources like conventional resources, digital resources, etc. We analyzed various Indian initiatives of open education resources.

6. GROWTH OF OPEN EDUCATION

The establishment of open education today as a growing part of mainstream education, particularly in higher education, is directly linked to the development of open education universities beginning in the 1970's. Open education can be considered an umbrella term that covers a wide range of open resources and practices. The Commonwealth of Learning (2015) defines about open education “a system of teaching and learning characterized by separation of teacher and learner in time and/or place; uses multiple media for delivery of instruction; involves two-way communication and occasional face-to-face meeting for tutorials and learner-learner interaction”

Open education broadens access to the learning and training traditionally offered through formal education systems and is typically (but not necessarily) offered through online and distance education.

The qualifier "open" refers to the elimination of barriers that can preclude both opportunities and recognition for participation in institution-based learning. Proponents of open education believe everyone in the world should have access to high-quality educational experiences and resources, and they work to eliminate barriers to this goal.

7. TYPES OF OPEN EDUCATIONAL RESOURCES

Open Educational Resources (OER) are any type of educational material that are freely available for teachers and students to use, adapt, share, and reuse. The world of open education is growing rapidly, and open educational resources are available from numerous providers, including many of the most prestigious academic institutions in the world.

7.1 Open Courseware:

"Open Course Ware (OCW) is a free and open digital publication of high-quality college and university-level educational materials. These materials are organized as courses, and often include course planning materials and evaluation tools as well as thematic content" (Open Education Consortium, 2017, para. 1). OCW projects first appeared in the late 1990s, and after gaining traction in Europe and then the United States have become a worldwide means of delivering educational content.

Examples: MIT OCW, Johns Hopkins OCW, Khan Academy, Open Course Library

7.2 Learning Modules:

A Learning Module is an organized collection of content presented together. A Learning Module can support a course goal, a course objective, a subject, a concept, or a theme. Instructors can set a structured path through the content items using a storyboard or a set of dependencies. Content can be structured in such a way as to require students to complete content before they are allowed to proceed to the next content. For example, a Learning Module can present a series of images and descriptions of various animals in a genus. Students can view the images and descriptions in any order, as no order is required for understanding the whole.

Example: E-Gallery, SWAYAM (Study Webs of Active Learning for Young Aspiring Minds)

7.3 Open Textbooks:

An open textbook is a textbook licensed under an open copyright license, and made available online to be freely used by students, teachers and members of the public. Many open textbooks are distributed in either print, e-book, or audio formats that may be downloaded or purchased at little or no cost. Open textbooks are licensed by authors and publishers to be freely used and adapted. Download, edit and distribute them at no cost.

Example: Open Textbook Library, World eBook Library, OpenSta, Open SUNY Textbooks, Australian Open Textbook Project

7.4 Streaming Video:

Streaming video is content sent in compressed form over the Internet and displayed by the viewer in real time. With streaming video or streaming media, a Web user does not have to wait to download a file to play it. Instead, the media is sent in a continuous stream of data and is played as it arrives. The user needs a player, which is a special program that uncompresses and sends video data to the display and audio data to speakers. A player can be either an integral part of a browser or downloaded from the software maker's Web site.

Example: YouTube

7.5 Open Access Journals:

The Open Access Journals was founded with a mission to develop a reliable platform and to provide unrestricted access to scientific literature for rapid dissemination of recent updates in various disciplines of science and technology. Open access journals provide "free, immediate, online availability of research articles combined with the rights to use these articles fully in the digital environment. Readers can have access with no cost and avail the facility to enrich their scientific understanding in the relevant topics.

Example: Directory of Open Access Journals, Elsevier Open Access Science Direct, OMICS Group, Oxford Open Journals, Public Library of Science (PLOS), SpringerOpen

7.6 Online Tutorials:

An online tutorial is a self-study activity designed to teach a specific learning outcome. They are usually delivered via a course management system but can also be made available via the Internet. There are two main types of online tutorials:

- Recorded tutorials are video or screencast recordings, typically of a subject expert presenting information and ideas or giving a demonstration.
- Interactive tutorials are a structured collection of navigable web pages. Individual pages can contain any combination of text, images, audio, video, self-test questions and other interactive activities. Interactive tutorials can also contain screencasts.

Example: Tutorialspoint, Storytelling, PlayStation tutorial etc.

7.7 Digital Learning Objects:

It is an e-learning application with an extensive variety of videos, audios, and screen sharing on topics taught with each grade level in. Generally understood to be "digital entities deliverable over the Internet, meaning that any number of people can access and use them simultaneously" (Wiley, 2000,p.3).

Example: videos, podcasts, graphics, presentations, timelines, and e-books.

8. INITIATIVES OF OPEN EDUCATIONAL RESOURCES THAT ENHANCED OPEN EDUCATION

8.1 National Repository of Open Educational Resources (NROER):

NROER is a collaborative platform, which brings together everyone interested in school and teacher education. Initiated by the Department of School Education and Literacy, Ministry of Human Resource Development, Government of India and managed by the Central Institute of Educational Technology, National Council of Educational Research and Training, the Repository runs on the MetaStudio platform, an initiative of the Knowledge Labs, Homi Bhabha Centre for Science Education. NROER hosts a large number of educational resources in many subjects and in different Indian languages for Primary, Secondary and Senior Secondary classes. Resources are available in different formats like Video, Image, Audio, Document and Interactive. Apart from this, all NCERT books are available in Flipbook format.

8.2 National Programme on Technology Enhanced Learning (NPTEL):

It is a joint venture by seven Indian Institute of Technology (IITs) and Indian Institute of Science Bangalore (IISc) with financial support from Ministry of Human Resources Development (MHRD) of Government of India. The main motive of NPTEL is to empower students and prepare them for competition on global level. It provides access to recorded video lectures of different engineering disciplines. The lectures are delivered by senior teachers of IITs and IISc. NPTEL also provides access to some web-based courses containing structured texts and graphics.

- Largest online repository in the world of courses in engineering, basic sciences, and selected humanities and social sciences subjects
- Online web portal has more than 471 million+ views
- Most subscribed YouTube educational channel, 1.5 million+ channel subscribers, 819 million+ views, 50000+ Video Hours.
- More than 54000+ hours of video content, transcribed with subtitles
- Most accessed library of peer-reviewed educational content in the world.

8.3 Sakshat:

It was launched in on 30 October 2006 by the efforts of Ministry of Human Resource Development (HRD) for the purpose of supporting and enhancing e- learning. The e documents that are developed through National Mission on Education through ICT (NME ICT) are delivered through this very portal. This job of development of e-content is done wisely and is taken care by Content Advisory Committee which has representatives from different educational institutions e.g. Delhi University, Kendra Vidyalaya Sangathan, National Institute of Open Schooling (NIOS) , National Council For Education Research and Training (NCERT) educationalists in the SAKSHAT serve as one stop portal of education to various efforts of e - learning for instance Talk to a Teacher ,Spoken Tutorial etc.

8.4 Consortium for Educational Communication (CEC):

CEC and its partner institutions produce video for Gyan Darshan educational channels and EDUSAT. CEC produces educational programmes in different subjects by coordinating with 21 Media Centers. The e-content of CEC is in the form of audio, video etc. Some of these contents are archived at the learning object repository. Most of the videos are of short duration.

8.5 Project Open Source Courseware Animations Repository (OSCAR):

This is an initiative of the IIT, Bombay in collaboration with the National Mission for Education through Information and Communication Technology (NME-ICT). The main goal of Project OSCAR is to build a large repository of web-based, interactive animations and simulations, referred to as learning objects (LOs), for teaching and learning concepts in science and technology. These could be useful not only for a classroom environment but also for enabling independent learning and distance education.

8.6 E-PGPathshala:

e-PG Pathshala is an initiative of the MHRD under its National Mission on Education through ICT (NME-ICT) being executed by the UGC. The content and its quality being the key component of education system, high quality, curriculum-based, interactive e-content in 70 subjects across all disciplines of social sciences, arts, fine arts and humanities, natural & mathematical sciences, linguistics and languages have been developed by the subject experts working in Indian universities and other R & D institutes across the country. Every subject had a team of principal investigator, paper coordinators, content writers, content reviewers, Language editors and multimedia team. It strongly advocates "Massive Open Online Course"(MOOCS).

8.7 National Science Digital Library (NSDL):

NSDL contains popular science books and college level reference textbooks produced under the mandate of attracting young minds in science and mathematics education. It covers basic science subjects, which are taught in degree level courses. These books are used by students, science teachers, teachers training institutes and activists of people's science movements.

8.8 Vidyanidhi:

Vidyanidhi is India's premier Digital library initiative to facilitate the creation, archiving, and accessing of doctoral theses. Vidyanidhi is an information infrastructure, a digital library, a portal of resources, tools, and facilities for doctoral research in India. Vidyanidhi is envisioned to evolve as a national repository and a consortium for e-theses through participation and partnership with universities, academic institutions, and other stakeholders. Vidyanidhi enhances access to Indian theses and enlarges the reach and audience for Indian doctoral research works.

8.9 e-Gyankosh:

e-Gyankosh is a national digital repository meant to store, index, preserve, distribute and share the digital learning resources developed by the Open and Distance Learning Institutions in India. The items in e-Gyankosh are protected by copyright. The course material is available in PDF format that is downloadable freely. Resources can be accessed through one time registration.

8.10 Ekalavya:

Ekalavya is another programme launched by IIT Bombay in the year 2004. It offers several programmes like e-OUTREACH, e-GURU. e-OUTREACH is a programme under which a good quality audios ,videos ,digital text and HTML contents of educational value are created and disseminated e-GURU is an Open

Source initiative meant for providing e-guidance and online mentorship to students for their final year projects. This venture is very helpful for the propagation of interactive open education students.

8.11 Khan Academy:

Khan Academy is a non-profit educational organisation created in 2005 by Salman Khan with the goal of creating a set of online tools that help educate students. The organisation produces short lessons in the form of YouTube videos. Its website also includes supplementary practice exercises and materials for educators.

8.12 Rai Open Courseware:

This is an initiative of the private education provider Rai Foundation, which is involved in imparting professional and vocational education. Rai OpenCourseware provides access to learning resources developed for their distance learning students.

8.13 National Institute of Open Schooling (NIOS):

National Institute of Open Schooling (NIOS) is another OER initiative of Ministry of HRD, Government of India it claims to be the largest open schooling system in the world. NIOS was established with a vision to develop-

- strategy plans for promoting and up scaling the Open Schooling programme in India;
- provide technical and financial support to State Governments in India for setting up and up scaling of State Open Schools (SOSs);
- promote quality of learning in ODL through Monitoring, Supervision and Evaluation, maintaining equivalence of standards with the formal education system, while retaining its own distinct character;
- undertake research, innovation and development activities in the area of Open Schooling and disseminate the findings to all stakeholders;
- establish a data base on Open Schooling;
- provide professional/technical consultation in field of ODL to institutions/organizations in India and abroad.

9. SIGNIFICANT DEVELOPMENT OF OPEN EDUCATION

- The rapid expansion of elementary and secondary education, the demand for higher education has greatly increased over the past but the opportunities of higher education have not as many increases as required. Resulting, correspondence courses or open education now play a significant role in the education system.
- Open education provides for greater flexibility than classroom education, particularly in the combination of subjects.
- Provide facilities to pursue higher education to all qualified and willing persons who had failed to join regular university courses due to personal and economic reasons or because of their inability to get admission to a regular college
- To maintain educational standards, top-ranking scholars and teachers are associated with Open educational resources in the preparation of courses.
- Provide opportunities of academic pursuit to educated citizens to improve their standards of knowledge and learning through open education without disturbing their present employment.

10. ROLE OF OERS AS PROMOTER OF OPEN EDUCATION

After rapid growth of open educational resources the direction of open education has completely changed-

- Now all three channels of education i.e. full-time, part-time, and own-time-have their own equal status;
- Now education not looked upon as a school process, it is a social process covering all learning that takes place, whether in or outside the school;
- now education is not the delegated responsibility of a profession and it became the direct social responsibility in which every individual is involved, both as a teacher and as a student;
- Now the right to learn is assured to every individual without any discrimination and with full equality of opportunity,

- The non-formal sector which has been neglected in the past now developed and blended with the formal sector in an integrated fashion to create a new system of education that will have the advantages of both the sectors and to eliminate the weaknesses which arise when these sectors are developed in isolation.
- Those who are especially challenged can easily complete their degree through the open mode of education with the help of OERs.

11. COMPARATIVE STUDY AMONG MENTIONED OERs

SI No	OER's	Initiative By/Founders	Year of established	Suitable for	Content Collection	Target Group	Content Format	Supported Language	URL
1	National Repository of Open Educational Resources (NROER)	Department of School Education and Literacy, Ministry of Human Resource Development, Government of India	Aug 13, 2013	Primary, Upper Primary, Secondary, Senior Secondary, Tertiary	Language, Mathematics, Environmental Studies, Science, Chemistry, Physics, Biology, Social Science, History, Geography, Political Science, Economy, Sociology, Psychology, Commerce, Business Studies, Accountancy, Art, Education	Teachers, Students and Teacher Educators	Video, Image, Audio, Document and Interactive	Assamese, English, Gujarati, Hindi, Malayalam, Manipuri, Marathi, Mizo, Telugu	http://nroer.gov.in/
2	National Programme on Technology Enhanced Learning (NPTEL)	Seven Indian Institutes of Technology, Indian Institute of Science with financial support from MHRD	2003	Higher Education	Basic Science, Computer Science Engineering & Technology, Medical, arts and humanities	Students and Teachers	Video and Web Format	English	https://nptel.ac.in/
3	SAKSHAT	Ministry of Human Resource Development (HRD)	30 Oct. 2006	All levels of Education	Phase I: civil engineering, computer science and engineering, electrical engineering, electronics and communication engineering and mechanical engineering Phase II: all major branches of engineering, physical sciences at the undergraduate and postgraduate	Students and Teachers	Audio-Video e-content	English	https://saksat.ac.in/

					levels and management courses at the postgraduate level.				
4	Consortium for Educational Communication (CEC)	UGC	1993	Higher Education	Studying, promoting & experimenting with new technology	Students and Teachers	Audio/Visual and Web Based	English	http://cec.nic.in/
5	Project Open-Source Courseware Animations Repository (OSCAR)	IIT Bombay	2002	School, Undergraduate and Postgraduate levels.	UG/PG : Biochemistry Biology Bioscience and Engineering Chemical Engineering Chemistry Civil Engineering Computer Science Earth Science Electrical Engineering Electronics Environmental Science Mechanical Engineering Metallurgical Engineering Physics School: Biology Chemistry Fun with Science Maths Physics	Students and Teachers	Text, images and media	English	http://oscar.iitb.ac.in/
6	E-PGPathshala	Ministry of Human Resource Development, CIET, and NCERT	2014	All level of Education	70 subjects across all disciplines of social sciences, arts, fine arts and humanities, natural & mathematical sciences, linguistics and languages	Students and Teachers	text/Video	English, Hindi and Urdu.	https://epgp.inflibnet.ac.in/
7	National Science Digital Library (NSDL)	National Science Foundation	2000	Science education at all levels.	Science, technology, engineering, and mathematics (STEM)	Students and Teachers	Text	Multi language	https://www.nslib.nih.gov/
8	Vidyanidhi	NISSAT	2000	Doctoral Students	Doctoral theses in Social and Human Sciences.	Students and Teachers	Text	Multi language	https://www.vidyanidhi.org.in/
9	e-Gyankosh	IGNOU	Oct., 2005	Higher Education	The eSLM for different CBCS Courses	Students and Teachers	Text, images and media	Multi language	https://egyankosh.ac.in/
10	Ekalavya	IIIT Bombay	2004	Computer Science & Engineering	e-OUTREACH, e-GURU. e-OUTREACH	Students and Teachers	Text, images and media	English	http://ekalavya.online/
11	Khan	Salman Amin	2005	All level of	short lessons in	Students	text/Video	Multi	https://

	Academy	Khan		Education	the form of videos	and Teachers		ple languages	//www.khanacademy.org/
12	Rai OpenCourse ware	Rai University, Gujrat	2012	UG and PG Students	Engineering and Applied Sciences, Business School, Media & Communication, Fashion Technology & Performing Arts, Arts, Science & Commerce, Law, Agriculture, Life Sciences, Research & Development	Students and Teachers	text/Video	Multiple languages	https://www.raiversity.edu/
13	National Institute of Open Schooling (NIOS)	Ministry of HRD	1989	Secondary, Sr. Secondary, Open Basic Education(OBE), Vocational Education, D.El.Ed (Dip. in Elementary Education), Life Enrichment, Life Skills Programme	Language, Science, Social Science, Vocational, Course Material for Persons with Disabilities, D.El.Ed. Course materials.	Teachers, Students and Teacher Educators	Video, Image, Audio, Document and Interactive	Multiple languages	https://nios.ac.in/

12. CONCLUSION

This study presented the Open Educational Resources (OER) make an important contribution to the diversified supply of learning resources to the open education. OER are a new trend aimed at providing free access to a variety of learning resources over the internet free of cost and has gained enormous momentum in the recent years. India has been witnessing an incremental growth of OER's, where a number of national institutions have established OER portals for providing nationwide access to their educational resources. OER initiatives are thus promoted publicly and by foundations because they can generally facilitate access to open education. All in all, OERs not only have savings effects but also offer the possibility of expanding, adapting and updating the resource pool for innovative educational ideas. In the following, we will show, that it has positive effects when OER are used in open education system as a whole.

13. REFERENCES

- [1] Abeywardena, I.S. (2013). Development of OER-Based Undergraduate Technology Course Material: —TCC242/05 Web Database Application| Delivered Using ODL at Wawasan Open University. In G. Dhanarajan & D. Porter (Eds.) *Open Educational Resources in Asian Perspective* (pp. 173-182). Vancouver: COL & OER Asia.
- [2] Baraniuk, R. G. (2008). Challenges and Opportunities for the Open Education Movement: A Connexions Case Study. In T. Iiyoshi & M. S. Vijay Kumar (Eds.), *Opening Up Education: The collective advancement of education through open technology, open content, and open knowledge* (pp. 229-246). Cambridge, MA: MIT Press.
- [3] Bissell, A. N. (2007). Some guiding principles for legal and technical interoperability in OER. In *Proceedings of Open Education 2007: Localizing and Learning*, Logan, Utah State University, USA
- [4] Caswell, Tom & others (2008). Open Content and Open Educational Resources: Enabling universal education. *The International Review of Research in Open and Distributed Learning*. 9. 10.19173/irrodl.v9i1.469.
- [5] D'Antoni, S. (2009). Open Educational Resources: reviewing initiatives and issues. *Open Learning*, 24(1), 3-10. Retrieved from <http://www.tandfonline.com/doi/pdf/10.1080/02680510802625443>
- [6] Deimann, M. & Farrow, R. (2013). Rethinking OER and their use: Open education as Bildung. *International Review of Research in Open and Distributed Learning*, 14(3), 344-360. Retrieved from <http://www.irrodl.org/index.php/irrodl/article/view/1370/2542>
- [7] Hilton III, J., Wiley, D., Stein, J., & Johnson, A. (2010). The four _R's of openness and ALMS analysis: Frameworks for open educational resources. *Open Learning*, 25(1), 37-44. doi: 10.1080/02680510903482132
- [8] Jinot, Belle. (2021). THE IMPLEMENTATION OF AN OPEN TEACHING POLICY IN OPEN EDUCATION IN MAURITIUS. *European Journal of Open Education and E-learning Studies*. 6. 10.46827/ejoe.v6i2.3766.
- [9] Karalis, Thanassis & Raikou, Natassa. (2021). FLIPPING THE CLASSROOM REMOTELY: IMPLEMENTATION OF A FLIPPED CLASSROOM COURSE IN HIGHER EDUCATION DURING THE COVID-19 PANDEMIC. *European Journal of Open Education and E-learning Studies*. 6. 21-38. 10.46827/ejoe.v6i2.3809.
- [10] Krelja Kurelovic, Elena (2016). Advantages and limitations of usage of open educational resources in small countries. *International Journal of Research in Education and Science (IJRES)*, 2(1), 136-142.
- [11] Marcus-Quinn, Ann & Diggins, Yvonne. (2013). Open Educational Resources. *Procedia - Social and Behavioral Sciences*. 93. 10.1016/j.sbspro.2013.09.183.
- [12] Mushtaq, R., Ali, A., Bhat & Masood A. (2017). OPEN EDUCATIONAL RESOURCES: INDIAN INITIATIVES. *THE COMMUNICATIONS*. Vol. 25, No. 1
- [13] Pandey, Deepak (2013). History Development and Present of Distance Education in India. *International journal of trends in economics, management & technology : IJTEMT*. - New Delhi, ISSN 2321-5518, ZDB-ID 2727829-3. - Vol. 2.2013, 1, p. 51-59
- [14] Sandanayake, Thanuja. (2019). Promoting open educational resources-based blended learning. *International Journal of Educational Technology in Higher Education*. 16. 10.1186/s41239-019-0133-6.
- [15] Smith, M. S., & Cassey, C. M. (2006), September/October). The Promise of Open Educational Resources. *Change*, 8-17
- [16] William and Flora Hewlett Foundation. (2016). Open educational resources initiative. Retrieved from <http://www.hewlett.org/programs/education/open-educationalresources>

Web sites:

<http://ci.olnet.org>

<http://mitx.mit.edu/>

<http://openstudy.com>

<http://oscar.iitb.ac.in/aboutOscar.do>

<http://www.oerglue.com>

<http://www.open.edu/openlearn>

<https://egyankosh.ac.in/>

<https://epgp.inflibnet.ac.in/>

<https://nroer.gov.in/home/page/5774f5f316b51c03ba38f30d>

<https://ocw.mit.edu/index.htm>

<https://oerknowledgecloud.org/>

<https://www.nios.ac.in/about-us/objectives-functions.aspx>

<https://www.openaccessjournals.com/>

<https://www.vidyanidhi.org.in/home/index.asp#r>

