



ORIGINAL RESEARCH PAPER

Library & Information Science

OPEN EDUCATIONAL RESOURCES AND E-LEARNING PLATFORMS

KEY WORDS: Open Education, E-Learning, Open Education Resources, E-Learning Platforms

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ABSTRACT

The development of the information society and the extensive flow of information technology give rise to new opportunities for learning. At the same time, they face traditional views and practices regarding how teaching and learning should be prepared and carried out. Higher educational institutions have been using the Internet and other digital technologies to create and share education for several years. As information sources have become more readily available, those involved in education have found that a huge number of electronic resources are available from many sources. The education resources are measured as key intellectual property in a higher education world, more and more institutions and persons are creating and sharing electronic learning resources over the Internet openly and without asking price, as open educational resources (OER).

INTRODUCTION

The development of the information society and the expansive inflow of information technology give rise to new openings for literacy. At the same time, they face traditional views and practices regarding how tutoring and literacy should be prepared and carried out. Advanced educational institutions have been using the Internet and other digital technologies to produce and partake education for several times. So far, until in recent times, much of the literacy coffers were defended up behind watchwords, delicate to get to for outlanders. The open educational resource (OER) movement aims to break down similar walls and to promote and make possible free heartedly participating content.

"Open educational resources (OER) are any resources available at little or no cost that can be used for teaching, learning, or research. The term can include textbooks, course readings, and other learning content; simulations, games, and other learning applications; syllabi, quizzes, and assessment tools; and virtually any other material that can be used for educational purposes. OER typically refers to electronic resources, including those in multimedia formats, and such materials are generally released under a Creative Commons or similar license that supports open or nearly open use of the content. OER can originate from colleges and universities, libraries, archival organizations, government agencies, commercial organizations such as publishers, or faculty or other individuals who develop educational resources they are willing to share."

Open Education

Open Education supply a range of services like, on-line help, face-to-face consultations, project visioning, referrals, grant support, coaching, open business enterprise consultations, peer-review coordination, schoolroom instruction, and skilled development sessions to support field teaching and learning, publication, and connected analysis and reach requirements.

The William and Flora Hewlett Foundation has stated that open education "is the simple and powerful idea that the world's knowledge is a public good and that technology in general and the World Wide Web in particular provide an extraordinary opportunity for everyone to share, use, and reuse knowledge."

Open Educational Resources

OER Commons define OER as, "Open Educational Resources are teaching and learning materials that you may freely use and reuse, without charge. OER often have a Creative Commons or GNU license that state specifically how the material may be used, reused, adapted, and shared." A description of OER should mention a license that's as open as

possible, encourages right of access for everyone and mentions druggie's capability to repurpose or acclimatize the resource. The 2012 OER Paris Declaration states that OER are tutoring, learning and exploration accoutrements in any medium, digital or else, that live in the public sphere or have been released under an open license that permits no- cost access, use, adaption and re-division by others with no or limited restrictions. Open licensing is erected within the being frame of intellectual property rights as defined by applicable transnational conventions and respects the authorship of the work.

Therefore, OER are those tutoring and literacy accoutrements that are available either in the public sphere or under an open license. "Public sphere" in the environment of OER means, tutoring and literacy accoutrements for which brand has expired or for which brand has been explicitly roped by the author. While we will learn about open licenses and brand in this course, it's important to note that licensing is a conception within brand law, and an open license can allow the relinquishment/adaption of a work under different circumstances.

OER Platforms

There are many platforms emerging that support OER discovery and use. Some are subscription or fee-based, while others are free and open. Below are website, repositories and initiatives around the world focusing on open textbooks, ancillary resources, open courseware including research into open textbooks.

1. Amazon Inspire : <https://www.amazoninspire.com>
Amazon Inspire is an open collaboration service that helps teachers to easily discover, gather and share free and open educational resources with their community.

2. Curriki : <https://library.curriki.org>
Curriki originated from the idea that technology can play a crucial role in breaking down the barriers of the Education Divide—the gap between those who have access to high-quality education and those who do not. Curriki helps bridge this divide by providing free and open resources to everyone. For over 10 years Curriki has made the best curriculum, lessons and on-demand content free, open, and accessible to all.

3. Intellus : <http://www.intelluslearning.com>
Intellus Learning is an Educational Platform-as-a-Service company that supports great teaching and learning in higher education with intelligent analytics that help faculty and institutions select the best content for each learner.

4. Knovation : <https://www.knovationlearning.com>

In 1999 **netTrekker** was born, pioneering a new direction and new solutions to address digital content delivery for personalized learning. In February 2012, netTrekker, the then leader in personalized learning solutions, relaunched as **Knovation** and increased its offerings for solutions and services that help school districts leverage the power of free online resources to personalize instruction.

5. Learncloud : <https://rumie.org>

Rumie-Learn is a collection of short learning experiences (called Bytes) that focus on building transferable career and life skills. Rumie programs that allow them to transform their insights into Bytes, to realize our vision of open digital learning for all. Rumie reviews all Bytes to ensure compliance with our standards, but the Byte author(s) are responsible for the content completeness and reliability.

6. Lumen : <https://lumenlearning.com>

The Lumen team brings us deep expertise in the adoption and effective use of open educational resources (OER), design of highly effective online and technology-enhanced instruction, learning data analysis with a focus on improving outcomes, and community collaboration. They provide high quality, interactive learning content, online homework, and personalized feedback to help them study and learn more effectively, with plenty of opportunities to engage students in active learning.

7. Cengage : <https://www.cengage.com>

Cengage is the education and technology company built for learners. The company serves the higher education, K-12, professional, library and workforce training markets worldwide. Cengage creates learning experiences that build confidence and momentum toward the future students want.

8. Open Stax CNX : <https://cnx.org>

OpenStax CNX is a dynamic non-profit digital ecosystem serving millions of users per month in the delivery of educational content to improve learning outcomes. There are tens of thousands of learning objects, called pages, that are organized into thousands of textbook-style books in a host of disciplines, all easily accessible online and downloadable to almost any device, anywhere, anytime.

OpenStax CNX is designed to encourage the sharing and reuse of educational content. The knowledge in OpenStax CNX can be shared and built upon by all because it is reusable:

- **educationally:** It encourage authors to write each page to stand on its own so that.
- **technologically:** all content is built in a simple semantic HTML5 format rich with built-in accessibility features to ensure it can all be read by everyone. Also the OpenStax CNX toolset makes it easy for author to create and adapt content using a word processor similar to Google Docs or Word.
- **legally:** all content produced in OpenStax is available under a Creative Commons open-content licenses. This makes it easy for authors to share their work - allowing others to use and reuse it legally.

9. panOpen OER : <https://www.panopen.com>

It enable faculty and schools with the potential of OER in order to lower the cost of educational materials and provide equity and access to all students. It has a library of high-quality, peer-reviewed course material that spans a wide range of subjects. It create interactive learning experiences with subject matter experts, with an emphasis on digital delivery, assessment, and accessibility. Also it train educators to effectively leverage panOpen to remix content and optimize curriculum for the panOpen platform.

10. Proquest SIPX

Developers prefer the open, standards based approach offered by sipXcom. Written primarily in C++ and Java while implementing RESTful APIs, to manage, communicate, and diagnose a set of services and capabilities. From companies embedding communications features into virtual health care clinics to the largest software development and technology providers in the world, the sipXcom community is thriving.

11. Smithsonian Learning Lab

The Smithsonian Center for Learning and Digital Access created the Smithsonian Learning Lab to inspire the discovery and creative use of its rich digital materials—more than a million images, recordings, and texts. By encouraging users to create and share personalized collections of Smithsonian assets and user-generated resources, the Learning Lab aspires to build a global community of learners who are passionate about adding to and bringing to light new knowledge, ideas, and insight.

12. Athabasca University Press

AU Press is committed to making research and scholarship freely accessible through the publication of books and journals in open access. Their unique publishing model offers authors the opportunity to reach a wide readership and creates an innovative forum for the exchange of ideas.

13. College Open Textbooks

The organization has been a pioneer in open education resources. To mark the next generation of open education, COT Education has now turned towards the democratization of thought leadership, via online platforms, podcasting networks, and other lifelong learning and novel educational programs.

14. Directory of Open Access Books

The primary aim of DOAB is to increase discoverability of open access books. Academic publishers are invited to provide metadata of their open access books to DOAB. DOAB is an open infrastructure committed to open science. The directory is open to all publishers who publish academic, peer reviewed books in open access and should contain as many books as possible, provided that these publications are in open access and meet academic standards.

15. Galileo Open Learning Materials

GALILEO Open Learning Materials brings together open educational resources throughout the University System of Georgia, including open textbooks and ancillary materials. It aims to reduce the cost of textbooks to students and contribute to their retention, progression, and graduation. Most works hosted in GALILEO Open Learning Materials have a Creative Commons license, allowing the reuse, redistribution, remixes, and revision of these materials.

16. HippoCampus

HippoCampus.org is a free, core academic web site that delivers rich multimedia content--videos, animation, and simulations--on general education subjects to middle-school and high-school teachers and college professors, and their students, free of charge.

17. LibreTexts

The Engineering Library is a principal hub of the LibreTexts project, which is a multi-institutional collaborative venture to develop the next generation of open-access texts to improve postsecondary education at all levels of higher learning.

18. MERLOT II

The MERLOT system provides access to curate online learning and support materials and content creation tools, led by an international community of educators, learners and researchers.

19. National Science Digital Library (NSDL)

The National Science Digital Library provides high quality online educational resources for teaching and learning, with current emphasis on the sciences, technology, engineering, and mathematics (STEM) disciplines—both formal and informal, institutional and individual, in local, state, national, and international educational settings.

20. NYU Press: Open Access Books

NYU Digital Library Technology Services processes, enables access to and preserves digital materials that come from both the NYU community and from collaborating partner organizations. Our methods include digitization, software development, research, project coordination and the articulation of best practices.

21. OER Commons

In 2007, ISKME launched OER Commons, its digital public library and collaboration platform, informed by the organization's pioneering efforts in knowledge management and educational innovation. OER Commons offers a comprehensive infrastructure for curriculum experts and instructors at all levels to identify high-quality OER and collaborate around their adaptation, evaluation, and use to address the needs of teachers and learners.

22. Open Knowledge Repository

The World Bank is the largest single source of development knowledge. The World Bank Open Knowledge Repository (OKR) is the World Bank's official open access repository for its research outputs and knowledge products. By extending and improving access to World Bank research, the World Bank aims to encourage innovation and allow anyone in the world to use Bank knowledge to help improve the lives of those living in poverty. The OKR is constantly updated with new content, as well as legacy reports and research.

23. Project Gutenberg

Project Gutenberg is an online library of free eBooks. Project Gutenberg was the first provider of free electronic books, or eBooks. Michael Hart, founder of Project Gutenberg, invented eBooks in 1971 and his memory continues to inspire the creation of eBooks and related content today.

24. PhET: Interactive Simulations For Science and Math

PhET provides fun, free, interactive, research-based science and mathematics simulations. We extensively test and evaluate each simulation to ensure educational effectiveness. These tests include student interviews and observation of simulation use in classrooms.

25. PDX Open (Portland State University)

The mission of the Digital Initiatives Unit at the Portland State University (PSU) Library is to collect, preserve and distribute the research, scholarship and creative works produced at PSU. We are dedicated to open access and making PSU-authored works freely available and easily discoverable to anyone, anywhere in the world.

26. Saylor Academy Open Textbooks

Saylor Academy is a nonprofit initiative working since 2008 to offer free and open online courses to all who want to learn.

27. Skills Commons Open Textbooks

Skills Commons' mission is to accelerate the democratization of education for all through open educational services and resources enabling individuals, communities, educational institutions, organizations, and businesses to prepare people for successful employment in the 21st Century.

28. SOL*R

SOL*R is a repository service provided by BC campus that allows educators to access FREE online learning resources. It facilitates sharing, discovery, reuse, and remixing of a growing collection of content created by BC post-secondary

educators. SOL*R includes learning resources from a wide variety of disciplines and subject areas.

29. University of Wisconsin Pressbooks

Pressbooks is simple book production software. You can use Pressbooks to publish textbooks, scholarly monographs, syllabi, fiction and non-fiction books, white papers. Pressbooks is used by educational institutions around the world as well as authors and publishers. The Pressbooks software is free and open-source and is built on top of the popular web-publishing tool WordPress.

30. Virginia Tech

VTechWorks includes journal articles, books, theses, dissertations, conference papers, slide presentations, technical reports, working papers, administrative documents, videos, images, and more by faculty, students, and staff. It offer a variety of services to support campus teaching and learning, publication, and related research and outreach needs. Services include: online assistance, face-to-face consultations, project visioning, referrals, grant support, coaching, open publishing consultations, peer-review coordination, classroom instruction, and professional development sessions.

31. Wikibooks

Wikibooks is a Wikimedia project for collaboratively writing open-content textbooks that anyone, including you, can edit right now by clicking on the edit link that appears near the top of each Wikibooks page. Wikibooks has two subprojects; Wikijunior which is aimed at children and the Cookbook which is our collection of recipes and culinary topics.

Free e-Learning platforms developed by the Government of India

The Government of India has developed several free e-Learning platforms for the learners across various branches. It contains various courses that can be accessed by the students, teachers, professionals and learners. The contents are available in the form of audio, video, presentation, PDFs, tests etc. A complete list of free e-Learning platforms developed by the Government of India is shared below.

1. Swayam: The objective of SWAYAM is to provide a learning platform to all, including the most disadvantaged. It hosts almost all the courses taught in classrooms from Class 9 till post-graduation. More information on SWAYAM can be obtained on the official website, swayam.gov.in.

2. Diksha: This is an initiative of the National Council of Educational Research and Training, Ministry of Education, Government of India. DIKSHA can be accessed at diksha.gov.in by the learners and teachers across the country. It currently supports various courses of NCERT, CBSE and SCERTs across India.

3. e-ShodhSindhu: It will continue to provide current as well as archival access to more than 10,000 peer-reviewed journals and a number of bibliographic, citation and factual databases to its member institutions. e-ShodhSindhu can be accessed at ess.inflibnet.ac.in.

4. e-PG Pathshala: It is an initiative taken by the MHRD under its National Mission on Education through ICT, which is being executed by the UGC. The platform, epgp.inflibnet.ac.in provides interactive e-content in 70 subjects across all disciplines of social sciences, arts, fine arts and humanities, natural & mathematical sciences.

5. Swayam Prabha: It consists of 34 DTH channels, which is devoted to telecasting high-quality educational programmes 24X7. The course contents are provided by NPTEL, IITs, UGC, CEC, IGNOU, NCERT and NIOS. The website is swayamprabha.gov.in.

6. NPTEL: The National Programme on Technology Enhanced Learning was initiated by IIT Bombay, IIT Delhi, IIT Kanpur, IIT Kharagpur, IIT Madras, IIT Guwahati, IIT Roorkee along with Indian Institute of Science, Bangalore in 2003. NPTEL platform, nptel.ac.in provides open online courses around engineering and core science subjects.

7. NDLI : National Digital Library of India (NDLI) is a virtual repository of learning resources which is not just a repository with search/browse facilities but provides a host of services for the learner community. NDLI provides user group-specific services such as Examination Preparatory for School and College students and job aspirants. Services for Researchers and general learners are also provided. NDLI is designed to hold content of any language and provides interface support for 10 most widely used Indian languages. It is built to provide support for all academic levels including researchers and life-long learners, all disciplines, all popular forms of access devices and differently-abled learners. It is designed to enable people to learn and prepare from best practices from all over the world and to facilitate researchers to perform inter-linked exploration from multiple sources.

CONCLUSION

OER are digital as well as non-digital educational materials that can be used, copied and distributed free of charge and without permission from the creator. The potential benefit of open education is that by sharing, teachers and students from around the globe can have access to quality teaching and learning materials, thereby improving global education.

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16. <https://lumenlearning.com/>
17. <https://www.cengage.com/mindtap/>
18. <https://www.panopen.com/>
19. <http://sipxcom.org/>
20. <https://ignite.amazon.com/#/>
21. <https://emedia.rmit.edu.au/oer/around-the-world/>
22. <https://open.bccampus.ca/browse-our-collection/find-open-textbooks/>
23. <http://www.ltconline.net/green/oer/oerlistfromlistserv.htm>
24. <https://www.aupress.ca/>
25. <https://collegeopentextbooks.org/>
26. <https://cornellopen.org/>
27. <https://directory.doabooks.org/>
28. <https://oer.galileo.usg.edu/inst-ung/>
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31. <https://eng.libretexts.org/>
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39. <https://www.oercommons.org/>
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42. <https://milneopentextbooks.org/browse-by-author/>
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46. <http://gutenberg.ca/index.html>
47. https://www.gutenberg.org/wiki/Main_Page
48. <https://phet.colorado.edu/>
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