

Open Education

Background: Open education is an educational movement founded on openness, with connections to other educational movements such as critical pedagogy. Open educational stance which favors widening participation and inclusiveness in society(1). Considering that, Education is an accepted fundamental human right. Yet, many people across the world do not have access to this fundamental human right. Open education, an effort began 1960 to remove the barrier to entry for student desiring to pursue education. This was a step towards realization of this fundamental right- right to education, recognized under many international soft and hard laws. 1969 Open universities [Open University of the United Kingdom](#) established to provide opportunities in Open Education. This university gained momentum in the OE in few following years and decades. As mentioned, open education is step towards universalization of education, but still, it has many challenges in terms of skills, knowledge, technology, and financials. Still open educational resources and open technologies is part of a wider effort to make education accessible to everyone. Despite these challenges, Open education has the potential of great global equalizer-providing opportunity for people throughout the world to exercise this basic human right. This is critical to understand the limitation of OE.

Open Education: The open education broadly means education, which is flexible, free, and welcoming, as opposed to closed. Open education further means an education which is non-prejudiced, non-restricted, and unfettered. Open education cultivates the ability of personal agency, self-determination, and self-regulated lifelong (every life stage) and life-wide (across all life activities) learning.

To summarize, Open Education includes resources, tools and practices that are free of legal, financial and technical barriers and can be fully used, shared and adapted in the digital environment.

Open Education Resources: The term Open Educational Resources first came to use in 2002 at a conference hosted by UNESCO. Participants at that conference defined OER as: “*The open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes.*”

Currently the most used definition of OER is: “*Open Educational Resources are digitized materials offered freely and openly for educators, students and self-learners to use and re-use for teaching, learning and research*”(2)

To make this further clarify, OER is an umbrella term as open science is It has many domains started from a small granularity to a complete course(3). OER include:

- Learning Content: Full courses, courseware, content modules, learning objects, collections and journals.
- Tools: Software to support the development, use, re-use and delivery of learning content including searching and organization of content, content and learning management systems, content development tools, and on-line learning communities.
- Implementation Resources: Intellectual property licenses to promote open publishing of materials, design principles of best practice, and localization of content.

Challenges in the OER: There are certain challenges to Open Education and Open Education Resources- Some are following;

1. Lack of awareness of copyright issues:

The publication, consumption and distribution of texts were facilitated through physical media, academics remained for the most part unaware of the licensing that supported the exploitation of

copyright. Although many academics are willing to share their work, they are often hesitant as how to do this without losing all their rights. Although some people release work under the public domain, it is not unusual that authors still like to retain some rights over their work. A study conducted in 2002-2003 among 542 researchers about what kind of rights they wanted to retain. Majority (over 60%), were happy for third parties to display, print, save, extract from and give away their papers, but wanted this to be on the condition that they were attributed as the authors and that all copies were done so verbatim. 55% wanted to limit the usage of their works to educational and non-commercial use. (*Open Educational Resources: Opportunities and Challenges Dr. Jan Hylén OECD's Centre for Educational Research and Innovation Paris, France*)

2. Quality assurance:

Currently, OER in a growing number of initiatives and digital resources are available. Teachers, students and self-learners are looking for resources and using for their desired purposes. They have no difficulties in finding resources, but the problems of judging the quality and relevance of these resources exists. The issue of finding the quality and relevant resources is fundamental challenge in the OER. Although, now there are tools developed for evaluating these OER, having multiple evaluation criteria example of such criteria is [here](#).

3. Sustainability of OER initiatives:

Similarly, So many OER initiatives have started during the last few years, this has created a competition for funding. Some projects have a strong institutional backing it is most probably find the startup funding, which will be cease after a few years. Therefore it is highly important to seriously consider how an initiatives can be sustained in the long run. There are many different kinds of OER providers and no single sustainability model will fit all. Instead there is a need to discover different approaches that might be useful in a local context.

Principles of OER: David Wiley, a pioneer of OER with his colleague Hilton have suggested five core principles of the OER. These are following;

1. **Re-use:** The most basic level of openness. People are allowed to use all or part of the work for their own purposes, for example, download an educational video to watch at a later time.
2. **Re-distribute:** People can share the work with others for example, send a digital article by-email to a colleague.
3. **Revise:** People can adapt, modify, translate, or change the work for example, take a book written in English and turn it into a Spanish audio book.
4. **Re-mix:** People can take two or more existing resources and combine them to create a new resource for example, take audio lectures from one course and combine them with slides from another course to create a new derivative work.
5. **Retain:** No digital rights management restrictions (DRM); the content is yours to keep, whether you're the author, an instructor using the material, or a student.

Licenses: There are few licenses used in the OER. Short details of each type of license is following;

1. **Creative Commons (CC):** The author creating a license enabling people to freely access and adopt the copyright material without charge or special permission. This does not take away someone's copyright, but enables that copyright holder to give permission automatically for different kinds of use of their material without charge or any bureaucracy.

2. **CC BY:** This is used for lets others distribute, remix, tweak, and build upon a particular author work, even commercially, as long as they credit him for the original creation. This is the most accommodating of licenses offered. Recommended for maximum dissemination and use of licensed materials.
3. **CC BY-SA:** lets others remix, tweak, and build upon the author work even for commercial purposes, as long as they credit him and license their new creations under the identical terms. This is particularly important if the work also includes other people's materials licensed through the Creative Commons.
4. **CC BY-ND:** This license allows for redistribution, commercial and non-commercial, as long as it is passed along unchanged and in whole, with credit to the author.
5. **CC BY-NC:** This license means lets others remix, tweak, and build upon the author work non-commercially, and although their new works must also acknowledge him and be non-commercial, they don't have to license their derivative works on the same terms.
6. **CC BY-NC-SA:** lets others remix, tweak, and build upon your work non-commercially, as long as they credit you and license their new creations under the identical terms.
7. **CC BY-NC-ND:** The most restrictive of the six main licenses, only allowing others to download your works and share them with others if they credit you, but they can't change them in any way or use them commercially. Details of how to to combine these with many other relevant information are available [here](#).

Pedagogy in open education: Open Education enabled pedagogy is the set of teaching and learning practices only practical in the context of the 5R permissions characteristic of open educational resources. Few example of these pedagogies are mentioned below;

1. Students write or edit Wikipedia articles.
2. Students remix audiovisual materials to both entertain and inform
3. Students create or revise/remix entire textbooks
4. Students openly license supplemental materials they create for each other
5. Students create test banks
6. Students create their own assignments

Open education resources and available learning platform for secondary level students:

There are many learning platforms for the secondary level students. Few of them are following;

1. **[Khan Academy](#):** This is a learning platform for learner's teachers and parents. Khan academy is working with a mission provide free world class education to every one across the world.
2. **[Sabaq Foundation](#):** Sabaq Foundation is the second learning platform available for the Pakistani and Afghan Refugees in Pakistan. The Sabaq Foundation has more than 16000+ videos and test for primary as well as secondary level students.
3. **[Magnet Brains](#):** This is free learning platform with over of thousands of free courses form primary and secondary level.

While comparing the above for the purpose of teaching science and math for the secondary classes. Khan academy was identified one of the most feasible resources in my context. This was evaluated on the [specific criteria](#) developed for this purpose. All the relevant criteria points meets. This is easily to find and use, the intention is transparent, provide the opportunity for deeper learning and is sustainable. All the contents of the science and math are relevant in terms of language and contents.

References

<https://books.openedition.org/obp/3539?lang=en>.

<https://sparcopen.org/open-education/>

Open Educational Resources: Opportunities and Challenges Dr. Jan Hylén OECD's Centre for Educational Research and Innovation Paris, France

<https://opentextbc.ca/teachinginadigitalage/chapter/oer/>

[OER-Enabled Pedagogy Library – Open Education Group \(openedgroup.org\)](#)