

## OPEN EDUCATION RESOURCES (OER): POSITION PAPER

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### Abstract

Rapid technological and scientific developments changed our life clearly, due to the huge information explosion in science and technology, and this period was called the information society which was characterized by producing knowledge in all its forms and focusing on the relationship between science and technology (Mukh et al ,2021). The concept of open educational resources (OER) is becoming increasingly prominent in education. Open Educational Resources (OERs) have been gaining importance for promoting lifelong and personalized learning, helping to break demographic, economic, and geographic educational boundaries (Yuan et al., 2008). OERs refer to digital materials provided freely and openly for educators, learners/self-learners to be (re)used with the purpose of teaching, learning and research (OECD, 2007). OER describe any educational resources (including curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcasts, and any other materials that have been designed for use in teaching and learning) that are openly available for use by educators and students, without an accompanying need to pay royalties or license fees. (Kanwar & Uvalić-Trumbić, 2011, p. 4).

**Key words:** Open Educational Resources (OER), Open Educational Practices (OEP), Open Education.

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## Introduction

The contemporary education may be broadly understood as incorporating a wide range of pedagogical and scholarly activities which can take place inside or outside formal institutions, this means that these activities need education to be more open than before (Downes, 2006; Tuomi, 2006). The term open education has recently appeared, it relates to its essence about removing barriers to education. And this term used to refer to many practices and activities that have both openness and education at their core (Pedró, 2006).

OER refers to digital learning materials that are open to anonymous users. OER include various types of educational materials for teaching, learning, or assessment, such as textbooks and digital toolkits that consider human modalities (e.g., video and narrations). Since OER focus on the openness of learning resources, OER can contribute to digital equity (Park et al., 2019). Digital equity indicates that each learner has an equal opportunity to access and experience learning resources without physical constraints (Solomon, 2002). Hence, OER can ensure digital equity by supporting learners' access to educational materials. Recent reviews on open education support this perspective (Lambert, 2019).

## Defining Accessible Educational Resources

In the 2017 National Education Technology Plan, the U.S. Department of Education defines open educational resources (OER) as teaching, learning, and research resources that reside in the public domain or have been released under a license that permits their free use, reuse, modification, and sharing with others. OER can include complete online courses, textbooks, documents, images, videos, and assessment items.

Open education is a philosophy about the way people should produce, share, and build on knowledge (Albright, 2005). The philosophy is: everyone in the world should have access to high-quality educational experiences and resources (Tuomi, 2006). Promoting collaboration is central to open education, education is sharing knowledge, insights and information with others, upon which new knowledge, skills, ideas and understanding can be built, Open education is education without academic admission requirements and is typically offered online (OECD ,2007).

## Open education

Open education broadens access to the learning and training traditionally offered through formal education systems. The qualifier "open" refers to the elimination of barriers that can preclude both opportunities and recognition for participation in institution-based learning. One aspect of openness or "opening up" education is the development and adoption of open educational resources.

The following types of open were important in the OU model:

- Open = accessible, 'supported open learning', interactive, dialogue. Accessibility was key.
- Open = equal opportunity, unrestricted by barriers or impediments to education and educational resources .
- Open = transparency, sharing educational aims and objectives with students, disclosing marking schemes and offering exam and tutorial advice .
- Open = open entry, most important, no requirement for entrance qualifications.

All that was needed were ambition and the will/motivation to learn (Burgos, 2020).

## What are Open Educational Resources?

The Hewlett Foundation's definition of an OER is: "teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others (Downes, 2006). Open educational resources include full courses, course materials, modules, textbooks, streaming videos, lecture notes, syllabi, assignments, tests, software, and any other tools, materials, or techniques used to support access to knowledge" (Hewlett Foundation, 2015; OECD, 2007).

Open educational resources (OER) are educational materials that are distributed at no cost with legal permission for the public to freely use, share, and build upon the content (Pedró, 2006). (OER) are freely accessible, openly licensed text, media, and other digital assets that are useful for teaching, learning, and assessing as well as for research purposes (Tuomi, 2006). This term describes publicly accessible materials and resources for any user to use, re-mix, improve and redistribute under some licenses (OECD, 2007), briefly, (OER) is a part of the global open content movement (Albright, 2005).

## Open Educational Resources

OER are teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or re-purposing by others (Wiley, 2003).

Open educational resources include: (Hylén, 2006).

- 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

The two most important aspects of openness have to do with free availability over the Internet and as few restrictions as possible on the use of the resource. There should be no technical barriers, no price barriers (subscriptions, licensing fees, pay-per-view fees) and as few legal permission barriers as possible (copyright and licensing restrictions) for the end-user. The end-user should be able not only to use or read the resource but also to adapt it, build upon it and thereby reuse it, given that the original creator is attributed for her work. The knowledge should be legally, socially and technologically open (Hylén, 2006).

And because the OERs goal is to pave the way towards mainstream adoption of OER in a manner that promotes greater, sustainable educational capacity (OER conference, 2015), open educational resources are should openly available to all who seek knowledge, whether this might be for the purpose of self study, for learning collaboratively with others, or for teaching ,The focus should take in consideration that we have three categories of OER user: OER active(it is focused on engagement with the OER movement) , OER as facilitator (OERs are of secondary interest to their primary task) and OER consumer (users are often largely consuming rather than creating), OER should supply this groups different requirements (Downes, 2006; OECD ,2007) .

The key distinguishing characteristic of OER is its intellectual property license and the freedoms the license grants to others to share and adapt it (Albright, 2005). If a lesson plan or activity is not clearly tagged or marked as being in the public domain or having an open license, it is not OER. It's that simple (Pedró, 2006). The most common way to release materials as OER is through creative commons copyright licenses, which are standardized,

free-to-use open licenses that have already been used on more than 1 billion copyrighted works (Tuomi, 2006).

The idea of free and open sharing in education is not new. In fact, sharing is probably the most basic characteristic of education: education is sharing knowledge, insights and information with others, upon which new knowledge, skills, ideas and understanding can be built (Downes, 2006). Open educational resources are and always will be free, but not all free resources are OER. Free resources may be temporarily free or may be restricted from use at some time in the future (including by the addition of fees to access those resources)(Pedró, 2006).

### **The 5R activities:**

The term 'open content' describes any copyrightable work (traditionally excluding software, which is described by other terms like 'open source') that is licensed in a manner that provides users with free and perpetual permission to engage in the 5R activities:

- 1- Retain – the right to make, own, and control copies of the content (e.g., download, duplicate, store, and manage).
- 2- Reuse – the right to use the content in a wide range of ways (e.g., in a class, in a study group, on a website, in a video).
- 3- Revise – the right to adapt, adjust, modify, or alter the content itself (e.g., translate the content).
- 4- Into another language .Remix – the right to combine the original or revised content with other open content to create something new (e.g., incorporate the content into a mash up).
- 5- Redistribute – the right to share copies of the original content, your revisions, or your remixes with others (e.g., give a copy of the content to a friend. (Bliss & Smith, 2017).

### **Why Use OER?**

There are many reasons instructors might want to use OER( Hilton,2016):

- Free and legal to use, improve and share
- Save time and energy by adapting or revising resources that have already been creating
- Tailoring educational resources to the specific content for your course
- Expands opportunities for interdisciplinary teaching and learning by allowing instructors to integrate and revise multiple educational resources
- Redefines "traditional" learning by often incorporating multi-media or scenario-based education
- Allows instructor to go beyond the confines of "teaching to the book"
- Network and collaborate with peers
- Access to educational resources that have already been "peer-reviewed" by other experts in your field
- Many resources have a review or annotation feature so instructors have more in-depth knowledge of the resource and its quality quickly
- Makes learning and teaching more collaborative
- Lower educational cost and improve access to information
- Reduces the cost of course materials, particularly textbooks so that all students have access and aren't as financially burdened
- Find and access information instantly on virtually any topic, and can access with various devices.
- Gives learners the option of looking at course content openly before enrolling.
- Can reduce the students bear, sometimes increasing graduation and retention rates

### **Advantages of using OERs:**

OER has been shown to increase student learning while breaking down barriers of affordability and accessibility. Researchers found that students in courses that used OER more frequently had better grades and lower failure and withdrawal rates than their counterparts in courses that did not use OER ( Primardiana, 2022 ;Hilton,2016). The advantages of using OERs include:

- Expanded access to learning. Students anywhere in the world can access OERs at any time, and they can access the material repeatedly.
- Scalability. OERs are easy to distribute widely with little or no cost.
- Augmentation of class materials. OERs can supplement textbooks and lectures where deficiencies in information are evident.
- Enhancement of regular course content. For example, multimedia material such as videos can accompany text. Presenting information in multiple formats may help students to more easily learn the material being taught.
- Quick circulation. Information may be disseminated rapidly (especially when compared to information published in textbooks or journals, which may take months or even years to become available). Quick availability of material may increase the timeliness and/or relevance of the material being presented.
- Showcasing of innovation and talent. A wide audience may learn of faculty research interests and expertise. Potential students and donors may be impressed, and student and faculty recruitment efforts may be enhanced.
- Ties for alumni. OERs provide an excellent way for alumni to stay connected to the institution and continue with a program of lifelong learning.
- Continually improved resources. Unlike textbooks and other static sources of information, OERs can be improved quickly through direct editing by users or through solicitation and incorporation of user feedback. Instructors can take an existing OER, adapt it for a class, and make the modified OER available for others to use.

### **Important Features of OER (Hilton,2016):**

- OER can either be in the public domain, or under a more lax intellectual property license.
- OER can be revised, remixed, added upon, translated, and then shared again to meet different needs.
- OER can take many forms, such as: syllabi, lesson plans, videos, software, tests, teaching techniques, group activities, writing prompts, textbooks, learning modules, experiments, simulations, and course designs. There are no platform restraints.

### **Challenges of implementing Open Educational Resources**

Despite the transformative potential of OERs to facilitate the access to knowledge and improve the education at a global level, many issues are still challenging. One of the challenges faced by developers and practitioners of OERs has been how to produce quality and relevant materials that can be reused and adapted in different contexts and learning situations. In addition, educators have difficulty in understanding the implicit design behind OERs and how to reuse and adapt them to their own teaching context (Dimitriadis et al.,2009).

The UNESCO OER Action Plan recognizes five challenges (OER Conference ,2015; OECD ,2007; Tuomi, 2006; Pedró, 2006)

1 .Building the capacity of users to find, re-use, create and share OER

- Building awareness and skills to use OER
- Sharing OER
- Finding OER

2 .Language & Cultural issues

3 .Ensuring inclusive and equitable access to quality OER

- Supporting accessible inclusive OER use and development
- Supporting quality assurance mechanisms for OER

4 .Developing sustainability models

5. Developing supportive policy environments

In addition to these challenges there are some issues a teacher must take into his account: infrastructure access, legal permission, intellectual awareness, technical capacity, educational resource availability and individual (or institutional) volition.<sup>6</sup> The externally determined factors (at the bottom) form a foundation for personal volition and practical take on the issue.

### **How can we support the creation and/or reuse of OER by?**

- 1- Using Open Education Practices for Curriculum Development in Education.
- 2- Promoting awareness of OER, explaining the value of openness.
- 3- Building capability in Open Education through investment in infrastructure and strategies to enable the transition of materials and programs(Clements, 2016)
- 4- Developing content for teaching and learning and promoting their continuing reusability, replication, updating, and sharing.
- 5- Promote democratic and diverse access to knowledge.
- 6- Adoption of open platforms and open source software to foster the use of OER (Pedró, 2006).
- 7- Licensing of OER content.
- 8- Supporting staff in using and integrating open practices and open resources.

### **Open Educational Resources (OER) and Open Educational Practices (OEP) and the role of educational institutions**

Open Education combines the traditions of knowledge sharing and creation with 21st century technology to create a vast pool of openly shared educational resources, while harnessing today's collaborative spirit to develop educational approaches that are more responsive to learner's needs (Downes, 2006). Open education seeks to scale up educational opportunities by taking advantage of the power of the internet, allowing rapid and essentially free dissemination, and enabling people around the world to access knowledge, connect and collaborate (Pedró, 2006). Students can get additional information, viewpoints and materials to help them succeed (Clements, 2016). Faculty can draw on resources from all around the world. Researchers can share data and develop new networks. Teachers can find new ways to help students learn. And OERs might help reduce costs associated with producing and distributing course materials in educational institutions (Tuomi, 2006). High-quality OER can save teachers significant time and effort on resource development and advance student learning inside and outside the classroom. Further, open sharing of resources has the potential to fuel collaboration, encourage the improvement of available materials, and aid in the dissemination of best practices (Downes, 2006).

Universal access to high quality education is key to the building of peace, sustainable social and economic development, and intercultural dialogue (Pedró, 2006). Open

Educational Resources (OER) provide a strategic opportunity to improve the quality of education as well as facilitate policy dialogue, knowledge sharing and capacity building (Clements, 2016).

### **How do educational institutions create open education?**

Some educational institutions, especially universities have worked on establishing e-learning centers to improve the environment of e-learning in the university's faculties and academic programs and to develop the students' and academicians' skills in the field of e-learning (Clements, ,2016). The centers also seek to establish partnerships and cooperation with national and international universities, in order to exchange experiences and work on towards developing open education and e-learning systems (OER Conference, 2015). The Centers seeks also to design and develop high-quality, combined courses, to improve the outcomes of education, by developing teachers' and students' competency, providing support and funding projects for it and conducting supportive experimental, evaluation, processional and survey research (Albright, 2005).

Some universities have taken many OER initiatives, some of them is offer open courses such as the Massive Open Online Course (MOOC) (Huay,2019 ; Tuomi, 2006). The courses aim to build capacity on open education and open educational resources (OER) among universities (Clements, 2016). The course assists university teachers with an interest in learning more about open education and with a motivation to adopt open education approaches and OER into their teaching (Tuomi, 2006). And understand how content released under different kinds of open licenses can be reused and apply open licenses to their content, search for, reuse and remix OER. In addition, it focuses on understanding what MOOCs are and how to produce MOOCs, adapting OER and MOOCs to their specific context and incorporating open educational practices into their daily teaching (Pedró, 2006).

Also, some universities are developing resources such as open databases, an e-library, repository of recorded lectures, journal articles, conference papers and master's theses, accessible to learners inside and out with the university, and through MOOCs (OER Conference ,2015).

### **Conclusion**

The main principle behind OER is simple: educational materials should be free and legally available for anyone to reuse, revise, remix, and redistribute. A large number of these materials have already been created; they have the potential to substitute the traditional textbooks and offer a more affordable option for students. Overall, OER have the potential to save money to students with almost no significant effect on learning outcomes. Furthermore, OER also allow teachers to engage with the course materials. They can now change and rewrite the content of the course to fit with their teaching style, can implement new pedagogies, and can personalize their educational materials in a manner that was not previously possible.

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