

# Potentials of Unencumbered OER on Lifelong Learning: A Critical Review

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## Introduction

Basic and elementary education is recognized as a fundamental right. However numerous citizens of the 21<sup>st</sup> century are still devoid of access to educational opportunities. Open and distance learning (ODL) through Open Educational Resources (OER) and technological advancements has played a significant role in the trend towards opening education to more learners, and liberating them from the limitations of time and place. Being accessible to people of all ages and social and economic strata, at all places, methods and ideas, it has become an integral asset to the wider effort to democratize education. Basic foundations of OER are its ability to promote personal agency, self-determination, and self-regulated lifelong learning (at every stage of life) and life-wide learning (across all life activities) (Blessinger & Bliss, 2016). The idea behind OER was to prepare an educational resource that is non-prejudiced, non-restricted, unfettered and provide access to educational opportunities at all levels. However, issues of access, openness and free use are complex and contested. The development of OER takes place in contexts where educational and other resources are distributed unevenly, both in the developed world and specially in case of developing nations (Cannell, Macintyre & Hewitt, 2015). OER are considered to be high on the agenda of social and inclusion policies that want to leverage education and lifelong learning for the knowledge economy and society. Although supported by many stakeholders in the educational sphere, their use in higher education and adult education has not yet reached a critical threshold. This is posing an obstacle to the seamless provision of high quality learning resources and practices for citizens' lifelong learning (Ehlers & Conole, 2010). This is explained by the fact that the current focus in OER is mainly on building more access to digital content and delivering of OER to the still dominant model of teacher-centred knowledge transfer, reflecting limited effect on equipping students and specially the adult learners and learners with lower levels of educational attainment or with no/less access to formal education, the competencies, knowledge and skills to participate successfully in the knowledge economy and society. This paper argues that access, curation, and contextualization as per needs and abilities are crucial for OER to be effective for lifelong learners, especially those who continue studying and updating at later stages of life.

Research on OER and its widening access to lifelong learning suggests that so far OERs are having limited impact on educational inequality. According to Ehlers (2011), there are five main barriers related to use of OER: lack of institutional support; lack of technological tools for sharing and adapting resources; lack of user skills and time; lack of quality or fitness of the resources; and personal issues such as lack of trust and time. Four of these five issues relate to lack of supporting components (i.e., organizational support, lack of a sharing culture within organizations, lack of skills, quality, trust or time, and skills for adaption). Only one element relates to the availability of technical tools for sharing and adapting resources. None of the barriers relates to accessibility and availability. The main issue with use of OER is because past (and largely also current) focus in OER is on building more access to digital content. There is too little consideration of whether access alone will support educational practices and promote quality and innovation in teaching and learning. OER needs to move from a first phase, in which the emphasis was on opening up access and availability, to a second phase in which the focus will be on improving learning quality through innovative Open Educational Practices (OEP). The need of OEP is articulated by the Cape Town Open Education Declaration (2007), which stresses that developing the potential of open education requires practices that enable educators to share approaches and ideas and promote development in pedagogy. The declaration marks a move towards a focus on OEP. OEP focuses on learning by constructing knowledge assets, sharing them with others, and receiving feedback and reviews. It follows the notion of improving quality through external validation because sharing resources is in the foreground and is about changing the traditional educational paradigm to a paradigm in which knowledge is co-created and facilitated through mutual interaction and reflection. This new phase of OEP is about using OER to improve learning experiences and innovative educational scenarios. These comprise a combination of open resources use and open learning architectures that could transform learning into '21st century learning environments', in which learners are provided with opportunities to shape their learning pathways in an autonomous and self-regulated way.

## Methodology

This study applied a narrative review method, which is commonly used to "provide a much needed bridge between the vast and scattered assortment of articles on a topic and to link together many studies on different

topics, either for purposes of reinterpretation or interconnection” (Baumeister & Leary, 1997, p. 311). This type of study is useful for presenting up-to-date literature (Cronin, Ryan & Coughlan, 2008) and can be used to summarize, synthesize, draw conclusions, identify research gaps, and provide suggestions for future research (Cronin et al., 2008). In this regard, the purpose of this study is to examine how OERs have been used and can be used to aid lifelong learners’ address the demands of knowledge economy and society, by examining the concept of OER need for OER, its limitations and promotion of OER-oriented learning through pedagogic theories and Open Educational Practices (OEP) to support a reflective and participative learning process.

### **Limitations of Text Books**

A textbook is very comprehensive and essential content of study used in educational institution. But textbook do have some limitations: Textbooks are sole source of information / knowledge and sometimes particularly fact-based or quite difficult to understand. It also can’t read student’s / individual’s mind. Text book is not sufficient to gain subject knowledge appropriately. Learners need real life experience for their intellectual growth, besides only written discourse. Also the rising cost of text-books can be considered as a disappointment to the learner.

### **Need for OER for Community Development and Lifelong Learning**

Learning opportunities are not restricted by time, space and physical resources. This perspective can be realistic with the help of vast and open repository of information not only for formal education; it has the capability to become an integral part of effective teaching and learning (Greenhow et al., 2009). According to current research, various skills like learning skill, core skill, employability skill, information skill, media literacy skill are also important to enrich effective learning (Ofcom, 2009). So, open resources and open learning are there to change educational culture gradually to improve quality of materials through external validation. As a result, OERs are high pick of social and educational aspects supported by the various stakeholders and higher education experts. OERs provide hypertext facility, which is a strategy to navigate enormous educational opportunities. So learners can select their required content to achieve his/her goals (Jonassen, D. 1993). Creation and transfer of knowledge are the keys to built knowledge based society. Those capacities include competitive strength of an organization to develop knowledge based economy (Carrillo, 1998, 2004). So, it is clear that OER is an unavoidable resource for the enrichment of the individual as well as the society. It is not only for the academicians but for the entire social groups to pursue and expand openness because learning is a lifelong process for behavioral outcomes. The huge adaptations of Information Communication Technologies (ICT) devices make them accessible, affordable, and acceptable to lifelong learners. But it obviously depends on the learner’s interest, motivation and needs (McGreal, Kinuthia, & Marshall, 2013).

### **Concept of OER**

OER is a strategy to develop global connections to use, reuse, redesign, translate, and evaluate learning resources freely. It can be accessed, modified and shared. The purpose of OER is to encourage governments and institutions to invest for the production and use of OER, to take initiative to bring OER into the mainstream of higher education, to impart quality education to improve the curriculum and make it reasonable (Guidelines for Open Educational Resource in Higher Education, 2011, 2015). OERs include materials like presentation slides, podcasts, syllabi, images, lesson plans, lecture videos, maps, worksheets, even entire textbooks via Creative Commons licensing.

The term ‘OER’ was coined by United Nations Educational, Scientific and Cultural Organization (UNESCO) in 2002. According to UNESCO, “Open Educational Resources are teaching, learning or research materials that are in public domain or released with intellectual property licenses that facilitate the free use, adaptation and distribution”. UNESCO also believes that accessibility of supreme quality education is required to maintain world peace and sustainability of OER is also a chance to share knowledge and build the capacity.

Subsequently, OER was considered as licensed educational materials that can be sue with rights in various ways at no cost. There is open license to use, mix, and modify the original one (Fitzgerald, 2007). The licenses include restriction ‘Attribution’(CC-BY) to highest restriction ‘Attribution – Non commercial – No Derivatives’ (CC-BY-NC-ND), which allows the person to download and share with others as long as they give credit (Creative Commons, 2010). Gradually the use of OER has increased many folds, and governments and various institutions have realized its value. It became an important source of learning in various medium. Learners can use, reuse, modify the materials with some restrictions (Cape Town Declaration, 2007; UNESCO, 2012; Creative Commons, n.d.; William and Flora Hewlett Foundation, n.d.). (<https://opensource.com/resources/what-open-education>).

The historic moment for OER was World OER Congress and adoption of 2012 Paris OER Declaration held at the UNESCO Head quarters in Paris from 20-22 June, 2012. This declaration accelerated the movement to access licensed OER worldwide for the interest of the public (Paris Declaration, 2012). OER is also defined by 4RS: reuse, revise, remix and redistribute (Wiley, Green & Soares, 2012). Wiley added the next term 'retain' (Wiley, D., 2014).

### **OER and Open Education**

Now people from different sections of the world are gathering their learning experiences from Internet and many informal sources. They access available resources to learn and to apply to real life contexts. UNESCO recognized 'OER', where those contexts discussed included digitalized educational material for different purposes, like teaching, learning and research. In this context, it can be mentioned that higher education needs to learn how to utilize those learning opportunities as much as possible. OER can remix a huge amount of educational context to develop 'collaborative' OER (Iiyoshi & Vijay Kumar, 2008).

The Commonwealth of Learning (COL), UNESCO and global communities of education underline the resolve that education is foundational to achieving the 2030 sustainable social and economic development goals (UNESCO, 2015).

#### *Open Pedagogy*

'Open pedagogy' is a psychological, systematic structure to promote open education which is helpful to save money and increase access to instructional materials as well as the constructive capability of the learner. Open pedagogy is all above summation of some attributes. Like, for instance, interaction through network and mobile app initiate to build trust, confidence, and openness for work together, motivate continuous innovation and creativity, share ideas through licensing, build-up connection among communities, encourage learner's contribution to OER involvement and contribute open critique of other's scholarship (Brown et al., 2015). Open pedagogy is also helpful for collaborative learning; learners can involve their peer group to remix activity and reconstruct knowledge with the help of OER through tutorials (Wiley, D., 2013). It is very essential to get feedback from peer group. It is an obvious natural consequence of OEP and enhances further learning (Ehlers, 2011). Wiley, D. (2013) coined a term 'OER-Enabled Pedagogy' and 'Open Pedagogies'— i.e. use of OER in a learner-centric manner to pursue both individual and collaborative learning.

#### *OER-Enabled Pedagogy*

OER-enabled pedagogy is defined as a set of teaching and learning practices that are practical in the context of the 5R permissions, which are characteristic of OER (Wiley & Hilton, 2018). Pedagogical, even andragogical, educational methods are no longer fully sufficient in preparing learners for thriving in the workplace, and a more self-directed and self-determined approach is needed, one in which the learner reflects upon what is learned and how it is learned and in which educators teach learners how to teach themselves (Peters, 2001, 2004; Kamenetz, 2010). Heutagogy applies a holistic approach to developing learner capabilities, with learning as an active and proactive process, and learners serving as "the major agent in their own learning, which occurs as a result of personal experiences" (Hase & Kenyon, 2007, p. 112). The concept of heutagogy emphasize on development of learner capacity and capability with the goal of producing learners who are well-prepared for the complexities of today's workplace (Blaschke, L.M., 2012). To successfully impart knowledge to lifelong learners, OERs must focus on a pedagogy that concerns learners' ability to construct a way to learn either individually or collectively as a group through interpretation and negotiation process of constructivism (Crosslin, M., 2016). A constructivist, heutagogical outlook is "well-suited for teaching the epistemic practices and collaborative problem-solving skills necessary in a knowledge society while empowering learners through democratic participation in learning and dialogue" (Porcaro, 2011, p.43). However for learning in environments, which involve learners operating with distributed expertise, learning that occurs socially as a group and outside of people (i.e. learning stored and manipulated by technology and within organizations), OERs need to encourage learners to connect with each other in learning networks, called connectivism (Siemens, G., 2005). Connectivism or distributed learning creates new opportunities for people to learn and share information across the World Wide Web and among them. In a connectivist, heutagogical approach to teaching and learning, the teachers, learners, networks, connections, media, resources, tools create a unique entity that has the potential to meet individual learners', educators', and even societal needs (Crosslin, M., 2016).

#### *Open Educational Practices*

Time has come to use our previous knowledge into daily life with the help of educational resources. Adult learners and interested individuals are getting lots of chances to shape their life-long learning pathway. OEPs are

thus practices within the trajectory, delimited by two dimensions - openness in resource usage and creation vs. openness in pedagogical models. Both are important for the improvement of organizations to self assessments and their respective context (Ehlers, 2017). OEP is not only widely accessible and used by the academicians for their own growth; it also offers innovation, attribute, trust and connectedness. Conole (2013) gave five principles of openness for OER:

- 1) Collaboration and sharing of information.
- 2) Connected communication about learning and teaching.
- 3) Collectivity to grow knowledge as resources.
- 4) Critique for the promotion of scholarships.
- 5) Serendipitous innovation.

### **Limitations of OER**

It has been observed that learners generally like to read textbooks instead of OER. So, publishers in particular can draw a boundary to the access of OER. They consider OER as a challenge (Santos–Hermosa, Ferran-Ferrer & Abadal, 2012).

Unfortunately OER contents are open in theory but closed in practice, very rarely the reference materials are used, sometimes the users are not aware how to maximize the use OER. Another true fact is OER has become an institution–based repository which is core-content oriented and not multidisciplinary, thus posing an obstacle to make OER inter-institutional collaborative resource. Infrastructural and maintenance cost of OER is not less. So to take care of hardware, software and connectivity for OER have become a headache for the Institutions as well as the Governments. Now there is also a doubt regarding the uses of open materials as commercial enterprises will sustain in the future. Somehow quality control is also a big challenge, which can be a limitation to the uses of OER. Is OER properly evaluated through learners’ outcomes? The answer to this is not convincing at all. Overall the scenarios of traditional culture of OER are very different. Free access does not give any revenue to the owner and publisher. So, is it possible to maintain long term validity and stability of OER? (Iiyoshi & Vijay Kumar, 2008, pp -229-246). Even, some institutional and national policies and budgetary frameworks are not interested to reward collaboration and open sharing of knowledge (COL. 2011, 2015). Technological issues were also identified as an obstacle to successful participation in OER development; print is still playing dominating role in various sectors. (Ngimwa & Wilson, 2012).

### **How the OER–oriented Learning will be promoted?**

Learners are different, so also their learning processes. OER should have diverse quality to fulfill each and every learner’s needs. Learners learn by using their sensory, motor, cognitive emotional, social and cultural domains. Learning styles, approaches, family background, environments are also different and take a very important role to gain learning experiences. When OER content carefully consider these aspects it will help nurture a learner’s mind and all round development. Each and every activity or imitative have some fixed objectives - OER is not an exceptional issue. So OER should maintain, fix and reach the objectives according to the requirement of the learner.

OERs need to be designed to develop lifelong learners, who have the capability to effectively and creatively apply skills and competencies to new situations in an ever-changing, complex world (The World Bank, 2003; Kuit & Fell, 2010). Accordingly the content of OER needs to include self-discovery activities, more student-centered learning, problem-based learning, and reflective artifacts such as blog posts. It needs to involve more un-structured problems, interactive exercises, learner-determined activities, and even artifacts based on learner preferences rather than pre-determined structures such as papers, tests, etc. (Crosslin, M., 2016).

OER must provide for constant creation through licenses and support flexible learning for disable students. Function and navigation control are important to maximize the use of OER, audio-visual description are also required for better understanding, text caption and translation facility must be there to facilitate the learner’s needs and last but not the least quality control is the most significant matter of OER (COL. 2011, 2015). Learning starts from mother’s womb and continues till death, so learning opportunities should be life-long. Only the flexibility and accessibility of Open Education and OER can enhance those possibilities. Selection of learning situation & place are also an opportunity provided by OER. Learners are able accumulate credits from various learning context through OER. (COL, 2011, 2015). A basic guide to OER provides contents that are not sufficient to empower the learners to learn by their own with the help of OER without inferences of any academic person or an Institution.

Mulder (2007) has mentioned initiatives, which can go beyond online learning to facilitate the learner in uncountable ways.

- OER should provide learner-centered, authenticated high quality learning material
- It should focus on lifelong learning
- It must increase the participation of the learner and make them free to share & modify
- OER should make a bridge between informal, non-formal & formal learning to make the learning process more comprehensive and complete
- Web-based facility and institutional supports must be there to help the learning communities
- Further research, experiments and evaluations are required for future development

In addition Mulder (2007) also identified some issues that need be addressed. For validity and sustainability, OER require new and developed business models which can address internationalization as well as localization of the content to wide it's accessibility and to reduce the panic of misuse of intellectual contents by property rights to help to grow the contents. It has a great potential to develop a country, so there is a need to aware the public and modify the model with the help of the feedback and possibilities. (Mulder, 2007). The research studies say the progress and acceptability of OER is positive. So, the leader who helped to shape up this movement through Cape town and Paris meeting must keep on their eyes for more and more use and adoption of OER (*Open Educational Resources–A Reality Check, October 2017*)

## **Conclusion**

Based on the literature review and its analysis, it can be argued that there are two key challenges. The first challenge is with regard to content creation and curation, i.e. the process of making OER material available to the general public, how to maintain the resource and how to get feedback on it. The second challenge relates to discovery, i.e. for OER consumers to easily find OER material and discern its usefulness in their specific learning context (Jobe et al., 2018).

The most significant barrier to wider adoption of OER is the user perception of the time and effort required to find and evaluate the resources. Learning by using OER is not compulsory for adult learners and so it is difficult to concentrate on the Internet for a long time. Therefore, the majority of adult learners are generally found to be comfortable with OER content that they are interested in and which they could easily understand, such as special lectures by experts or a key issue in a particular field rather than the contents that are directly related to learning. Instead of the existing OER policies that focus on provision and extension of the learning opportunities, policies that extend learning opportunities (connected to actual utilization) should be promoted now. To do this, service strategies that can increase convenience of use and strategies to develop content that better connects users and their specific requirements should be established to promote acceptance and the intention to use OER.

To achieve the above objectives, firstly OER should provide contents that are directly related to learners' requirements. OER contents that enable users to understand each field's trends or extend knowledge related to various sectors should be provided. Information summarized by experts from difficult subjects or content that is easy and simple for ordinary persons should be provided, rather than knowledge acquired over a long period of time through fixed educational courses such as the general learning content in e-learning. Secondly, websites which provide OER services should be made available through an interface that is simple and can increase learning efficiency to the maximum. Provision of the most convenient search function should enable learners to find OER that they want as soon as possible. Services that OER service operators can actively help lifelong learners include one-on-one counseling and Q&A should be provided after taking into consideration adult learner characteristics. In other words, learning through OER should focus on providing those services that include functions to manage learning, or counseling to enable learners to manage their learning smoothly through OER rather than by focusing on providing high quality content (Kim et al., 2015).

The new generation digital-age students want an active learning experience that is social, participatory and supported by rich media. Current research also points to a growing appreciation of the need to support and encourage learner control over the whole/entire learning process. As web based multimedia production and distribution tools incorporating text (blogs, wikis, Twitter), audio (podcasting, Skype), photo (Flickr) and video (podcasting, YouTube) capabilities continue to grow, educational institutions are faced with ever expanding opportunities to integrate social media and technologies into teaching, self-learning and assessment. If employed in conjunction with appropriate strategies, learning technologies are capable of supporting and encouraging informal conversation, dialogue, collaborative content generation and the sharing of knowledge, thereby opening up access to a vast array of representations and ideas (McLoughlin & Lee , 2010). Many social software

tools afford greater agency to the learner by allowing autonomy and engagement in global communities where ideas are exchanged and knowledge is created as students assume active roles (Lee, McLoughlin & Chan, 2008; Ashton & Newman, 2006). The learning experiences that are made possible by social software tools are active, process based, anchored in and driven by learners' interests, and therefore have the potential to cultivate self-regulated, independent learning. Future learning will be more ubiquitous where learners will be mobile and will learn anywhere and anytime. Mobile learning with OER is the future of education (Young, 2009). As we move through the OER era we need to transform education with the goal of Education for All (Ally & Samaka, 2013). However further research suggests that it's time to go beyond only building access through OER to OEP. Quality and innovation are inherent characteristics of Open Educational Practices, as education changes to be a social practice, reflective and participative, where learner generate content and validate them in peer-interaction and teachers are facilitating rather than directing learning processes. Learning artifacts, reports, knowledge landscapes are produced within learning processes, shared as learning materials with others, suggested to be reviewed and improved by others, within organizations and between organizations. Learning is becoming an open process in which institutional boundaries, boundaries through pre-defined curricula and biographical learning sequences are extended (Ehlers & Conole, 2010). OER needs to be geared toward these possibilities with proper contextualization to facilitate lifelong learning for adult and older learners.

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