
OPEN EDUCATION PRACTICES IN HIGHER EDUCATION

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Abstract

Although OER are high on the agenda of social and inclusion policies and supported by many stakeholders in education, their use has not yet reached a critical threshold in Europe any beyond. We argue that this has to do with the fact that OER as concept focusses mainly on building access. There is too little consideration of whether this will support educational practices or promote quality and innovation in teaching and learning. We continue to argue that OER are moving from a first phase in which the emphasis was on “opening up access and availability” to a second phase where the focus will be on “improving learning quality” through OER. We therefore suggest that the focus should be extended beyond “resource access” to “innovative Open Educational Practices” (OEP). In order to facilitate the shift from OER to OEP, it is important to outline the factors which influence the actual creation, use, sharing and reuse of OER for learners, educational professionals and organizational leaders in one common framework. A framework of this kind would have to be capable of directing stakeholders towards innovative, open education in which OER play the role of improving the quality of learning experiences. In this paper we make available such a framework in form of a guideline for innovation and quality through open educational practice for educational professionals.

Introduction

The report “Beyond OER” (Ehlers et al., 2011) came to the conclusion that Open Educational Resources (OER) in higher education institutions are in principle available but are not frequently used. In terms of this document, we understand OER as any kind of educational resources written under the terms of any open licenses (such as the licenses for open content provided by Creative Commons) and thus, which are freely available for usage. The study reveals that there are five main barriers with which individuals are faced when they want to use OER: (a) lack of institutional support, (b) lack of technological tools for sharing and adapting resources, (c) lack of skills and time of users, (d) lack of quality or fitness of OER, (e) personal issues like lack of trust and time (ibid). With OER, an old question seems to gain new relevance: if we build it, will they come? (Masie, 2001). Four of five issues are related to lack of supporting components like organizational support, a lack of sharing culture within organizations, lack of skills, quality, trust or time and skills for adaption. Only one element is related to the availability of technical tools for sharing and adapting resources. Not a single barrier relates to the question of accessibility and availability.

The popularity of the concept OER is unbroken today – and even more has reached educational organisations, in particular higher education institutions. Open education – as the more generic term – is on the rise, expressing for instance in the emergence of massive open online courses (MOOCs) with a number of MOOC platforms, showing great potential of providing university level education free from traditional conditions, such as cost and academic background (Jordan, 2014). However, also brings forth new challenges, like credentialing and assessment processes for such free forms of learning (Ehlers, 2018). The number of learners continues to increase in open online environments (Chuang & Ho, 2016). In four years, 4.5 million individuals have participated in free online courses and 245.000 certificates have been issued (ibid.). The development of MOOCs offers other attractive forms of open learning.

The results of the “Beyond OER” study are in line with a more general debate in recent literature on the gap between the concept of “giving away knowledge for free” (Ischinger, 2007) and the actual use of free and open resources for teaching and learning. A literature screening of the last 6 years of OER research reveals that the challenges associated with OER no longer lie in the availability or accessibility of resources but beyond. In addition, for quality assurance and OER: Windle et al. (2010), Philip et al. (2008); for skill demand for OER usage: Beggan (2010), Conole and Weller (2008); for teaching culture and OER: Beggan (2010); for lack of transparency culture: McGill et al. (2008); for conflicting agenda between research and teaching excellence related to OER usage: Browne et al. (2010); for shift from supply to demand side with OER: Browne et al. (2010), Beggan (2010), McGill, Beetham, Falconer, and Littlejohn (2010); for learning design as pedagogical underpinning of OER: Kahle (2008), Boyle and Cook (2003). Thus, Pirkkalainen and Pawlowski (2013) provide a map of 31 barriers to OER use by teachers, which also seems to indicate that the limiting factors for OER-use lie outside the realm of availability and accessibility. In fact, these barriers can be categorized as being due to lack of time, lack of training, lack of policy, lack of support, lack of awareness, lack of quality content, language issues and incompatibility of resources with the educational scenario.

The public debate on OER became more and more aligned with the UNESCO decade program “Education for All” which strived for universal access to primary education by 2015, and now by 2021 (UNESCO, 2014). Since we know that, although there had been progress, this very objective had not been reached, the quest for solutions is more important than ever today. It is clear now that it is not just about open resources. On the contrary, open resources are not more than any other learning materials, not more than simple and plain content – and, although free and open available, only one particular component of high quality learning experiences. An important one, admittedly, but not the only one necessary. Martin Weller discusses MOOCs from a quality perspective in “The Battle for Open” and questions if MOOCs do not bring back the fascination for pure content based courses, fascinating on the one hand side because its reach-out is vast, scary on the other hand because educators seem to give in to spreading content and call it education (Weller, 2014). One could call it a “renaissance of content” within the online learning debate, where we actually feel that we had

overcome the issue of declaring “content” king – and move more to the issue of context as king of online learning quality considerations.

In this contribution we consider that OER are moving from (what we call) a first phase in which the emphasis was on “opening up access and availability” to a second phase in which the focus is “improving learning quality” through OER. We have therefore earlier suggested to extend the focus beyond “resource access” to “innovative open educational practices” (OEP) (Ehlers, 2014). As OEP, we define “practices which support the (re)use and production of Open Educational Resources (OER) through institutional policies, promote innovative pedagogical models, and respect and empower learners as co-producers on their lifelong learning path” (ibid).

The current situation can be characterized as follows: although OER are high on the agenda of social and inclusion policies and supported by many stakeholders in education, their use has not yet reached a critical threshold. There is a separate but connected debate ongoing about whether this holds true for developing countries as well. However, apart from infrastructure challenges – which are a necessary condition and not to be neglected – the issue of OER usage meets the same challenges there and could be facilitated through creating a culture of openness within institutions through a complementary focus on educational practices in addition to resources. This has to do with the fact that the past and to some extent the current focus on OER is mainly on building more access to digital content. There is too little consideration of whether this will support educational practices or promote quality and innovation in teaching and learning. We consider that OER are moving from a first phase in which the emphasis was on “opening up access and availability” to a second phase where the focus will be on “improving learning quality” through OER. We therefore suggest that the focus should be extended beyond “resource access” to “innovative Open Educational Practices” (OEP). In order to facilitate the shift from OER to OEP, it is important to outline all the factors which influence the actual creation, use, sharing and reuse of OER for learners, educational professionals and organizational leaders in one common framework. A framework of this kind would have to be capable of directing stakeholders towards innovative, open education in which OER play the role of improving the quality of learning experiences.

In order to facilitate the shift from OER to OEP, it is important to outline all factors which are influencing the actual creation, use, sharing and reuse of OER for learners, educational professionals and organizational leaders in one common framework. The “Open Educational Quality Initiative”, a European initiative running from 2011 to 2014, has developed such a framework. It outlines dimensions which need to be taken into account when wanting to stimulate a vibrant use of OER and when aiming to transform education and learning in an organisation. The OEP guidelines have been piloted in higher education institutions. They are designed to assist the different targeted stakeholder-groups in the field of Adult Education (AE) and Higher Education (HE) to improve their (re)usage/production of Open Educational Resources (OER) and thus, to foster their Open Educational Practices (OEP). In this paper we want to make available one of the guidelines of the initiative to a wider audience – the guideline for innovation and quality through open educational practice for educational

professionals. Therefore – in the next section – we first describe the basic idea of OEP, summarise our research results and present a model of the guidelines, designed for educational professionals.

Developing a basic model of Open Educational Practices

In short, open educational practices constitute the adoption of Open Educational Resources (OER) within open learning ecologies. The creation, use, and re-use of open educational resources, as well as the exploitation of open learning ecologies can be challenging for learners and educators, but also for leaders of educational institutions. Policy makers, as well, often need to be made aware of and understand both concepts and can play a strategic role in fostering a rapid uptake of OER and enabling a timely adoption of OEP. In parts the concepts and ideas described in this document are developed as a collaborative exercise of 30 experts in an international workshop at UNESCO in Paris in November 2010. In the first stage, we provide two matrixes which enable a trajectory of openness. The first one presents the constitutive elements of open educational practice (OEP), and the second one touches on the diffusion of open educational practice. They both allow individuals or organizations to position themselves in a trajectory of OEP and to consider the state-of-affairs of their own OEP landscape.

- **Constitutive Elements of OEP:** The extent to which openness in the related context is applied to the use of resources (free for use = OER usage) and the extent to which openness is inherent in learning scenarios and pedagogies (freedom of choosing and using learning models).
- **Diffusion of OEP:** The extent to which OEP is embedded as a common practice in the relating context through sharing and collaboration.

Both matrixes constitute essential elements of a) what open educational practices are and b) the extent to which they penetrate a specific context, e.g., an organization or the actual classroom environment. The first matrix suggests different degrees of openness in the usage and creation of open educational resources. The span ranges from “no usage” or “OER usage” to “OER (re-) usage and creation”. With these three stages, the scale covers different realities within organizations and/or individual learning behaviour. This dimension of openness in resource usage and creation is set in relation to a dimension of pedagogical practice. The dimension of pedagogical practice is subdivided into three degrees of openness which represent different stages of openness in teaching and learning frameworks. While there is currently no agreed-on classification or definition for “openness” of pedagogical models available, research suggests different aspects of openness or freedom in teaching and learning frameworks. The approach which we adopted to classify pedagogical models/ learning activities regarding their openness follows largely Baumgartner’s (2004) approach: teacher – tutor – coach, where the “teacher” represents pretty much the “teaching as knowledge transfer” paradigm and gradually opens up to arrive at a model of learning as co-creation and social practices in the category “coach”. While we are aware that this is a simplification of reality we believe still that it is giving prototypical indication of three different and distinct degrees of openness in learning environments. However, other alternative approaches to

classifying learning activities have been taken into account and which come to similar conclusions, like Paavola, Lipponen, and Hakkarainen (2004) who suggest learning metaphors along acquisition – participation – knowledge creation, Laurillard (1993) or a comprehensive analysis of Mayes and de Freitas (2004) for JISC. Following this analysis, pedagogical levels of “freedom” or “openness” have been conceptualized:

- “Low” if objectives as well as methods of learning and/ or teaching are rooted in “closed” one way, transmissive and reproductive approaches to teaching and learning. In these contexts, the underlying belief is that teachers know what learners have to learn and mainly focus on knowledge-transfer.
- “Medium” represents a stage in which objectives are still pre-determined and given, but methods of teaching and learning are represented as open pedagogical models. They encourage dialogue oriented forms of learning or problem based learning (PBL) focusing on dealing with developing “Know how”.
- “High” degrees of freedom and openness in pedagogical models are represented if objectives of learning as well as methods (e.g. learning pathways) are highly determined and governed by learners. Questions or problems around which learning is ensuing are determined by learners (SRL – Self Regulated Learners, Carneiro et al., 2010), and teachers facilitate through open and experience-oriented methods which accommodate different learning pathways, either through scaffolding and tutorial interactions (ZPD Vygotskian inspired approaches) or contingency tutoring (Woods and Woods (1999) strategies of re-enforcement, domain or temporal contingency).

OEP are defined as practices within the trajectory, which is delimited by both dimensions: openness in resource usage and creation vs. openness in pedagogical models. Both dimensions can help individuals and organizations to self-assess and position their respective context.

		OER Usage		
		Low No OER (re-) usage	Medium OER (re-)usage or creation	High OER (re-)usage and creation
Learning Architecture	High Social practices, Collaboration, Sharing (Reflection in action), • „open“ objectives • „open“ methods	A	B	C
	Medium Dialog, Procedures, Rules (Know-how) • „closed“ objectives • „open“ methods	D	E	F
	Low Knowledge transmission (Know that) • „closed“ objectives • „closed“ methods	G	H	I

Figure 1. Matrix 1 – Constitutive Elements of OEP

Using the matrix, we can analyse three examples:

1. Autonomous Learning without OER: A high degree of pedagogical openness (project based learning, etc.) and a low degree of OER usages and creation would result in interactive, autonomous learning contexts without extensive use open educational resources.
2. Lectures with OER: using OER (e.g. a slide set) to give a lecture to students in a directive, knowledge transfer
3. Open Learning Architectures: Whereas a high degree in openness in pedagogical models in combination with a high degree in OER usages and creation result in a high degree of OEP in which OERs are used in open learning architectures (e.g. creation of Learner Generated Content in exploratory, autonomous learning scenarios).

OEP essentially represent a collaborative practice in which resources are shared by making them openly available, and pedagogical practices are employed which rely on social interaction, knowledge creation, peer-learning and shared learning practices. Once an individual or an organization has understood the constitutive elements and principles of OEP which were addressed in the first matrix, they can move on and analyse the diffusion of OEPs within their specific context using the second matrix, presented below. We believe that educational practices are never entirely closed or open and that within educational organizations patterns and configurations of educational practices exist which taken together constitute a diverse landscape.

This has to do with the diverse beliefs and attitudes towards OER and towards open pedagogies. In order to be able to categorize, assess and position the existing landscape of OEP within a given context (e.g. a learner or a teacher in his/her context) they can be mapped against two dimensions: the freedom of an individual to practice open education on the one hand and the involvement of others in OEP, which is expressed in different degrees of shared practices and collaboration. Both dimensions delimit the trajectory of diffusion of OEP for any given context. Matrix 2 shows the different dimensions in combination.

		Degree of involvement of others into the OEP		
		Low Low degree of sharing/ collaboration	Medium Medium degree of sharing/collaboration	High High degree of sharing/collaboration
Individual Freedom to practice open education	High Advanced degree of OEP embedded into learning/teaching	A	B	C
	Medium Some islands of OEP	D	E	F
	Low Little or no OEP	G	H	I

Trajectory of OEP

Figure 2. Matrix 2 – Diffusion of OEP

The dimension, constituting the individual freedom to practice open education, is divided into the three stages:

- “Low” – means that within a given learning/teaching context no open educational practices are encouraged.
- “Medium” – means that within a given learning/teaching context, islands of open educational practices exist, but are not a shared and common reality
- “High” – means that within a given learning/teaching context, open educational practices are embedded into the reality of all learning and teaching activities.

The second dimension of the matrix deals with the question how the OEP is socially embedded, and whether others are involved in OEP as well. It ranges from a low degree of sharing and collaboration to a high degree of sharing and collaboration within a given learning/ teaching context. Both dimensions delimit the trajectory of OEP diffusion. OEP can be encouraged as an individual activity within a given learning/teaching context, but with only little or medium involvement of others to do the same. In contexts, however, in which OEP are embedded into the reality of all learning/teaching activities and at the same time are shared amongst a larger group, then OEP diffusion is high. The matrix shows that the trajectory of OEP diffusion is actually limited. It is unlikely that there is a combination of “little or no open educational practices” with “high degree of sharing/collaboration”, also an “advanced degree of OEP embedded into learning/teaching” in combination with “low degree of sharing/collaboration”. The matrixes are the core for the first part of a set of tools for three. The tools will be designed to facilitate and guide the improvement of OEP for learners, professionals, leaders of organizations and policy makers. The matrixes can be used by individuals (learners as well as educational professionals) or organizations to position their practices and analyse their individual OEP constitution (Matrix 1) as well as its diffusion (Matrix 2). Within organizations it is important to note that OEP, just like organizational culture, constitutes a status which may be more or less represented.

Research and Development of the Guidelines for open Educational Practices

The guidelines have been developed on basis of a large-scale desk-research on OEPs, analysing mainly institutions on how they deal with OERs in the European context (UK, Ireland, Holland, Germany, Austria, Switzerland, Finland, Estonia, Portugal) but also abroad (Brazil, North America). Through the desk-research over 60 case studies could be extracted, describing common but also context-specific OEPs. This gave us an impression, clear enough, on the one hand, to determine the seemingly relevant stakeholders, and on the other hand, build an initial dimensional model and develop/deduce a standardized questionnaire which we implemented in an online-survey (to get a clearer picture particularly on barriers against using OER). The distribution of the survey was done through networks from institutions like Aalto University, EFQUEL, ICDE, OUUK, UCP, UDE, and UNESCO. This way, more than 20 000 potential respondents from all stakeholder groups were reached, mainly localized in

Europe but also, outside of Europe. Barriers and success factors could be mapped out for using/reusing/producing OERs. By joining the data from both surveys, the desk-research and the questionnaire, it was possible to build a validated dimensional model for OEP. Regarding those dimensions of OEP, we found there were different levels of maturity a user's can have in each dimension and, depending on the level of maturity, they do different things with OERs in different intensities. As a consequence, we built the "Maturity Matrix", a table that opposes the OEP dimensions on the one axis and the level of maturity on the other axis. The maturity concept for educational professionals is described in the table below.

The Open Educational Practice Maturity Matrix for Educational Professionals

Step 1: Positioning your Organization in the OEP Trajectory

OEP consists essentially of the use of open educational resources in open learning environments/ architectures. The maturity matrix enables you to position yourself in terms of your level of OEP maturity.

Table 1:

	Not yet started	Early stages/ awareness	Developing/ Commitment	Established	Embedded/ Advanced
1. What is your level of expertise in terms of OER?	No knowledge or experience	Some awareness	Knowledge of existing OER initiatives	Good understanding	Expert knowledge
2. To what extent are you using OER?	No use	A little use	Use regularly to support my teaching	Not only use but repurposing of OER	Significant use and repurposing
3. To what extent are you sharing OER and practices?	Not sharing at all	Small amount of sharing	Significant sharing	Regular sharing of both OER and associated practices	Sharing of innovative practices on the creation and use of OER
4. To what extent are you using technologies for the creation and repurposing of OER?	No use of technologies	A little use	Significant use	Regular and innovative use of technologies to create and share OER	Cutting edge development and use of technologies

Step 2: Creating a Vision of Openness and a Strategy for OEP in an Organization

We believe that OEP can be supported through strategic planning. This second part of the OEP guideline helps you to better understand the strategy within your own context. This section is designed to analyse your strategic environment in relation to relevant dimensions of open educational practice strategy of your practice.

Table 2:

	Not yet started	Early stages/ awareness	Developing/ Commitment	Established	Embedded/ Advanced
1. Do you have vision for how to use OER in your teaching?	No vision	An emerging vision of how to use OER in teaching	A good understanding of how to use OER in teaching	A well-developed vision for use of OER in teaching	An innovative and applied vision for use of OER in teaching
2. Are OEP embedded in your practice?	No use of OER	Some use of OER	Regular use of OER in teaching	Significant use of OER in teaching	Sustained and innovative use of OER in teaching

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3. What types of pedagogical approaches are you using with your OER?	No use of OER	Some use of OER, to supported mainly didactic pedagogical approaches	Range of different pedagogical approaches in the use of OER to support different forms of learning	Advanced pedagogical approaches in the use of OER including constructivist and socially situated approaches	Innovative and varied pedagogical approaches to the use of OER
4. Are you involved in any partnerships and/or networks to exchange with other educational professionals about OEP?	No partnerships within the organization or with other colleagues exist with regard to OEP.	Informal links between colleagues and/or teams in relation to OEP exist within my organization.	I have established links between colleagues within our organization to exchange about OEP. We even begin to develop a small number of OEP partnership-projects.	Within my professional context we have now several ongoing and successful partnerships and/or alliances with colleagues to exchange and support the use of OEP.	There are social networks and partnerships to share, co-create and exchange experience and practices on OEP with colleagues.
5. Do you perceive OEP as relevant across the organization?	I do not view OEPs as relevant to my professional context.	I view OEP as relevant to some extent.	Apart from me we have some teams and groups within the organization which start to view OEP as relevant to their own learning/ teaching context.	Me and my colleagues across the entire organization perceive OEP as relevant and desired practices.	OEPs are perceived as a relevant part of the organizations professional work and are communicated as such to professionals, learners, outside partners and clients.

Step 3: Implementing and Promoting OEP

The following section contains dimensions which are important to create a favourable environment for OEP within your context.

Table 3:

	Not yet started	Early stages/awareness	Developing/Commitment	Established	Embedded/Advanced
1. How aware are you of IPR, DRM and copyright regulations for the use of OER?	No knowledge or experience	Some awareness	Basic understanding	Good understanding	Expert knowledge
2. Is there a motivational framework for OEP in existence (e.g. incentives)?	There are no incentives for OEP.	Individuals are motivated to develop and (re-)use OER and use open learning architectures.	Motivation to develop and (re-)use OER and open educational practices on a department or team level is simulated through incentives.	Incentives to stimulate the transformation of educational scenarios and resources into OEP exist on an organizational level.	OEP is supported through an organization-wide motivation framework.
3. Are OEP used?	There is no use of OEP.	OEP are applied in a few courses.	The use of OEP means that we now offer a small number of new courses, using more flexible and innovative delivery methods and OER.	OEP is an established reality organization wide.	OEP are embedded into the organization's culture and are a subject to regular reflection.
4. Do you have tools to support	No tools for supporting the sharing of open	I am starting to use tools for sharing open	Together with colleagues we are adopting tools for sharing and exchange of	Use of digital tools to support sharing and	The use of digital tools which support sharing and exchange of

sharing and exchanging information about open educational practices?	educational practices (e.g. social networks, blogs, etc.) exist.	educational practices (e.g. social networks, blogs, etc.).	information about educational practices (e.g. social networks, blogs, etc.).	exchange about OEP are a widespread reality amongst me and my colleagues.	information about OEP are embedded into my everyday work as an educational professional.
5. Do you have quality processes in place for your OER?	No quality processes in place	Limited amount of quality control	Good level of quality control	Robust quality processes in place	Quality processes are shared and validated with peers
6. What level of knowledge and skills do you have in relation to open learning architectures and OEP?	I have little or no understanding of open learning architectures.	Some of my colleagues and me have sufficient knowledge to apply OEP.	Knowledge and skills to apply open learning architectures within the organization's educational programs are beginning to diffuse from a handful of to teaching staff more generally.	A significant number of teachers across the whole organization have the skills and confidence to successfully apply open learning architectures.	The vast majority of teaching staff have the knowledge, skills and confidence to successfully and appropriately apply open learning architectures. New open learning architectures are actively developed within the institution.
7. What is your level of digital literacy skills	Basic understanding and use of technologies	Some awareness of social and participatory media	Increasing use of innovative technologies to support teaching	Regular and established use of a range of technologies to support teaching	Innovative and cutting edge use of technologies to support teaching
8. Do you receive any support to develop your OEP?	No support	Some basic training is available	Suite of training opportunities	Advanced support for the creation and use of OEP	Expert knowledge and provide support on the creation and use of OEP to peers

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