



## Extending the Territory: From Open Educational Resources to Open Educational Practices

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### Abstract

This article examines the findings of the recent OPAL report *Beyond OER: Shifting Focus from Resources to Practices*. In doing so, it defines current understanding of open educational resources and open educational practices, and highlights the shift from open content to open practice. The article includes a framework for supporting open educational practices. The conclusions emphasise that open access is a necessary but not sufficient condition for the opening of education, and foreshadows ongoing moves toward changes in educational architectures that promote increased uptake of open educational resources and wider application of open education.

**Keywords:** OER, open educational resources, open educational practices, open education

### Introduction

The Open Educational Quality Initiative Report, *Beyond OER: Shifting Focus from Resources to Practices*, came to the conclusion that open educational resources (OER) in higher education institutions are, in principle, available but are not frequently used (OPAL, 2011). The study reveals that individuals are faced with five main barriers when they want to use OER: lack of institutional support; lack of technological tools for sharing and adapting resources; lack of users' skills and time; lack of quality or fitness of the resources; and personal issues such as lack of trust and time (ibid). When considering OER the old question seems to gain new relevance: 'If we build it, will they come?' (ASTD & Masie Center, 2001). Four of these five issues relate to a lack of supporting components (i.e., organisational support; a lack of a sharing culture within organisations; lack of skills, quality, trust or time, and skills for adaptation). Only one element relates to the availability of technical tools for sharing and adapting resources. None of the barriers relates to accessibility and availability. While the study's sample might be subject to self-selection and probably attracted more respondents from OER users, the results reveal an interesting array of barriers which are not, so far, addressed in research. Greater efforts will have to be made in future to understand the personal, organisational, and environmental factors that hinder or enable creation, sharing, use, and reuse of OER.

This recent study is in line with a more general debate which has manifested in recent literature, suggesting that there is a gap between the concept of "giving knowledge for free" (OECD, 2007) and the actual use of free and open resources for teaching and learning. A review 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 go beyond this to the area of use (for quality

assurance and OER see Windle, Wharrad, McCormick, Lavery, & Taylor, 2010; Philip, Lefoe, O'Reilly, & Parrish, 2008; for skill demand for OER usage see Beggan 2009; Conole & Weller 2008; for teaching culture and OER see Beggan, 2009; for lack of transparency culture see McGill, Currier, Duncan, & Douglas, 2008; for conflicting agenda between research and teaching excellence related to OER usage see Browne, Holding, Howell, & Rodway-Dyer, 2010; for shift from supply to demand side with OER see Browne et al., 2010; Beggan, 2009; McGill, Beetham, Falconer, & Littlejohn, 2010; for learning design as pedagogical underpinning of OER see Kahle, 2008; Boyle & Cook 2004).

The current situation can thus be summarised as follows: Although OER are high on the agenda of social and inclusion policies, and are supported by many stakeholders in the educational sphere, their use in higher education has not yet reached a critical threshold. (There is a separate but connected debate as to whether this holds true for developing countries. However, apart from infrastructure challenges—which are a necessary condition and not to be neglected—the issue of OER use faces the same challenges in those countries and could be facilitated by creating a culture of openness within institutions through a complementary focus on educational practices as well as resources.) Low use 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. 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 in which the focus will be on improving learning quality through OER. We therefore suggest extending the focus of attention on open education beyond resource access to innovative open educational practices (OEP).

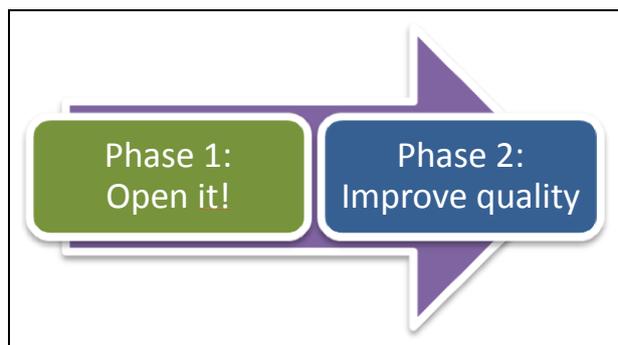


Figure 1 Shift from OER to OEP

To facilitate the shift from OER to OEP, it is important to outline all of the factors that influence the creation, use, sharing, and reuse of OER for learners, educational professionals, and organisational leaders in one common framework. Such a framework would have to show a pathway for stakeholders towards innovative, open education in which OER improve the quality of learning experiences. In this paper we focus on this aim and describe the basic research steps taken to establish the 'OEP-scape' model. First, we give more background on the shift from OER to OEP. Then we present a framework for defining open educational practices. Finally, we suggest a list of dimensions which are essential for supporting the development of open educational practices in higher education.

## Open educational practices

The OER movement has been successful in promoting the idea that knowledge is a public good—this has expanded the aspirations of organisations and individuals to publish OER. However, as yet, the potential of OER to transform practice has not been realised. There is a need for innovative forms of support for the creation and evaluation of OER, as well as an evolving

empirical evidence base about the effectiveness of OER. Although no definite statistics are available, there has been a rapid expansion in the number of OER projects, the number of people involved, and the number of resources available. In January 2007, the OECD identified over 3000 open courseware courses available from over 300 universities worldwide. In repositories such as MERLOT, Connexions, OpenLearn, and others, there are hundreds of thousands of pieces of content or materials representing thousands of freely available learning hours (OECD, 2007). Although the dominant language so far is English, translation of resources, combined with a growing number of non-English OER projects, cater for greater language diversity and increased global use.

### **The first phase: Open educational resources**

The first phase, that of building OER, has been characterised by start-up funding from both public and private (Foundation) funding schemes (Stacey, 2010). Many well-known OER initiatives such as MIT's OpenCourseWare (OCW), Stanford's iTunes, and Rice University's Connexions, are now coming into their sustainability phase. Until now, OER development and use has been a pioneering process. Roger's technology adoption lifecycle would suggest that OER have come through the innovation phase, are striving for adoption, and aspire to cross into early majority (Rogers, 1983). In his recent analysis of OER initiatives worldwide, Stacey (2010) shows that the focus of current well-known OER initiatives is largely on creation and publication of OER. Use and reuse—especially with the aim of improving learning and innovating educational scenarios—are still somewhat under-represented. Recognition of the importance of the investment and effort that goes into promoting the use and uptake of OER is evident in the prominence given to OER developments in a report on cyberlearning commissioned by the National Science Foundation in 2008 (NSF, 2008). One of the five higher-level recommendations in the conclusion of the report is to “adopt programs and policies to promote Open Educational Resources” (ibid, p. 35). Open provision of course materials has become a more extended movement, with many universities adopting the approach. However, these diverse OER projects have not been researched to establish the best way to move from existing provision to better structures for open education. We therefore define the first phase of OER development and diffusion as focusing on access and availability of OER. This is also reflected in the various available definitions from UNESCO (2002), Keller and Mossink (2008), and McAndrew and Santos (2009), who all argue that OER are largely digital assets put together into a logical structure by a course developer who has attached an open licence to them (Hylén, 2006). We can deduce that, up to now, the main focus has been on building access to OER, building infrastructure, tools, and repositories. We can therefore conclude that the initial phase of OER, which has focused attention on the creation of and open access to OER, is transitioning to the second phase.

### **The second phase: Open educational practices**

Phase 2 is currently emerging in the debate, literature, and policy discourse. This phase is about using OER to improve learning experiences and innovate educational scenarios. The next phase in OER development will see a shift from a focus on resources to a focus on OEP. These comprise a combination of open resources use and open learning architectures that could transform learning into 21st century learning environments in which universities, adult learners, and citizens are provided with opportunities to shape their lifelong learning pathways in an autonomous and self-guided way.

Phase 2:

- builds on OER and moves on to the development of concepts of how OER can be used, reused, shared, and adapted

- goes beyond access into open learning architectures, and seeks ways to use OER to transform learning
- focuses on learning by constructing knowledge assets, sharing them with others, and receiving feedback and reviews
- follows the notion of improving quality through external validation because sharing resources is in the foreground
- is about changing the traditional educational paradigm of many unknowledgeable students and a few knowledgeable teachers to a paradigm in which knowledge is co-created and facilitated through mutual interaction and reflection
- strives to understand that OER has to contribute to institutions' value chain.

## Defining open educational practices

In this section we will show how the move from OEP can be understood and conceptualised. OEP are defined as practices which support the (re)use and production of OER through institutional policies, promote innovative pedagogical models, and respect and empower learners as co-producers on their lifelong learning path. They address the whole OER governance community: policy makers, managers/administrators of organisations, educational professionals, and learners. The matrix in Figure 2 captures this link between resources and practices. It suggests different degrees of openness in the usage and creation of open educational resources. The span ranges from “no usage” to “OER (re-) usage and creation”. In these three stages the scale covers different realities within organisations and/or individual learning behavior. 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 that represent different stages of openness in teaching and learning frameworks. While there is currently no agreement on classification of ‘openness’ of pedagogical models, research suggests different aspects of openness and freedom in teaching and learning frameworks. The approach that we adopted to classify pedagogical models/learning activities regarding their openness largely follows Baumgartner’s (2007) approach: teacher–tutor–coach. However, other alternative approaches to classifying learning activities that have come to similar conclusions have been taken into account. These include Paavola, Lipponen, and Hakkarainen (2004), who suggest learning metaphors along a continuum from acquisition to participation and on to knowledge creation; Laurillard (1993); and a comprehensive analysis of Mayes and de Freitas (2004) for JISC. Following this analysis, pedagogical levels of ‘freedom’ or ‘openness’ have been conceptualised as follows:

- *Low* degrees of openness exist if objectives and methods of learning and/or teaching are rooted in closed, one-way, transmissive, and reproductive approaches to teaching and learning. In these contexts, there is an underlying belief 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) that focus on developing ‘know how’.
- *High* degrees of freedom and openness in pedagogical models are represented if objectives of learning and methods (e.g., learning pathways) are highly determined and governed by learners. Questions or problems relating to which learning is happening are determined by self-regulated learners. 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 (strategies of reinforcement, domain or temporal contingency [Wood & Wood, 1999]).

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

Figure 2 Matrix 1 - Constitutive elements of OEP (Ehlers, 2011)

OEP are defined as practices within the trajectory, which is limited by both dimensions: openness in resource usage and creation versus openness in pedagogical models. Both dimensions can help individuals and organisations to self-assess and position their respective context. 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 usage and creation would result in interactive, autonomous learning contexts *without* extensive use of 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:** A high degree of openness in pedagogical models in combination with a high degree of OER use 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).

These are defined as OEP and constitute the range of practices involved in the creation, use, and management of open educational resources with the aim of improving quality and fostering innovation in education. Having a database or repository of open educational resources is not open educational practice. The pure usage of these open educational resources in a traditional closed and top-down, instructive, exam-focused learning environment is not open educational practice. However, if OER are used to create resources which are more learner-centred than the ones that existed before; if learners are involved into the creation of content which is taken seriously by the teachers/facilitators; if teachers are moving away from content centred teaching to ‘human resource’ based teaching; if learning processes are seen as productive processes and learning outcomes are seen as artefacts which are worth sharing and debating, improving and reusing, then OER might improve the learning process—and then we can talk about open educational practices.

The degree of implementation or diffusion of OEP within the context of learning can vary (Figure 3). In some organisations only one or a few educators are using open educational practices, whereas the overall institution is actually not characterised by openness. Also, the learning context of learners can be characterised as allowing a high degree of freedom to practice open education, or only a rather low degree. The diffusion of open educational practices can therefore vary considerably, and this has an effect on how open practices can be implemented.

OEP essentially represent 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 organisation has understood the constitutive elements and principles of OEP which were addressed in the first matrix (Figure 2), they can move on and analyse the diffusion of OEPs within their specific context using the second matrix (Figure 3). We believe that educational practices are never entirely closed or open and that, within educational organisations, 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.

		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

Figure 3 Matrix 2 – Diffusion of open educational practices (Ehlers, 2011)

To categorise, assess, and position the existing landscape of OEP within a given context (e.g., a learner or a teacher in their context) we can map them against two dimensions: the freedom of an individual to practice open education, and the involvement of others, which is expressed in different degrees of shared practices and collaboration. Both dimensions limit the trajectory of diffusion of OEP for any given context. Matrix 2 in Figure 3 shows a combination of the different dimensions. The dimension constituting the *individual freedom to practice open education*, is divided into the three stages:

1. *Low* means that, within a given learning/teaching context, no open educational practices are encouraged.
2. *Medium* means that, within a given learning/teaching context, islands of open educational practices exist, but are not a shared and common reality.
3. *High* means that, within a given learning/teaching context, open educational practices are embedded in the reality of all learning and teaching activities.

The matrices can be used by individuals (learners as well as educational professionals) or organisations to position their practices and analyse their individual *OEP constitution* (Matrix 1) and its diffusion (Matrix 2). Within organisations it is important to note that OEP, like organisational culture, constitutes a status which may be more or less represented.

- *Organisations* will be able to use the first matrix to analyse which elements of OEP they already have put in place and which elements of OEP could be developed further. They can use the second matrix to analyse their own OEP landscape, and to understand the extent of OEP diffusion within an organisation as a whole, or of individual units or members.
- *Individuals* (learners, professionals) likewise can use Matrix 1 to better understand OEP and to self-assess and position themselves to the extent that OEP constitutes part of their own learning/ teaching abilities. They can use the second matrix to analyse the OEP

landscape in which they operate, which can be represented in the degrees of freedom to practice open education and the extent to which it is embedded in an open social sharing and collaborative environment.

- *Policy makers* will find that both matrices will promote their understanding of OEP. These matrices will help them to analyse how favourable their policies are to support OEP and to inform their decisions.

## A framework for supporting open educational practices

The above considerations emphasise that current OER initiatives need to extend the understanding of OER—with the concepts of quality and innovation—into the concept of OEP, where OER are used in innovative educational scenarios to raise quality. Research and experiences show that the uptake of OER demands a culture of sharing, valuing innovative and social-network-based forms of learning, and encouraging novel pedagogical models (OPAL, 2011). Existing approaches for fostering the use of OER have made achievements by focusing on building access to resources (e.g., MERLOT, MIT OCW, Stanford iTunes, Openlearn of OUUK, Rice University, Openrain UNESCO, OER WIKI UNESCO, etc.) and licence models (e.g., [creativecommons.org](http://creativecommons.org)). A lack of trust, limited sharing in institutional cultures, and low acceptance of OER by educators hinder OER use and access. To develop a sustainable pathway for organisations, and for educational professionals and/or learners to grow into their role as open educational practitioners, a model for open educational practice has been developed. Resulting from more than 65 international case studies (<http://cloudworks.ac.uk/cloudscape/view/2085>), we have deduced and described the following dimensions. For each dimension a guiding question and a set of maturity indicators has been developed to facilitate a shift from open resources usage to open educational practices (Table 1).

**Table 1** The OEP model (version for organisations)<sup>1</sup>

<b>Positioning your organisation in the OEP trajectory</b>
<ol style="list-style-type: none"> <li>1. To what extent are you using OER?</li> <li>2. Do you have a process for creating OER?</li> <li>3. To what extent are you repurposing OER?</li> <li>4. To what extent are you sharing OER and OEP?</li> <li>5. To what extent are you working with open learning architectures?</li> </ol>
<b>Creating a vision of openness and a strategy for OEP in an organisation</b>
<ol style="list-style-type: none"> <li>1. Do you have a vision for OEP?</li> <li>2. Do you have strategies and policies for OEP?</li> <li>3. Do you have a business model in place?</li> <li>4. Are you involved in any partnership?</li> <li>5. What is the perceived relevance of OEP?</li> </ol>
<b>Implementing and promoting OEP to transform learning</b>
<ol style="list-style-type: none"> <li>1. Do you have an intellectual property rights and copyright framework for OER?</li> <li>2. Do you have incentives and a motivational framework?</li> <li>3. Is your OEP work aligned with practice?</li> <li>4. Are your staff committed to OEP and do they have the right mindset and attitudes?</li> <li>5. Do you have tools to support sharing and exchanging about open educational practices?</li> <li>6. Do you have quality mechanisms in place?</li> <li>7. What level of knowledge and skills do teachers have?</li> <li>8. What level of digital literacy do participants have?</li> <li>9. Do you have mechanisms in place to support teachers to develop OEP?</li> </ol>

<sup>1</sup> There are currently four models developed and available for four target groups: organisational leaders, policy makers, professionals, and students. All can be downloaded at [www.oer-quality.org](http://www.oer-quality.org)

These dimensions can be used for the analysis and facilitation of open educational practices on the different target group levels. All dimensions are mapped in a maturity model with indicators to help individuals, educational professionals, organisational leaders, and policy makers to address important issues within their contexts to move open educational practise to the next maturity level.

## Conclusion

Open educational resources projects can potentially expand access to learning for everyone, but most of all for non-traditional groups of students—and thus widen participation in higher education. They can be an efficient way of promoting lifelong learning, for both individuals and governments, and can bridge the gap between informal and formal learning. In this paper we have illustrated that the current movement of OER is on the verge of shifting focus from making resources available to establishing OEP to promote openness of learning architectures and transforming learning scenarios. The shift is characterised by a change of activities, an effective concept for incentives to innovate learning in (and of) organisations, demand for changed business models, and public funding schemes. It is now clear: “Giving knowledge for free” (OECD, 2007) will have to be accompanied by changed learning models to encourage the uptake of open educational practices. We suggest a pathway to OEP that brings together the concept of open learning architectures and OER. Both elements can be gradually introduced to teaching and learning. In a second conceptual approach we have modelled a tool to measure the diffusion of OEP in a given learning context. This is conceptualised as a combination of individual commitment to OEP and—on the other axis—the collective commitment to OEP. Finally, through research and analysis of more than 65 case studies, we were able to deduce a number of dimensions to model OEP in educational contexts. For each dimension we developed a maturity indicator to allow organisations, educational professionals, and learners to assess their own learning context and position themselves on the maturity scale of OEP.

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Ehlers, U.-D. (2011). Extending the territory: From open educational resources to open educational practices. <i>Journal of Open, Flexible and Distance Learning</i> , 15(2), [1–10].
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