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From Open Educational Resources to Open Educational Practices

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Although open educational resources (OER) are high on the agenda of social and inclusion policies and supported by many stakeholders, their use in higher education (HE) and adult education (AE) has not yet reached the critical threshold. This has to do with the fact that the current focus in OER is mainly on expanding access to digital content, without considering whether this will support educational practices, and promote quality and innovation in teaching and learning. To provide educational opportunities for all citizens we suggest therefore, extending the focus beyond access, to include 'innovative open educational practices' (OEP).

In an analysis of publicly-funded and foundation-funded OER initiatives worldwide, Stacey (2010) shows that the focus of current, well-known OER initiatives is on the creation and publication of OERs. Use and reuse are still somewhat underrepresented; strategic aspects like business models or incentive strategies for creation use and reuse are not broadly touched upon (Stacey 2010). In this situation, a model of factors that outlines the surrounding and influencing elements for the creation, use, sharing and reuse of OER for individuals, organisations and policy is indispensable. Such a model has to suggest the shift from a phase in which the preliminary focus is on opening access to resources, to a phase in which the primary aim is to embed OER into learning and teaching practices.

1. The Second Phase of Open

1.1 The first Phase Movement: Open Educational Resources

The OER movement has been successful in promoting the idea that knowledge is a public good, expanding 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. However, recognition of the importance of investment and effort into promotion of the use and uptake of OER is evident in the prominence given to OER developments in a recent major report on Cyberlearning, commissioned by the National Science Foundation (NSF, 2008). One of the five higher-level recommendations in the conclusion to the report is to 'adopt programs and policies to promote Open Educational Resources.'

Researching Open Educational Resources raises issues in how to address global connections, and the reuse, design and evaluation of worldwide efforts to work with learning resources that are available for free use and alteration.

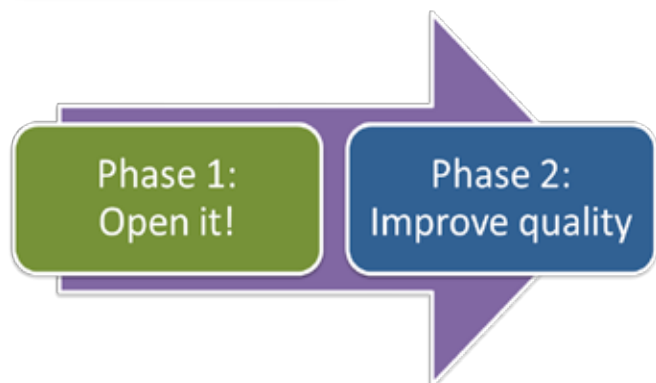


Figure 1: Shift from OER to OEP

‘OER is not only a fascinating technological development and potentially a major educational tool. It accelerates the blurring of formal and informal learning, and of educational and broader cultural activities. It raises basic philosophical issues to do with the nature of ownership, with the validation of knowledge and with concepts such as altruism and collective goods. It reaches into issues of property and its distribution across the globe. It offers the prospect of a radically new approach to the sharing of knowledge, at a time when effective use of knowledge is seen more and more as the key to economic success, for both individuals and nations. How paradoxical this may turn out to be, and the forms it will eventually take are entirely unforeseeable. The report offers some preliminary handles for understanding the issues raised.’ (OECD, 2007:9)

Open provision of course materials has become a more extended movement with many universities adopting the approach. However the diverse OER projects have not received much research attention to establish how best to move from existing provision to better structures for open operation. UNESCO (2002) identified four elements that have to be considered when talking about Open Educational Resources:

- The vision for the service - open access to the resource, with provision for adaptation
- The method of provision - enabled by information/communication technologies
- The target group - a diverse community of users
- The purpose - to provide an educational, non-commercial resource“ (UNESCO 2002, p. 24)

The main properties of OER are: free access ‘enabled by information and communication technologies’ and a ‘non-commercial purpose’ (UNESCO 2002, p.24). OER is intended to make “high-quality educational material freely available worldwide in many languages”. (Keller and Mossink, 2008). McAndrew and Santos (2009) argue that despite some terminological differences (Hylén, 2006) open educational resources are largely digital assets (music, images, words, animations) put together into a logical structure by a course developer who has attached an open license to it. In other words, the content is openly available (it can readily be found or discovered), is openly accessible (it is in a form which others can take it away) and openly reusable (the user can easily modify it and is allowed under the license to do certain things with it without having to ask the creator’s permission first).

From the current research into the field of OER we can deduce that up to now a main focus has been on building access to OER, building infrastructure, tools and repositories. On policy level this can be viewed through public funding schemes (analysed by Stacey 2010) and on private level through private foundation funding (ibid.) We conclude that OER is currently in an intermediate phase which we would like to call phase 1, which focuses on creation and open access.

1.2 The second Phase: Open Educational Practices

Phase two is about using OER in a way that learning experiences improve and educational scenarios are innovated. It is the next phase in OER development which will see a shift from a focus on resources to a focus on open educational practices. These com-

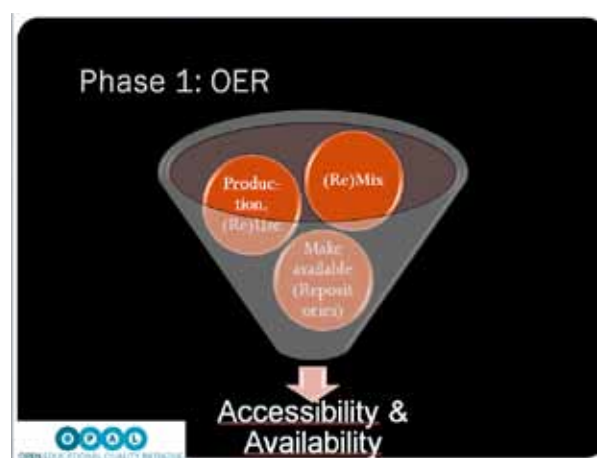


Figure 2: First Phase OER

prise a combination of open resources use and open learning architectures to 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 is characterized by the following aspects:

- Builds on OER
- Goes beyond access into open learning architectures
- Focus: learning as construction + sharing
- Quality improvement through external validation
- Change of educational cultures
- OER as value proposition for Institutions

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. OEP address the whole OER governance community: policy makers, managers/administrators of organisations, educational professionals and learners.

2. Defining Open Educational Practices

2.1 Linking Open Resources and Practices

In this section we are going to show how the move from open educational practices can be understood and conceptualized. In short, open educational practices are usage of resources in the frame of open learning architectures. The matrix which is displayed below (fig. 1) 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” or “OER usage” to “OER (re-) usage and creation”. With 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 which represent different stages of openness in teaching and learning frameworks. While there is currently no agreement classification of “openness” of pedagogical models available, research suggest different aspects of openness of freedom in teaching and learning frameworks. The approach which we adopted to classify pedagogical models/ learning activities regarding their openness follows largely Baumgartner’s

(2007) approach: teacher – tutor - coach. However, other alternative approaches to classifying learning activities have been taken into account which come to similar conclusions, like *Paa-vola*, 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 re-productive 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), 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 & Woods 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 organisations to self-assess and position their respective context.

Using the matrix we can analyze 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

		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

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).

OEPs are thus 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 organisations to self-assess and position their respective context. They are defined as ‘Open Educational Practices (OEP) and constitute the range of practices around the creation, use and management of open educational resources with the intent to improve quality and innovate education.’

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 focussed learning environment is not open educational practice. However, if OER are used to create resources which are more learner-centred than the ones existing before, if learners are involved into the creation of content which is taken seriously by the teachers/facilitators, if teachers are moving away from a 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 talk about open educational practices.

2.2 Diffusion of Open Educational Practice

The degree of implementation or diffusion of open educational practices within the context of learning can vary. In some organisations only one or a few educators are practicing open educational practices, whereas the overall institution is actually not characterized by openness. Also the learning context of learners can be characterized 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, having an effect of how open practices can be implemented.

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 analyze 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 organisations patterns and configurations of educational prac-

tices are never entirely closed or open and that within educational organisations patterns and configurations of educational prac-

		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 2: Matrix 2 – Diffusion of Open Educational Practices

tices 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. 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.¹

The matrixes can be used by individuals (learners as well as educational professionals) or organisations to position their practices and analyze their individual *OEP constitution* (Matrix 1) as well as its diffusion (Matrix 2). Within organisations it is impor-

¹ 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”.

tant to note that OEP, just like organizational culture, constitutes a status which may be more or less represented.

- *Organisations* will be able to use the first matrix to analyze which elements of OEP they already have put in place and which elements of OEP could further be developed. They can use the second matrix to analyze their own OEP landscape, and understand the extent of OEP diffusion within an organization as a whole, or of individual units or members.
- *Individuals* (learners, professionals) likewise can use Matrix 1 for understanding better OEP and self-assess and position themselves in order to see to what extent OEP is constitutes part of their own learning/ teaching abilities. They can use the second matrix to analyze the OEP landscape in which they operate, represented in freedom to practice open education and the extent to which it is embedded into an open social sharing and collaborative environment.
- *Policy makers* will find that both matrixes will promote their understanding of OEP. These matrixes will help them to analyze how favorable their policies are to support OEP and to inform their decisions.

Open Educational Practices are having a “lifecycle” which is influenced by the entire open educational practice governance community:

- Be it the national policy makers who are promoting the use of open educational resources,
- The rector of a higher education institution who is initiating an institution wide open education initiatives in which teachers are asked to create, find, adapt and share OER in an institution wide OER repository, and in which educational strategies and models are collected and shared amongst teachers
- The teachers who are encouraging learners to produce, share and validate content
- Or the learners who are using open available content to create knowledge landscapes on study topics which better fit their needs than the available text book “one size fits all” style

3. A Framework for Supporting Open Educational Practices

The above considerations are emphasizing that current OER initiatives need to extend the model of OER with the concepts of quality and innovation into the concept of Open Educational

Practices (OEP) where OER are used in innovative educational scenarios to raise quality for HE and AE. Research and experiences show that the uptake of OER demands for a culture of sharing, valuing innovative and social network based forms of learning, and encouraging novel pedagogical models. It is furthermore important to focus on innovation and quality through OEP and to aim at the impact of OER use in the field of HE and AE. Existing approaches for fostering the use of OER have made achievements by focussing on building access to resources (e.g., MERLOT, MIT OCW, Stanford iTunes, Openlearn of OUUK, Rice University, Opentrain UNESCO, OER WIKI UNESCO, etc.) and licence models (e.g., creativecommons.org). A lack of trust, little existing sharing cultures, and acceptance on educators' side hinder OER use and better access. It is one of the current foremost important objectives to start building trust by establishing organisations, local, regional and international environments for Quality and Innovation through OEP in the field of HE and AE.

In order to develop a sustainable pathway of an organisation, an educational professional or earner 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 of them a guiding question, and a set of maturity indicators has been developed in order to facilitate a shift from open resources usage to open educational practices (Table 1).

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

Positioning your Organisation in the OEP Trajectory
1. To what extent are you using OER?
2. Do you have a process for creating OER?
3. To what extent are you repurposing OER
4. To what extent are you sharing OER and OEP?
5. To what extent are you working with open learning architectures?
Creating a Vision of Openness and a Strategy for OEP in an Organisation
1. Do you have a Vision for OEP?
2. Do you have Strategies and Policies for OEP?
3. Do you have a business model in place?
4. Are you involved into any Partnership?
5. What is the perceived relevance of OEP?
Implementing and Promoting OEP to Transform Learning
1. Do you have an Intellectual Property Rights and Copyright framework for OER?
2. Do you have incentives and a motivational Framework?
3. Is your OEP work aligned with practice?
4. Is your Staff commitment to OEP and have the right Mindsets and Attitudes?
5. Do you have tools to support sharing and exchanging about open educational practices?
6. Do you have Quality mechanisms in place?
7. What level of knowledge and skills do teachers have?
8. Digital literacy
9. Do you have support mechanisms in place to support teachers to develop OEP?

Table 1: The OEP Model (Version for organisations)

Conclusion

Although the size, shape and model of OER initiatives are varying considerably from region to region and pilot project to pilot project, three important conclusions for policy makers can be drawn from our analysis. They are presented here with the aim to move the OER movement forward into the realm of everyday practice in organisations, and mainstream quality and innovation on the agenda of OER promoters.

1. Extend the OER Initiatives with a practices component into Open Educational Practices: local, national and regional policies should support the building of practices around OER which are focussed on establishing models for the above outlined dimensions of open educational practices.
2. Establish frameworks in which OER are embedded into a general concept of innovation and quality: OER usage, re-usage, sharing and creation are not an end in itself but have to aim to result into teaching practices and learning experience with are better than without them. Educational organisations are opening up through embracing sharing cultures and networking in partnerships. Open innovation approaches are the basis for open educational practices and have to extent right to the reality of everyday learning, teaching and development in organisations and for individuals on their lifelong learning pathway.
3. Leverage open learning architectures to empower individual and autonomous lifelong learning: Lifelong learning can be improved considerably if open educational practices are becoming reality. Not only the provision and recognition of OERs will be stimulated through reinforced creation use and reuse practice but also the development of open learning architectures will be supported which better suit individual citizens lifelong learning demands.
4. Address the OER Governance Community as a whole in policies: The establishment of open educational practices demands a holistic effort of addressing the whole open educational practice governance community, starting from learners and extending to educational professionals, organisational leaders to policy makers.

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