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## Dossier “Informalisation of Education”

### INTRODUCTION

# New Informal Ways of Learning: Or Are We Formalising the Informal?

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### Abstract

Informal learning is currently seen by some authors as a shift in current educational systems. Based on a trend instigated by connectivism, whereby informal networks are created between people who help each other to learn, it seems to be an alternative to traditional ways of teaching and learning.

New technologies are key to the development of these informal learning models. Thus, digital Open Educational Resources (OER) and, more recently, Massive Open Online Courses (MOOC) are two different yet related ways of making such development possible. While still emerging and growing, some of these ways appear to be attempts at formalising the informal. Based on traditional

transmissive models, some of the models that have been developed are simply makeovers of the old ones, albeit using new technologies to achieve their goals.

This article presents a critical review of the latest developments in informal learning, and points out the need for evidence-based research to establish what actual learning can be attained informally.

### Keywords

informal learning; user-generated content; OER; MOOCs; sustainability; learning evidences

## *Nuevas formas de aprendizaje informales: ¿O estamos formalizando lo informal?*

### *Resumen*

*En la actualidad, algunos autores ven el aprendizaje informal como un cambio en los sistemas educativos actuales. Basándose en una tendencia instigada por el conectivismo, por el que se crean redes informales entre personas que se ayudan unas a otras a aprender, el aprendizaje informal parece ser una alternativa a las formas tradicionales de enseñanza y aprendizaje.*

*Las nuevas tecnologías son claves para el desarrollo de estos modelos de aprendizaje informal. Así, los recursos educativos abiertos (OER) digitales y, más recientemente, los cursos abiertos en línea y masivos (MOOC) son dos métodos diferentes, si bien relacionados, para hacer posible este desarrollo. Aunque todavía están en emergencia y crecimiento, algunos de estos nuevos métodos parecen intentos de formalizar lo informal. Basados en modelos de transmisión tradicional, algunos de los modelos que se han desarrollado son solo transformaciones de los antiguos modelos, aunque utilizan nuevas tecnologías para conseguir sus objetivos.*

*Este artículo presenta una revisión crítica de los últimos desarrollos en el aprendizaje informal, y señala la necesidad de realizar investigación basada en pruebas para establecer qué aprendizaje real puede conseguirse informalmente.*

### *Palabras clave*

*aprendizaje informal; contenido generado por el usuario; OER; MOOC; sostenibilidad; pruebas de aprendizaje*

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## Introduction

The reform of traditional education and training models is currently the topic of much debate. The convergence of formal, informal and non-formal education elements was one response to the need to reform professional training. The ever-changing context of learning technology applications has made this even more essential, and has been featured in recent work by Attwell (2010a), Cross (2007) and Kamenetz (2010). Similarly, Siemens (2005) considers informal learning to be an overarching feature of the entire learning journey. A key feature of professional training and development reform is personalisation: adapting policies to meet the specific needs of each individual, according to their approach to learning. This has raised the profile of Personal Learning Environments (PLE) (Attwell, 2010b) highlighting the move towards each individual taking decisions regarding the most appro-

priate models and learning resources; individuals are now charting their own learning trajectories – a departure from the constraints of formal, institutional models. According to Walsh (1999), expertise and knowledge are being transformed and now function in different ways, due to the open channels of communication that are available online. According to O'Reilly (2005), Web 2.0 is the ideal environment for this.

The rapid expansion of social networks within the Web 2.0 context is part of this phenomenon. Cross (2010), Downes (2007) and Siemens (2004) have all described the benefits of informal learning, underpinned by connectivism. The possibility of creating networks of virtual contacts and online communities, the ability to access content and information not physically available to us, and participation in experiences developed by professionals in remote contexts have meant that each individual can now become a communication node that simultaneously gives and receives. Great emphasis is placed on the potential and benefits that such learning networks can offer to professional development. In this context, it is clear that the use of technology in education and training extends and enhances the potential learning spaces available for professional development and the updating of skills. Also Williams, Karousou and Mackness (2011) have highlighted the importance of emergent learning in the ecology of Web 2.0, considering it as the self-organised interaction between different people and resources, which make the process and the learning unpredictable.

Currently, the most important challenge in these experiences is to obtain evidence of actual learning from them. It is not enough to say that people will learn from being interconnected. This is a necessary yet insufficient condition for learning (Selwyn, 2010). People need to know what they are actually learning, which competencies they are attaining, and how they can demonstrate what they have learnt. Because of this, some authors are sceptical about what the actual potential of informal learning is. Williams, Karousou and Mackness (2011) argue that access to digital information and social networking is not necessarily transformed into learning. Similarly, Wiley and Hilton III (2009) suggest that people could be navigating through interesting and relevant learning material, although they fear that the materials they are using to learn with might not offer them the precise knowledge they need.

## Emergent ways of informal learning

Open Educational Resources (OER) have been the trigger for a very important shift, which could even be considered as the formalisation of informal learning. As Friesen (2009) says, it is now taken for granted that every higher education institution will have a set of OER and provide free access for everyone who wants to use them so that they can find out a bit more about the university, the knowledge it is producing and the way it is being taught.

However, the use of OER has not already been as great as expected, maybe because some concerns have been voiced about the quality of informal ways of learning. But it is not clear how quality can be assessed and assured. While most OER are used because they come from a well-known institution, this does not guarantee their intrinsic quality. Although one of the weaknesses

of OER is that they may not have been evaluated from a learning perspective, content is not the only concern. Indeed, others have been expressed about teachers, trainers or facilitators, no matter what name is used to refer to them in non-formal or informal learning scenarios. In fact, Redecker et al. (2011) assert that with the rise of ubiquitous learning, trainers will need to receive better training and recognition.

The emergence of user-generated content initiatives, in which the content is not delivered to learners but constructed jointly by them, the growth of Open Educational Practices (OEP) and Massive Open Online Courses (MOOC), and the creation of new providers of self-education solutions such as the OER University, Peer2Peer University or the University of the People are shifting known scenarios to other domains of a much more uncertain nature. Conservative institutions, particularly universities, are challenged by this trend. Learning becomes increasingly informal as people develop complex networks to help each other, thus intensifying the perception that education and training are no longer exclusively provided by institutions, since both can also result from collaboration between individuals and their specialised networks.

While some high-ranking universities such as MIT or Harvard have signed an agreement with Coursera, a company that is providing a platform for MOOC to be delivered to anyone, anywhere, through a traditional conductist approach (Bates, 2012), others have founded new organisations to provide learning, as is the case of Udacity.

While 'MOOC' has been the buzzword for 2012 (Daniel, 2012), such courses have become a major challenge for most universities in the United States and a big concern for others elsewhere, who have been wondering what to do to react. At this very moment in time, some are trying to replicate what the Americans have done, thus running a clear risk of being a poor copy of the original. Others seem to be aware of the fact that they can add value to the Open Education Movement (OEM), not simply by delivering content, but by providing support, guidance, feedback and student networking (Butcher, 2011).

Independently of MOOC, education institutions will need to experiment with new formats and strategies for teaching and learning to provide relevant, effective and high-quality learning experiences (Redecker et al., 2011).

The current discussion addresses the function that universities should have in this new context. Some consider that the accreditation and credentialisation of knowledge should be the clearest function of universities. However, others emphasise the content provision function or the learning support mission of higher education institutions. Further analysis will need to focus on the particular interest that publishing companies have in finding their way into university functions. Pearson has already started by offering Coursera an assessment system.

The informalisation of education seems to be an opportunity for business, especially for these kinds of companies coming into the higher education system. It may be somewhat difficult to conceive of the focus of education shifting from universities to companies as a result of open education, so further research on this issue will be needed too. In the meantime, an analysis of the business models currently used is of considerable interest.

## The need for sustainability

In a study whose preliminary findings were presented at the European Foundation for Quality in e-Learning (EFQUEL) Innovation Forum, Yves Punie from the Institute for Prospective Technological Studies (IPTS) said that open education business models are in flux, with lots of experimentation and no established model apart from institutional, philanthropic and/or government/public funding (Haché & Punie, 2012).

The same study points out that there is a lack of literature and evidence on business and sustainability models, especially on real cost-effectiveness. They surveyed 14 initiatives, of which four were sustainable (balance of costs and returns), one had positive returns, and nine had costs higher than returns. The authors of the study also highlighted the fact that founders need to shift their practices from funding the creation of OER to investing in the adoption and re-use of existing OER, and also to take into account assessment, certification and accreditation.

Oddly, analysis of the sustainability issue in new ways of learning is something that is missing from most of the research that has been conducted. The failure of a project's sustainability or business model is, by definition, not the subject of research for that project (Friesen, 2009).

This number of the *Universities and Knowledge Society Journal (RUSC)* contains several wide-ranging articles on the informalisation of learning. Their broad approaches to the topic mean that there are still a lot of different conceptualisations of formal, non-formal and informal learning. The nature of their findings and conclusions is quite extensive too.

Josianne Basque suggests a conceptual tool – a collective knowledge map – that links intentional yet non-formal professional learning in the workplace, leading to the externalisation and sharing of tacit expertise in a university. Coughlan and Perryman are concerned about the poor impact of OER and OEP outside the higher education sector. Grounding their arguments in theories of informal learning, they propose a shift from the current focus towards a needs-led approach. A self-educating community of open practice and informal learning nurtured by collaborating academics is the basis of their model. Don Olcott, Jr introduces an approach for conceptualising the use of OER in non-formal education, arguing that the process for evaluating non-formal activities should be similar to the basic design principles used in formal education. It is an interesting approach because it tries to bring consistency to the issue of how non-formal education is used. He also states that further research on OER is needed to maximise their actual potential. By taking an in-depth look at the professionalisation practices of university lecturers, José Tejada suggests that professional sectors probably have a greater interest in the potential of non-formal and informal ways of learning. He is in favour of the creation of training networks that could develop into advice and support networks to help groups of lecturers and individuals as well, and points to internationalisation as an opportunity to broaden lecturers' perspectives.

## Conclusions

Research on the informalisation of learning is still in its infancy. A better classification of approaches and experiences is also needed. OER are providing an enormous opportunity for practice in non-formal contexts, and MOOC will have to be analysed in depth to establish whether they represent real opportunities for learning in informal scenarios, or are simply attempts at formalising the informal. Concerns about their main aims and their sustainability are still on the agenda. What is clear, however, is that informal learning has found a perfect ally in ICT in general, and in online learning in particular.

## References

- Attwell, G. (2010a). *Informal learning and why the training model does not work*. [Accessed: 25 November 2012].  
<<http://www.pontydysgu.org/2010/04/informal-learning-and-why-the-training-model-does-not-work/>>
- Attwell, G. (2010b). *Three dimensions of a Personal Learning Environment*. [Accessed: 25 November 2012].  
<<http://www.pontydysgu.org/2010/11/three-dimensions-of-a-personal-learning-environment/>>
- Bates, T. (2012). *What's right and what's wrong about Coursera-style MOOCs?* [Accessed: 6 November 2012].  
<<http://www.tonybates.ca/2012/08/05/whats-right-and-whats-wrong-about-coursera-style-moocs/>>
- Butcher, N. (2011). *A Basic Guide to Open Educational Resources*. Vancouver: Commonwealth of Learning and UNESCO. [Accessed: 25 November 2012].  
<<http://www.col.org/PublicationDocuments/Basic-Guide-To-OER.pdf>>
- Cross, J. (2007). *Informal Learning: Rediscovering the Natural Pathways that Inspire Innovation and Performance*. San Francisco, California: Pfeiffer.
- Daniel, J. (2012). *Making Sense of MOOCs: Musings in a Maze of Myth, Paradox and Possibility*.  
<<http://blog4222.blogspot.com.es/2012/09/making-sense-of-moocs-musings-in-maze.html>>
- Downes, S. (2007). *What Connectivism Is*.  
<<http://halfanhour.blogspot.co.uk/2007/02/what-connectivism-is.html>>
- Friesen, N. (2009). Open Educational Resources: New Possibilities for Change and Sustainability. *International Review of Research in Open and Distance Learning*. Vol. 10, No 5, pages 1-13.
- Haché, P.; Punie, Y. (2012). "An exploration of business and sustainability models for OER initiatives in Higher Education". Paper presented at the EADTU 25<sup>th</sup> Anniversary Conference. *The Role of Open and Flexible Education in European Higher Education Systems for 2020: new models, new markets, new media*. Paphos, 27-28 September 2012.
- Kamenetz, A. (2010). *Edupunks, Edupreneurs, and the Coming Transformation of Higher Education*. White River Junction, Vermont: Chelsea Green Publishing.
- O'Reilly, T. (2005). *What is Web 2.0 Design Patterns and Business Models for the Next Generation of Software*. [Accessed: 25 November 2012].  
<<http://oreilly.com/web2/archive/what-is-web-20.html>>



- Redecker, C.; Leis, M.; Leendertse, M.; Punie, Y.; Gijbers, G.; Kirschner, P.; Stoyanov, S.; Hoogveld, B. (2011). *The Future of Learning: Preparing for Change*. Seville: Institute for Prospective Technological Studies.
- Selwyn, N. (2010). "Looking beyond learning: notes towards the critical study of educational technology". *Journal of Computer Assisted Learning*. Vol. 26, No 1, pages 65-73.  
<<http://dx.doi.org/10.1111/j.1365-2729.2009.00338.x>>
- Siemens, G. (2005). Connectivism: A Learning Theory for the Digital Age. *International Journal of Instructional Technology and Distance Learning*. Vol. 2, No 1, pages 3-10.
- Walsh, (1999). *That Withered Paradigm: The Web, the Expert, and the Information Hegemony*. [Accessed: 25 November 2012].  
<<http://web.mit.edu/comm-forum/papers/walsh.html>>
- Wiley, D.; Hilton III, J. (2009). "Openness, Dynamic Specialization, and the Disaggregated Future of Higher Education". *International Review of Research in Open and Distance Learning*. Vol. 10, No 5, pages 2-16.
- Williams, R.; Karousou, R.; & Mackness, J. (2011). "Emergent learning and learning ecologies in Web 2.0". *International Review of Research in Open and Distance Learning*. Vol. 12, No 3, pages 39-59.

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## Dossier “Informalisation of Education”

### ARTICLE

# Supporting Continuous Professional Learning in the Academic Staff through Expertise Sharing

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### Abstract

This article reports a small-scale experiment of a strategy designed to support the sharing of academic expertise at a Distance Learning University. Two small and separate groups of academic staff members (one of four professors and one of five instructional designers, both including experienced and new employees) volunteered to meet regularly, over a one-year period, to elaborate a collective knowledge map representing a portion of their professional knowledge. This tool- and peer-mediated mentoring activity created a professional learning context in which participants were encouraged to externalize and thus share some tacit knowledge developed through professional

practice, as well as explicit but sometimes ambiguous organizational knowledge. The data analyzed so far includes audiotaped individual interviews conducted before and at the end of the experiment, audiotaped group debriefings at the end of each meeting and the knowledge map constructed in each group. Results suggest that combining group mentoring with collaborative knowledge modeling is a promising strategy to foster the elicitation of professional expertise and thus support the professional development of academic staff in universities. This strategy can be defined as an intentional but non-formal professional learning activity that fits well with conceptualisations of learning at the workplace as both a knowledge participation process and a knowledge creation process.

### **Keywords**

professional learning of academic staff; group mentoring; collaborative knowledge modeling; sharing and transfer of expertise

## *Apoyar el desarrollo profesional continuo del personal académico a través del intercambio de experiencias*

### **Resumen**

*Este artículo expone un experimento a pequeña escala sobre una estrategia diseñada para apoyar el intercambio de experiencias académicas en una universidad de educación a distancia. Dos pequeños grupos independientes compuestos por personal académico (uno con cuatro profesores y otro con cinco diseñadores de contenidos educativos, ambos con empleados con y sin experiencia) se ofrecieron voluntarios para reunirse periódicamente durante un período de un año para elaborar un mapa de conocimientos colectivos que representara una parte de sus conocimientos profesionales. Esta herramienta y actividad de tutoría entre compañeros de trabajo estableció un contexto de aprendizaje en el que se potenció que los participantes exteriorizaran y compartieran algunos conocimientos tácitos desarrollados a través de su práctica profesional, así como determinados conocimientos organizativos explícitos aunque algunas veces ambiguos. Los datos analizados hasta el momento incluyen la grabación de las entrevistas realizadas a cada participante antes y después del experimento, la grabación de las conclusiones al final de cada reunión y el mapa de conocimientos elaborado por cada grupo. Los resultados sugieren que combinar las tutorías de grupo con la modelización de conocimientos colaborativos es una estrategia prometedora para promover la adquisición de experiencias profesionales y por lo tanto apoyar el desarrollo profesional del personal académico en las universidades. Esta estrategia puede definirse como una actividad de aprendizaje intencional pero no formal que se adecua a las conceptualizaciones de aprendizaje en el lugar de trabajo a la vez como proceso de intercambio de conocimientos y proceso de creación de conocimientos.*

### **Palabras clave**

*desarrollo profesional del personal académico; tutoría de grupo; modelización de conocimiento colaborativo; intercambio y transferencia de experiencias*

## Problem Statement and Objectives

As in many other organizations in western countries, Canadian universities are currently facing a high employee turnover due to the retirement of post-World War II baby-boomers (AUCC, 2007). Thus, the integration of large cohorts of new faculty and other academic staff members represents a great challenge for universities. To take up this challenge successfully, new employees should be supported in their efforts to embrace the academic culture of their universities and to optimize their professional development through their work practices. One way to accomplish this is to support the intergenerational transfer of academic expertise (Bratianu, Agapie, Orzea & Agoston, 2011; CSÉ, 2003), by encouraging experienced and new employees to meet regularly to discuss their work practice, in the hope that the former will externalize some of the tacit knowledge developed during their university careers and that the latter will learn from them. Conversely, these meetings can be occasions for newcomers to express fresh ideas that may lead to a re-evaluation of some encrusted rules and can instil innovative practices in the university.

With this aim of supporting expertise sharing and transfer (especially of tacit knowledge related to expertise), a pilot experiment was conducted with two separate small groups of employees in a French Canadian Distance Learning University. This paper presents the strategy designed to this end, which combines group mentoring and collaborative knowledge modeling. It also reports some research results investigating how it supports the elicitation of professional knowledge and the professional development of academic staff.

## Rationale of the Strategy Used to Support Expertise Sharing

To support professional expertise sharing, tacit knowledge needs to be externalized in some way. However, research has shown that experts have considerable difficulty verbalizing what they know and explaining their models of action (Sternberg & Horvath, 1999). Experts have developed highly organized mental structures, integrating procedural as well as declarative and strategic knowledge (Chi, Feltovitch & Glaser, 1981; Ericsson & Charness, 1994; Glaser, 1986; Sternberg, 1997). This knowledge becomes 'encapsulated' with experience (Boshuizen & Schmidt, 1992; Hakkarainen, Palonen & Paavola, 2002) and is, consequently, very difficult to verbalize.

A possible solution to approach this problem consists of creating situations where experts can co-construct a structured external representation of knowledge related to their professional practice in concert with novices. This requires two conditions: an opportunity to interact verbally in the context of their professional activity and a means to trigger the externalisation of the experts' knowledge, as well as that of the novices' internal representation of professional practices in their fieldwork. We propose that group mentoring combined with collaborative knowledge modeling offers abundant potential for this purpose.

Mentoring is usually defined as a relatively long-term relationship between a knowledgeable individual (the mentor) and a less experienced person (the mentee), the former providing information,

advice and encouragement to the latter with the aim of fostering his or her personal and professional development. Group mentoring is a form of mentorship “in which the mentoring function is supplied by a more or less tightly constructed group of professional colleagues” (Ritchie & Genoni, 2002, p. 69). Research has shown that successful mentoring relationships can assist individuals in “learning the ropes” at the workplace (Goodyear, 2006). Many cases have documented one-to-one mentoring programs implemented in universities, especially for faculty (Bernatchez, Cartier, Bélisle & Bélanger, 2010; Cawyer, Simonds & Davis, 2002; Feldman, Arean, Marshall, Lovett & O’Sullivan, 2010; Foote & Solem, 2009; Knippelmeyer & Torracco, 2007; Langevin, 2007). However, group mentoring is still rarely implemented in the academe (Moss, Teshima & Leszcz, 2008).

Collaborative knowledge modeling consists of elaborating a collective graphical representation of some part of a knowledge domain in a node-link format. Nodes represent the knowledge entities (identified with short textual labels) and links represent the semantic relationships established between the knowledge entities. A variety of terms is used to refer to this type of external representation of knowledge (knowledge map, concept map, knowledge network, mind map, etc.), although these can differ substantially in terms of the knowledge mapping language used to develop them (Basque, 2012; Davis, 2011; Eppler, 2006).<sup>1</sup> Software tools supporting the elaboration of such external representations have been described as ‘cognitive tools’ or ‘mindtools’ (Dabbagh, 2001; Jonassen & Marra, 1994; Komers, Jonassen & Mayes, 1992) and ‘metacognitive tools’ (Novak, 1990). Many studies conducted in different formal educational settings demonstrate that creating such graphical knowledge representations in groups can be beneficial to learning (Basque & Lavoie, 2006; Gao, Shen, Losh & Turner, 2007). It has also been proposed as a strategy to support the elicitation of expert knowledge and transfer of expertise in organizations (Basque, Paquette, Pudelko & Léonard, 2008; Coffey, 2006; Coffey & Hoffman, 2003; Moon, Hoffman, Novak & Cañas, 2011). However, to our knowledge, no research has yet examined the potential of this strategy to support the sharing of professional expertise in universities.

## Description of the Context and of the Strategy

### Participants

Two small groups of academic staff members working in a Distance Learning University (one of four professors and one of five instructional designers, both including experienced and new employees) volunteered to meet regularly to participate in the pilot experiment. The first group (Prof Group) included two experienced professors (with 30 and 13 years of academic experience, respectively) and two newcomers (with less than one year of academic experience at this university) in the same discipline. The second group included five instructional designers (ID Group) working in different disciplinary departments. The main task of these instructional designers consists of assisting the professors in designing their courses. One of them has worked at the university for more than 20

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1. The terms ‘knowledge model’, ‘knowledge map’ or simply ‘model’ or ‘map’ are used in the remainder of this paper to refer to the product of a collaborative knowledge modeling activity.

years and the others from two to six years. In this project, the title of 'experts' has been reserved for participants with more than 10 years of experience at the university. Those who have garnered between three and 10 years of experience are called 'intermediate' and those with less than three years 'novices.' Table 1 shows the number of participants at each level of expertise in each group.

**Table 1.** Number of Participants at Each Level of Expertise in Each Group

Level of Expertise	Prof Group	ID Group
Expert	2	1
Intermediate	0	1
Novice	2	3
<b>Total</b>	<b>4</b>	<b>5</b>

## The Collaborative Knowledge Modeling Tool Used

The knowledge map is elaborated with the *G-MOT* software tool developed at the LICEF Research Center ([www.liceef.ca](http://www.liceef.ca)), which implements an object-typed modeling technique (called MOT<sup>2</sup>) developed initially for Instructional Design purposes by Paquette (2002; 2010). This technique differs from usual concept mapping techniques in that it requires the user to identify the types of knowledge entities and the types of link represented on the map. Knowledge entities include *concepts* (conceptual knowledge), *procedures* (procedural knowledge), *principles* (strategic knowledge), *facts* (factual knowledge) and *actors* (agency knowledge), which are distinguished by different shapes. The link types (represented by their first letters on the map) include: *Composition*, *Specialisation*, *Precedence*, *Regulation*, *Instantiation* and *Input/Product*. Additionally, a set of semantic rules defines the valid links that can be established between different types of knowledge entities. For example, a *Specialisation* link (A is 'a sort of' B) can only be established between two knowledge entities of the same type. If the user draws a link that does not conform to the semantic rules, the software will automatically display a default link, that is, the most probable one considering the types of the knowledge entities involved. If the user disagrees with the suggested link, a right-click on the link enables him/her to select another one from the pool of valid links displayed. Among other interesting *G-MOT* features, we can mention that users are able to create 'sub-maps', each connected to a knowledge entity appearing in one or other of the upper layers of the map. Furthermore, various types of files and URLs can be attached to knowledge entities, which can then be easily accessed when consulting the map. *Comments* (frame-free texts) can also be linked to nodes or links.<sup>3</sup>

We think that the MOT language implemented in the *G-MOT* software offers a kind of "representational guidance" (Suthers, 2003) that is particularly useful to support the elicitation of tacit

2. MOT is a French acronym for *Modélisation par objets typés*.

3. For more information on the software and the technique, see Paquette (2010). The *G-MOT* software can be downloaded freely at the LICEF website (<http://www.liceef.ca/index.php/realisations/products>). The English version of the software is available in the "Preferences" menu.

knowledge called upon in professional practice. Indeed, professional actions are defined in *nodes* (that is, as knowledge entities of a procedural type) on the map, rather than in *links* as is the case in other knowledge mapping techniques. This feature opens the possibility to break down a main professional action into 'sub-actions' (using the *Composition* link) and/or to specify different types of 'sub-actions' (using the *Specialisation* link) that can be taken to perform the main action. It also invites the user to specify other types of knowledge entities, apart from procedural knowledge, that are involved in the professional action and sub-actions: (1) the actors performing them (*agency knowledge*), who are linked to actions and sub-actions with the *Regulation* link; (2) the internal and/or

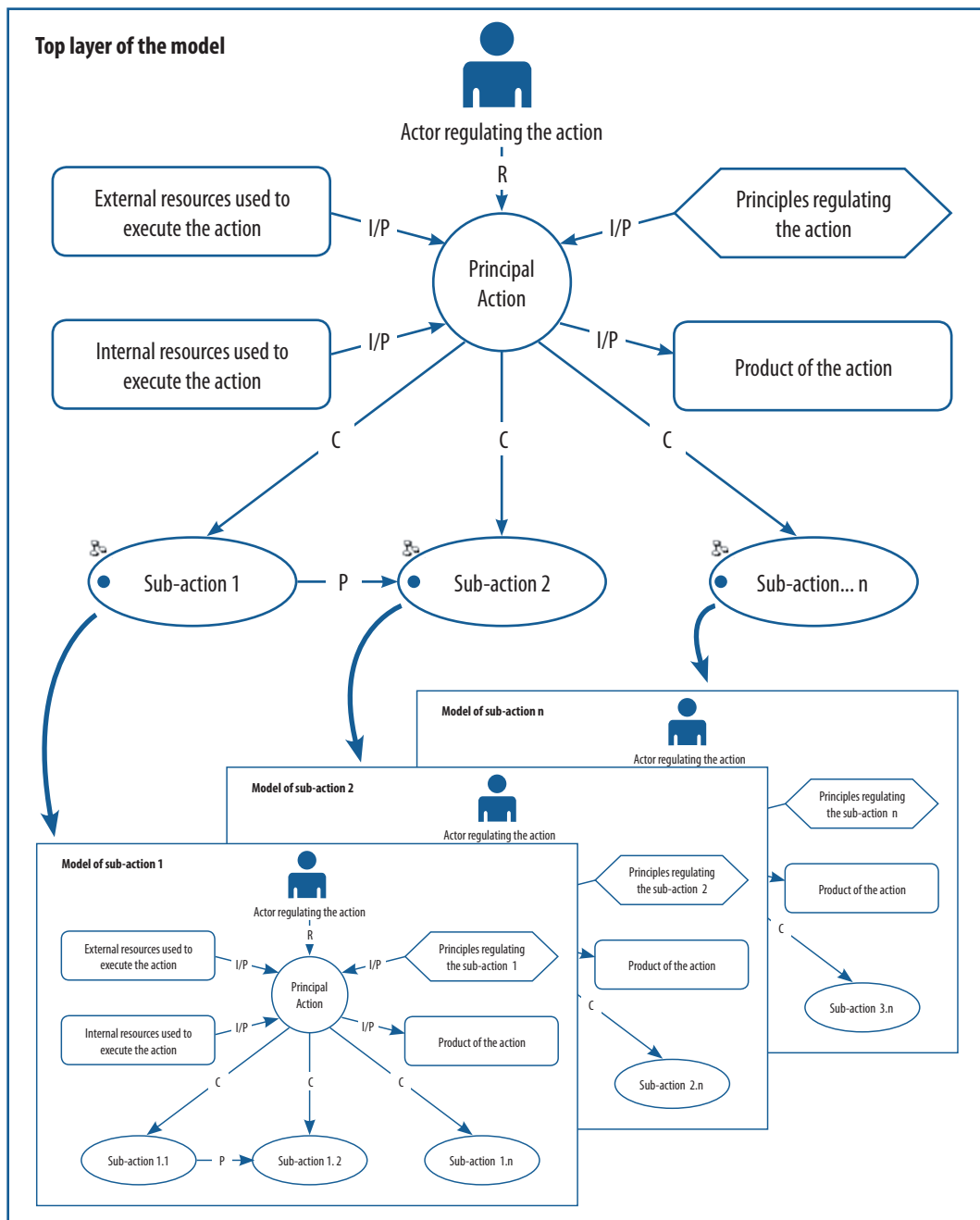


Figure 1. Generic representation of an 'action knowledge structure' in G-MOT



or external resources used to perform them, as well as the products resulting from their execution (*conceptual knowledge*), which are linked to actions and sub-actions with the *Input/Output* link; (3) the principles or rules applied when performing them (*strategic knowledge*), which are linked to actions and sub-actions with the *Regulation* link. Figure 1 shows how these different types of knowledge entities can be represented graphically on a *G-MOT* map. We think that this generic model of what could be called an 'action knowledge structure' can act as a powerful mediator of the cognitive activity of the knowledge modeller when creating the map (Basque, 2012; Pudelko, 2006), and of social interactions when this activity is done collaboratively (Basque & Pudelko, 2009).

## Procedure

Before the beginning of the pilot experiment, all the participants were asked individually to specify an aspect of their professional practice they would like to see elicited on the collaborative knowledge map of their respective group. They all chose to represent the knowledge deployed through the instructional engineering process of a distance course at the university. They were also informed that the project would probably require them to participate in a minimum of 10 half-day meetings (once a month or every two months, depending on their availability), but that their group would be free to withdraw at any moment or to continue after 10 meetings.

In June 2010, the Prof Group held its first meeting and, in September 2011, it had its 10<sup>th</sup> meeting; the participants agreed that this would be the last one. Overall, this group met for 23 hours and 13 minutes, each meeting lasting an average of 2 hours and 15 minutes. The ID Group had its first meeting in June 2011 and its 10<sup>th</sup> in March 2012. In this group, participants decided to continue for three additional sessions. They met for a total of 32 hours and 28 minutes, each meeting lasting an average of 2 hours and 30 minutes.

Since participants' work sites are located in two different cities, videoconferencing (and, for some meetings, telepresencing) equipment was used so that they could hear and see each other. Discussions were moderated by one of the participants familiar with the MOT technique. The author of this paper acted as the discussion moderator and as an active participant in the Prof Group. She also participated in the ID Group as an observer and as a supporter of the designated moderator<sup>4</sup>, since the latter had not led this kind of group activity before. In both groups, a Ph.D. student used the software tool and progressively constructed the map based on the group discourse. All the participants could visualize the progression of the map's construction, since it was projected on a large screen at both sites. Each of them could intervene at any time to suggest changes to the map. However, consensus had to be reached within the group to transfer them to the map.

During the sessions, discussions were very intense. Thus, it was sometimes difficult to capture such richness on a map 'on the go'. To overcome this difficulty, meetings were digitally audiotaped. The author of this paper listened to the recording between each meeting and, when necessary, added elements that had been verbalized during the meeting but were not represented on the map.

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4. As one of the instructional designers working at the university, this designated moderator also acted as an active participant in the collaborative knowledge modeling sessions of the ID Group.

She was also able to suggest reformulations of some of the map's content and, occasionally, some restructuring at one level or another of the map.

The sequence of each meeting followed the same pattern: (1) the moderator briefly reminded the participants of the work done in the previous session; (2) she validated with the group the modifications brought to the map after the last session and pinpointed parts that had yet to be elaborated or those that needed to be clarified; (3) the participants made a decision on what part of the map would be developed or revised during the session; (4) the group worked on the elaboration or revision of the selected parts of the map; (5) a short debriefing period (5-15 minutes) concluded the session. After the session, the map was made accessible to the group through a web content management system recently implemented at the university (*Microsoft SharePoint*).

## Data Collection and Analysis

The following data were collected in both groups using a qualitative research methodology: (1) audiotapes of interviews conducted with each participant before and after the experiment<sup>5</sup>; (2) audiotapes of the meeting discussions; (3) the elaborated map; (4) audiotapes of the debriefings.

Verbal data were coded using the qualitative data analysis software *NVivo* (QSR International) and a semi-emergent coding approach. We used the main and secondary categories of a coding scheme elaborated in previous projects conducted in non-academic organizations (Basque, Desjardins, Pudelko & Léonard, 2008; Basque, Paquette, Pudelko & Léonard, 2008; Basque & Pudelko, 2010; Paquette, Léonard, Basque & Pudelko, 2010) and revised them progressively throughout the coding of the new field data.

Additionally, *Excel* reports of all the knowledge entities (nodes) of each type contained in the final maps were automatically generated with the *G-MOT* software.

## Results

Four main research questions are examined in this project: (1) Did the strategy support the elicitation of professional knowledge?; (2) Did learning occur?; (3) Did learning transfer in work practices occur?; and (4) What factors can affect the feasibility and efficiency of the strategy? In this paper, we address the first two research questions.

### Elicitation of Professional Knowledge

Table 2 gives the number of knowledge entities of each type appearing on the final map for each group after 10 meetings, and for the ID Group after 13 meetings. This table shows that the maps

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5. As one of the participants of the ID group is on sick leave since the end of the experiment, one post-experiment interview had yet to be conducted.

produced by both groups are quite similar in terms of proportion of knowledge entities of each type. Interestingly, strategic knowledge, which is at the heart of professional expertise (Kavakli & Gero, 2003), is the most represented on the maps of both groups. Indeed, slightly more than half of all the knowledge entities represented are identified as *Principles*. Procedural knowledge (*Procedures*) and conceptual knowledge (*Concepts*) are represented in similar proportions in both groups, i.e., one fifth of the knowledge represented.

Agency knowledge (*Actors*) is less present on the maps. This is not surprising given that participants were asked to describe their *own* practices so that all the procedures represented on the map were 'regulated' by a single actor, that is, an actor labelled 'Professor' in the Prof Group and an actor labelled 'Education Specialist'<sup>6</sup> in the ID Group. According to the inheritance principle integrated in the MOT technique, an actor linked to a procedure is considered linked to all of its sub-procedures and thus does not need to be repeated on every sub-map linked to the top procedure. Nevertheless, in 'mono-actor' models such as the one elaborated by the groups (that is to say, models representing the perspective of a single type of actor on his/her professional work), it is sometimes interesting to represent the main actor not only as an agent regulating the procedures, but also as an agent linked to a network of other actors. This last approach has been used in both groups. Thus, the actors (individuals, teams or departments) with whom the professors (in the Prof Group) and the instructional designers (in the ID Group) interact through the instructional engineering process of a course have been identified in a specific sub-map representing the taxonomy of all these actors. Both groups identified more than twenty of them defined by their respective role. This reflects the fact that the instructional engineering process in this Distance Learning University requires the participation of many departments and employees.

**Table 2.** Number of Knowledge Entities Represented on the Map of Each Group of Participants after 10 Collaborative Knowledge Modeling Sessions

Types of Knowledge Entity	Prof Group After 10 Sessions		ID Group After 10 Sessions		ID Group After 13 Sessions	
	N	%	N	%	N	%
Strategic knowledge ( <i>Principles</i> )	325	51	374	54	477	58
Procedural knowledge ( <i>Procedures</i> )	131	21	121	18	125	15
Conceptual knowledge ( <i>Concepts</i> )	129	20	155	22	173	21
Agency knowledge ( <i>Actors</i> )	30	5	24	3	25	3
Factual knowledge ( <i>Facts</i> )	20	3	15	2	19	2
<b>TOTAL</b>	<b>635</b>	<b>100</b>	<b>689</b>	<b>100</b>	<b>819</b>	<b>99*</b>

\* The sum does not add up to 100% as figures were rounded up.

6. This is their official job title at the university, but it could have been labeled 'Instructional Designer' as well, if we consider the role they play in this institution.

Factual knowledge (*Facts*) is not very present on the maps. We recall that knowledge entities of this type are instances of other types of knowledge entities. Due to time constraints, the participants focussed their efforts primarily on identifying strategic, procedural and conceptual knowledge deployed through their instructional engineering practices. Adding factual knowledge and attaching resources (files or URLs) to knowledge entities was considered an activity that could be performed during a second stage of the project.

In addition to eliciting knowledge entities during the collaborative knowledge modeling sessions, participants expressed several recommendations or questions concerning the organizational processes governing their work that they deemed ineffective. These recommendations were reported in *Comments*, in order to eventually transmit them to some instances in the academic institution. The Prof Group identified more than 60 comments of this type while the ID Group identified 51. The comments voiced by the academic staff may represent a significant contribution to the improvement of work processes in the university if, that is, the administrative authorities take full advantage of this input to re-examine the organizational work rules and processes and engage in a productive dialogue with the different groups of professionals.

These quantitative data show that the knowledge maps developed by both groups are quite elaborate. Both include more than 600 knowledge entities after 10 sessions. In fact, several participants were surprised by the amount of knowledge that they had been able to spell out through the different layers of the map:

*When you open the sub-models, it's like 'Wow!' I find it rewarding [...]. It really shows the great quantity of work we have generated. [...]. I am impressed.* (Intermediate, ID Group, Meeting 10)<sup>7</sup>

Actually, some even felt that the knowledge entities were too numerous in certain layers of their map, and that it would be best to effect some reductions, or at least to transfer some knowledge entities into sub-maps, in order not to 'scare away' new employees who would eventually access the map:

*That is one of the challenges pertaining to sharing our work with colleagues. Indeed, we must not frighten people who are presented with this complex model we have designed, as they could feel overwhelmed and sense that 'there are far too many components in there: I'll never make it!' This is the drawback of having spelled out such a quantity of elements... to have rendered the knowledge much more explicit.* (Novice, Prof Group, Final interview)

Several participants commented that, in their view, the collaborative knowledge modeling activity combined with that of the mentoring group facilitated the elicitation of knowledge related to their professional practice. The following are two examples:

*It really allows us to focus on the essential knowledge. It provides a way to structure it all; it facilitates discussions and yields a clear, structured vision of it.* (Novice, Prof Group, Final interview)

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7. All the participants' comments were expressed in French. They have been translated into English for this paper.

*The work is conducted on two levels [...]. On the one hand, you can discuss work practices with colleagues [...]. On the other hand, you have the product of such interaction: the model [...]. I find it rather interesting that we combine both. If you only had the discussions [...], the danger would be that, at some point, people would say: 'Look, we're not getting anywhere. We don't have a finished product.' In our case, throughout our discussions, we are consistently asking: 'Where does this fit into the model?' [...] Hence, the fact that there is a product to work on allows one to remain focused on the task and it provides a concrete reference point that can be consulted after the meeting. (Novice, Prof Group, Final interview)*

However, the participants raised interesting questions and reservations about the knowledge maps they elaborated. A lack of space prevents us from reporting them all and discussing their implications in this paper. Thus, we shall address only two of the issues reported here, from the perspective that the project aims to promote the professional development of new employees in the university.

The first issue can be stated as follows: What is the nature of the knowledge that the participants should represent on the map? Three possibilities can be identified: (a) the *prescribed task* as defined in organizational documents and procedures; (b) the *practised task* as conducted in the current work context, including how the participants interpret and cope with the prescribed task; or (c) *the task that should be performed in an ideal work context* (i.e., if processes were improved) from their point of view. The participants went back and forth between these three possibilities throughout the activity and the maps reflect this ambiguity. At this point of our reflection, we believe that option 'b' would appear to be better suited when the goal is mainly to support the integration of new employees into the university culture, and option 'c' when it is to improve organizational efficiency. Option 'a' would be better suited to a context where the goal is to enhance awareness of the existence of organizational knowledge elicited in institutional documents, tools and resources.

The second issue raised by the participants can be summarized as follows: Where shall we draw the line in the elicitation of 'good' Instructional Design principles? Should we assume that newly hired employees are equipped with the 'basics' in this domain? In both groups, the participants raised this issue at a certain point during the elaboration of their knowledge maps. They finally stated that it was unnecessary to clarify all of the knowledge that newcomers should have acquired prior to being hired. The Prof Group instead suggested that a set of learning resources developed for distance courses offered by the university in the field of Instructional Design should be attached to knowledge entities represented on their map. The map would then serve as a complementary professional development tool to newcomers. It is important to mention that these professors were all affiliated to the Education Faculty. It would be interesting to see if participants from other disciplines would have behaved differently, since we know that, in general, university professors have no training in course design or in pedagogy in general. Many are even unaware of the fact that there is an area called 'Instructional Design' in the field of Educational Technology. These professors might feel the need to discuss their instructional design practices in more detail. Mixing professors from different disciplines, including Education Science, would be an interesting group mentoring modality to explore in future projects. As for the ID Group, we observed that participants included more Instructional Design principles in their map, but they also felt the need to 'draw the line' at a certain point. As a guideline, we suggested that the group focus on work practices that are specific to the academic culture of the

university, and to include the Instructional Design principles that they felt especially significant in their practices and useful for future newcomers.

## Professional Learning

The participants from both groups and at all levels of expertise commented throughout the experiment that it was beneficial to their professional development. They said they had learnt a lot from this experience and that it had already had some beneficial effects on their work practices. The following are some examples of comments voiced by the novice participants during the final interview and the debriefing sessions conducted in both groups:

*As far as I'm concerned, I have learnt a lot. [...] If I had known everything that I heard today, I would have done things differently. [...] I'm already learning!* (Novice, ID Group, Debriefing Meeting 1)

*Same as every meeting, I am learning a lot! [...] As our practices differ and as we discuss them, it makes me self-reflect on my own practices.* (Novice, ID Group, Debriefing Meeting 7)

*My perceived level of competency has improved since we began working on this project [...]* (Novice, ID Group, Meeting 10)

*It has [...] allowed me to learn about the operations in general. It has allowed me to find my place in the culture of the Department and regarding the issues of designing a course at the university and all of the organizational operations.* (Novice, Prof Group, Final interview)

Even the intermediate and expert participants felt they had learned something related to their work practices during this experiment:

*For me, it's like an important professional development activity, even at the end of my career.* (Expert, Prof Group, Debriefing Meeting 10)

*I think we learn a lot through such a project. [...] Discussions with others can help people increase their level of competency a little more rapidly.* (Expert, Prof Group, Final interview)

*Something has changed in my practice, since the beginning of this experiment. Thus, it is very encouraging.* (Intermediate, ID Group, Debriefing Meeting 8)

## Conclusion and Discussion

The data that have been analyzed so far suggest that combining group mentoring and collaborative knowledge modeling could be a promising strategy to support the integration of new employees into the university culture. It could also contribute to the improvement of work processes prescribed in the higher education institution.

In a review of recent research on workplace learning, Tinjälä (2008) identifies three basic modes of professional learning that can take place at work: (1) incidental and *informal* learning, which “takes place as a side effect of work” (p. 140); (2) intentional but *non-formal* learning, which results from the learning activities such as mentoring, intentional practising of certain skills or tool use; and (3) *formal* on-the-job and off-the-job training. We think that the experimented strategy represents a new type of learning space for professionals, which can be classified in the second category. It is an intentional activity in the sense that it was planned by one member of the academic staff and was supported by the institution. It is non-formal in the sense that the learning content was not predetermined but rather emerged during the interaction between participants, and between them and the knowledge mapping tool. This type of peer- and mindtool-mediated professional learning activity fits well with conceptualisations of learning described metaphorically by Sfard (1998) as the ‘participation metaphor’ (distinguished from the ‘acquisition metaphor’), which emphasizes learning taking place by participating in the practice of a professional community. We also think that the strategy could not only socialise newcomers into existing practices, but contribute to the creation of new practices at the individual and organizational level as well. In that sense, it also emphasizes the third learning metaphor proposed by Paavola, Lipponen & Hakkarainen (2004), which they called the ‘knowledge-creation metaphor’.

One may ask how the strategy can be realistically implemented by an entire university, since it is quite time-consuming for the participants as well as for the moderator and the person at the computer. One option may be that the university implements a group mentoring program essentially matching the set-up of the experiment reported in this paper, but without having a moderator designated by the institution to lead the groups. Instead, prior to the onset of their mentoring activities, participants would be trained to use the MOT language and the *G-MOT* software tool as well as to the structure of the generic model of professional actions (Figure 1). Moreover, participants would be provided with a self-questioning guide to help them collaboratively elicit tacit knowledge during the sessions. Each group would designate one participant to act as a moderator and another participant to draw the map at the computer, perhaps different ones at each meeting. All participants could also be invited to review the map individually between the sessions and bring their comments on the map, which would be discussed at the next meeting.

Groups could either create a map from scratch or build on maps created by previous groups, perhaps allowing the number of mentoring meetings to be reduced. Interestingly, this last option would also allow the maps to be continuously updated as professional practices evolved.

We are now in the process of exploring how and which of these different options could be tried out in the university. In every case, resources will need to be allocated to the program, though some options may be more costly in terms of time and effort than others. Research on such strategy implementation options should be carried out as they may also lead to different results in terms of professional learning and expertise transfer. Future research should also be conducted on a larger scale and in different settings to pursue the exploration of the four research questions formulated above.

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## References

- AUCC (2007). *Tendances dans le milieu universitaire. Volume 2: Corps professoral*. Ottawa, Canada: Association des universités et des collèges du Canada (AUCC).
- BASQUE, J. (2012). "Apprendre en construisant des cartes de connaissances à l'aide d'un outil logiciel : oui, mais selon quelle technique?". *Actes du XIIIe colloque pédagogique de l'Alliance française de São Paulo: Apprendre et enseigner au XXIe siècle - Changement de paradigme dans la relation enseignant-apprenant-savoir*. São Paulo, Brazil: Aliança Francesa São Paulo.  
<[http://www.aliancafrancesa.com.br/colloque2012/actus/Acte\\_Josianne\\_BASQUE.pdf](http://www.aliancafrancesa.com.br/colloque2012/actus/Acte_Josianne_BASQUE.pdf)>
- BASQUE, J.; DESJARDINS, C.; PUDELKO, B.; LÉONARD, M. (2008). *Gérer les connaissances stratégiques dans des entreprises manufacturières de la Montérégie : Expérimentation de la co-modélisation des connaissances dans 3 PME* [research report]. Montreal, Canada: CEFRIQ.
- BASQUE, J.; LAVOIE, M.-C. (2006). "Collaborative concept mapping in education: Major research trends". In: A. J. Cañas & J. D. Novak (eds). *Concept Maps: Theory, Methodology, Technology - Proceedings of the Second International Conference on Concept Mapping*. San José, Costa Rica: Universidad de Costa Rica. Vol. 1, pages 79-86.  
<<http://cmc.ihmc.us/cmc2006Papers/cmc2006-p192.pdf>>
- BASQUE, J.; PAQUETTE, G.; PUDELKO, B.; LÉONARD, M. (2008). "Collaborative knowledge modeling with a graphical knowledge representation tool: A strategy to support the transfer of expertise in organizations". In: A. L. P. Okada, S. J. Buckingham Shum & T. Sherborne (eds). *Knowledge Cartography. Software Tools and Mapping Techniques*. London: Springer-Verlag. Pages 357-382.
- BASQUE, J.; PUDELKO, B. (2009). "Intersubjective Meaning-Making in Dyads Using Object-Typed Concept Mapping". In: P. L. Torres & R. C. V. Marriott (eds). *Handbook of Research on Collaborative Learning Using Concept Mapping*. Hershey, Pennsylvania: IGI Global. Pages 180-206.  
<<http://dx.doi.org/10.4018/978-1-59904-992-2.ch010>>
- BASQUE, J.; PUDELKO, B. (2010). "La comodélisation des connaissances par objets typés: Une stratégie pour favoriser le transfert d'expertise dans les organisations". *Télescope*. Vol. 16, No 1, pages 111-129.  
<[http://www.telescope.enap.ca/Telescope/docs/Index/Vol\\_16\\_no\\_1/Telv16n1\\_basque\\_pudelko.pdf](http://www.telescope.enap.ca/Telescope/docs/Index/Vol_16_no_1/Telv16n1_basque_pudelko.pdf)>
- BERNATCHEZ, P.-A.; CARTIER, S. C.; BÉLISLE, M.; BÉLANGER, C. (2010). "Le mentorat en début de carrière : retombées sur la charge professorale et conditions de mise en oeuvre d'un programme en milieu universitaire" [online article]. *Revue internationale de pédagogie de l'enseignement supérieur*. Vol. 26, No 1.
- BOSHUIZEN, H. P. A.; SCHMIDT, H. G. (1992). "On the role of biomedical knowledge in clinical reasoning by experts, intermediates and novices". *Cognitive Science*. Vol. 16, No 2, pages 153-184.  
<[http://dx.doi.org/10.1207/s15516709cog1602\\_1](http://dx.doi.org/10.1207/s15516709cog1602_1)>



- BRATIANU, C.; AGAPIE, A.; ORZEA, I.; AGOSTON, S. (2011). "Inter-generational learning dynamics in universities". *Electronic Journal of Knowledge Management*. Vol. 9, No 1, pages 10-18.
- CAYWER, C. S.; SIMONDS, C.; DAVIS, S. (2002). "Mentoring to facilitate socialization: The case of the new faculty member". *International Journal of Qualitative Studies in Education*. Vol. 15, No 2, pages 225-242.  
<<http://dx.doi.org/10.1080/09518390110111938>>
- CHI, M. T. H.; FELTOVITCH, P. J.; GLASER, R. (1981). "Categorisation and representation of physics problems by experts and novices". *Cognitive Science*. Vol. 5, No 2, pages 121-152.  
<[http://dx.doi.org/10.1207/s15516709cog0502\\_2](http://dx.doi.org/10.1207/s15516709cog0502_2)>
- COFFEY, J. (2006). "In the heat of the moment... Strategies, tactics, and lessons learned regarding interactive knowledge modeling with concept maps". In: A. J. Cañas & J. D. Novak (eds). *Concept Maps: Theory, Methodology, Technology*. San José, Costa Rica: University of Costa Rica. Pages 263-271.
- COFFEY, J. W.; HOFFMAN, R. R. (2003). "Knowledge modeling for the preservation of institutional memory". *Journal of Knowledge Management*. Vol. 7, No 3, pages 38-52.  
<<http://dx.doi.org/10.1108/13673270310485613>>
- CSÉ (2003). *Renouveler le corps professoral à l'université : des défis importants à mieux cerner. Rapport annuel sur l'état et les besoins de l'éducation 2002-2003*. Quebec, Canada: Conseil supérieur de l'éducation, Gouvernement du Québec.
- DABBAGH, N. (2001). "Concept mapping as a mindtool for critical thinking". *Journal of Computing in Teacher Education*. Vol. 17, No 2, pages 16-24.
- DAVIS, M. (2011). "Concept mapping, mind mapping and argument mapping: what are the differences and do they matter?". *Higher Education*. Vol. 62, No 3, pages 279-301.  
<<http://dx.doi.org/10.1007/s10734-010-9387-6>>
- EPPLER, M. J. (2006). "A comparison between concept maps, mind maps, conceptual diagrams, and visual metaphors as complementary tool for knowledge construction and sharing". *Information visualization*. Vol. 5, No 3, pages 202-210.  
<<http://dx.doi.org/10.1057/palgrave.ivs.9500131>>
- ERICSSON, K. A.; CHARNESS, N. (1994). "Expert performance: its structure and acquisition". *American Psychologist*. Vol. 49, No 8, pages 725-747.  
<<http://dx.doi.org/10.1037/0003-066X.49.8.725>>
- FELDMAN, M. D.; AREAN, P. A.; MARSHALL, S. J.; LOVETT, M.; O'SULLIVAN, P. (2010). "Does mentoring matter: results from a survey of faculty mentees at a large health sciences university". *Medical Education Online*. Vol. 15.  
<<http://dx.doi.org/10.3402/meo.v15i0.5063>>
- FOOTE, K. E.; SOLEM, M. N. (2009). "Toward better mentoring for early career faculty: results of a study of US geographers". *International Journal for Academic Development*. Vol. 14, No 1, pages 47-58.  
<<http://dx.doi.org/10.1080/13601440802659403>>
- GAO, H.; SHEN, E.; LOSH, S.; TURNER, J. (2007). "A review of studies on collaborative concept mapping: What have we learned about the technique and what is next?". *Journal of Interactive Learning Research*. Vol. 18, No 4, pages 479-492.

- GLASER, R. (1986). "On the nature of expertise". In: H. Hagendorf (ed.). *Human Memory and Cognitive Capabilities: Mechanisms and Performances*. Elsevier Science. Pages 915-928.
- GOODYEAR, M. (2006). "Mentoring: A Learning Collaboration". *EDUCAUSE Quarterly*. Vol. 29, No 4, pages 51-53.
- HAKKARAINEN, K.; PALONEN, T.; PAAVOLA, S. (2002). "Three perspectives of studying expertise". *Psykologia*. Vol. 37, pages 448-464.
- JONASSEN, D. H.; MARRA, R. M. (1994). "Concept mapping and other formalisms as Mindtools for representing knowledge". *Research in Learning Technology*. Vol. 2, No 1, pages 50-56.  
<<http://dx.doi.org/10.3402/rlt.v2i1.9573>>
- KAVAKLI, M.; GERO, J. S. (2003). "Strategic knowledge differences between an expert and a novice designer". In: U. Lindemann (ed.). *Human Behaviour in Design: Individuals, Teams, Tools*. Berlin: Springer. Pages 42-52.
- KNIPPELMEYER, S. A.; TORRACO, R. J. (2007). *Mentoring as a Developmental Tool for Higher Education*. Paper presented at the Academy of Human Resource Development International Research Conference in The Americas (Indianapolis, Indiana, 28 February-4 March 2007).
- KOMMERS, P. A. M., JONASSEN, D. H.; MAYES, J. T. (eds) (1992). *Cognitive Tools for Learning*. Berlin: Springer-Verlag.  
<<http://dx.doi.org/10.1007/978-3-642-77222-1>>
- LANGEVIN, L. (ed.) (2007). *Formation et soutien à l'enseignement universitaire : Des constats et des exemples pour inspirer l'action*. Quebec, Canada: Presses de l'Université du Québec.
- MOON, B. M.; HOFFMAN, R. R.; NOVAK, J. D.; CAÑAS, A. J. (eds) (2011). *Applied Concept Mapping: Capturing, Analyzing, and Organizing Knowledge*. Boca Raton, Florida: Taylor & Francis Group.
- MOSS, J.; TESHIMA, J.; LESZCZ, M. (2008). "Peer Group Mentoring of Junior Faculty". *Academic Psychiatry*. Vol. 32, No 3, pages 230-235.  
<<http://dx.doi.org/10.1176/appi.ap.32.3.230>>
- NOVAK, J. D. (1990). "Concept maps and Vee diagrams: two metacognitive tools to facilitate meaningful learning". *Instructional Science*. Vol. 19, No 1, pages 29-52.  
<<http://dx.doi.org/10.1007/BF00377984>>
- PAAVOLA, S.; LIPPONEN, L.; HAKKARAINEN, K. (2004). "Models of innovative knowledge communities and three metaphors of learning". *Review of Educational Research*. Vol. 74, No 4, pages 557-576.  
<<http://dx.doi.org/10.3102/00346543074004557>>
- PAQUETTE, G. (2002). *Modélisation des connaissances et des compétences*. Sainte-Foy, Quebec: Presses de l'Université du Québec.
- PAQUETTE, G. (ed.). (2010). *Visual Knowledge Modeling for Semantic Web Technologies: Models and Ontologies*. Hershey, Pennsylvania: IGI Global.  
<<http://dx.doi.org/10.4018/978-1-61520-839-5>>
- PAQUETTE, G.; LÉONARD, M.; BASQUE, J.; PUDELKO, B. (2010). "Modeling for knowledge management in organizations". In: G. Paquette. *Visual Knowledge Modeling for Semantic Web Technologies: Models and Ontologies*. Hershey, Pennsylvania: IGI Global. Pages 393-413.  
<<http://dx.doi.org/10.4018/978-1-61520-839-5.ch019>>

- PUDELKO, B. (2006). *Étude microgénétique des médiations épistémiques d'un outil informatisé de représentation graphique des connaissances au cours d'une activité de compréhension de texte : Propositions pour une approche instrumentale étendue des médiations des outils cognitifs dans l'apprentissage* [doctoral thesis]. Université Paris 8.
- RITCHIE, A.; GENONI, P. (2002). "Group mentoring and professionalism: a programme evaluation". *Library Management*. Vol. 23, No 1/2, pages 68-78.  
<<http://dx.doi.org/10.1108/01435120210413869>>
- SFARD, A. (1998). "On Two Metaphors for Learning and the Dangers of Choosing Just One". *Educational Researcher*. Vol. 27, No 2, pages 4-13.
- STERNBERG, R. (1997). "Cognitive conceptions of expertise". In: R. R. Hoffman (ed.). *Expertise in Context. Human and Machine*. Menlo Park, California/Cambridge, Massachusetts: AAAI Press/MIT Press. Pages 149-162.
- STERNBERG, R. J.; HORVATH, J. A. (eds) (1999). *Tacit Knowledge in Professional Practice: Researcher and Practitioner Perspectives*. Mahwah, New Jersey: Erlbaum.
- SUTHERS, D. (2003). "Representational guidance for collaborative inquiry". In: J. Andriessen, M. Baker, D. Suthers (eds) (2003). *Arguing to Learn*. Dordrecht/Boston/London: Kluwer. Pages 27-46).
- TINJÄLÄ, P. (2008). "Perspectives into learning at the workplace". *Educational Review Research*. Vol. 3, No 2, pages 130-154.  
<<http://dx.doi.org/10.1016/j.edurev.2007.12.001>>

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## Dossier “Informalisation of Education”

### ARTICLE

# Beyond the Ivory Tower: A Model for Nurturing Informal Learning and Development Communities through Open Educational Practices

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## Abstract

Open Educational Resources (OER) and Open Educational Practices (OEP) are making an ever-growing impact on the field of adult learning, offering free high-quality education to increasing numbers of people. However, the top-down distribution of weighty university courses that typifies current provision is not necessarily suitable for contexts such as Continued Professional Development (CPD). This article proposes that a change of focus from a supplier-driven to a needs-led approach, grounded in theories of informal learning, could increase the positive impact of OER and OEP beyond the ivory towers of higher education.

To explore this approach, we focused on the requirements of a specific community outside higher education – trainers in the UK's voluntary sector – in order to design a more broadly applicable model for a sustainable online learning community focused around OER and OEP. The model was informed by a recent survey of voluntary sector trainers establishing their need for high-quality free resources and their desire to develop more productive relationships with their peers, and by evaluation of successful online communities within and outside the voluntary sector.

Our proposed model gives equal attention to learning resources and group sociality. In it, academics and practitioners work together to adapt and create learning materials and to share each other's knowledge and experiences through discussion forums and other collaborative activities. The model features an explicit up-skilling dimension based on Communities of Practice (CoP) theory and a system of reputation management to incentivise participation. The model is unique in building a pan-organisation community that is entirely open in terms of membership and resources. While the model offered in this article is focused on the voluntary sector, it could also be applied more widely, allowing practitioner communities the benefits of tailored resources and academic input, and collaborating universities the benefit of having their OER used and reused more widely for CPD through informal learning.

## Keywords

open educational practices, informal learning, open educational resources, continuing professional development, communities of practice, reputation management

## *Más allá de la torre de marfil: un modelo para potenciar las comunidades de aprendizaje informal y desarrollo mediante prácticas educativas abiertas*

### *Resumen*

*Los recursos educativos abiertos (REA) y las prácticas educativas abiertas (PEA) tienen un impacto cada vez mayor en el aprendizaje para adultos, ya que proporcionan educación gratuita de alta calidad a un creciente número de personas. Sin embargo, la distribución vertical que caracteriza a los cursos universitarios disponibles en la actual oferta educativa no se adecua necesariamente a contextos como el desarrollo profesional continuo (DPC). Este artículo sostiene que un nuevo planteamiento que permita pasar de un enfoque centrado en el proveedor a otro que gravite alrededor de la necesidad, basado en las teorías del aprendizaje informal, podría incrementar el impacto positivo de los REA y las PEA más allá de la torre de marfil en qué está hoy situada la educación superior.*

*Para explorar este planteamiento, nos hemos centrado en los requisitos de una comunidad específica que no pertenece al ámbito de la educación superior –formadores del sector voluntario del Reino Unido– para diseñar un modelo que pueda aplicarse de forma amplia a una comunidad de aprendizaje sostenible y en línea centrada en REA y PEA. El modelo se basa en una encuesta reciente realizada a formadores voluntarios, que establecía su necesidad de disponer de recursos gratuitos de alta calidad y su deseo de*

*entablar relaciones más productivas con sus colegas, así como en un informe sobre comunidades en línea pertenecientes o no al sector voluntario.*

*El modelo que proponemos presta la misma atención a los recursos de aprendizaje que a la sociabilidad del grupo. Para ello, los investigadores y los profesionales trabajan conjuntamente para adaptar y crear materiales de aprendizaje y poner en común conocimientos y experiencias a través de foros de discusión y otras actividades en colaboración. El modelo plantea una dimensión explícita de mejora de competencias basada en la teoría de las comunidades de práctica (CP) y un sistema de gestión de la reputación que incentiva la participación. Se trata de un modelo único para la creación de una comunidad pan-organizativa totalmente abierta en cuanto a recursos y posibilidad de afiliación. Si bien el modelo que se presenta en este artículo se centra básicamente en el sector voluntario, también podría aplicarse de forma más amplia a otros sectores, lo que permitiría que las comunidades de práctica se beneficiaran de recursos diseñados a medida y de contribuciones académicas, y que las universidades participantes vieran que sus REA se utilizan y reutilizan de forma más amplia para el DPC a través del aprendizaje informal.*

### ***Palabras clave***

*prácticas educativas abiertas, aprendizaje informal, recursos educativos abiertos, desarrollo profesional continuo, comunidades de práctica, gestión de la reputación*

## **1. Introduction – background and rationale**

Open Educational Resources (OER) are teaching and learning materials that can be used, reused and often edited free of charge, ranging in size from full courses to individual lectures, images and videos. The OER movement is now seen as an important influence on education globally. For example, in the past decade, US-based Massachusetts Institute of Technology (MIT) has released virtually all its course content freely online and, in April 2012, announced a non-profit partnership with Harvard University – edX ([www.edxonline.org](http://www.edxonline.org)) – offering free online courses from both universities to over a million people worldwide. In the UK, The Open University has made over 600 online courses freely available via its OpenLearn repository (<http://openlearn.open.ac.uk/>), and hundreds of thousands of video- and audio-based learning materials can be freely accessed through services such as YouTube EDU and iTunes U.

The benefits of OER for individual learners, educators and learning institutions are clear. For instance, they can help increase participation in education by making high-quality learning materials available without cost to the user (Geser, 2007, p. 21), irrespective of their geographical location, financial status and educational background. Additionally, OER offer educators the potential to broaden their teaching and learning strategies and subject scope, while the institutions and individuals creating and publishing OER can benefit from “increased status and visibility, and increased demand for other services and products” (Schmidt, 2007).

The OER movement was conceptualised over a decade ago, united in a belief in ‘openness’ – the notion that “knowledge should be disseminated and shared freely through the Internet for the benefit of society as a whole” (Yuan et al., 2007, p. 1), with as few technical, legal or price restrictions as possible. While the OER movement has worked to minimise these restrictions, the potential of OER is

still limited by the fact that institutions tend to release resources on a top-down, supplier-driven basis rather than providing them in response to the needs of end users. Guthrie et al. (2008, p. 20) confirm that “understanding user needs is paramount but often neglected” within the OER movement.

The lack of needs-led provision is beginning to be addressed through a shift of emphasis from OER release to open educational practices (OEP) (Cape Town Open Education Declaration, 2008; Guthrie et al., 2008). Ehlers (2011, p. 4) explains that OEP are “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”. However, the OER movement remains largely located within universities, which are often exclusive (Walsh, 2011), and this remains a barrier for people outside higher education. Indeed, research into both OER and OEP tends to focus on university undergraduates, leaving “major gaps in our understanding of learner use of OER” (Bacsich et al., 2011, pp. 8-9).

Seely Brown and Adler (2008) suggest that OEP outside higher education work best in a learning community setting. They differentiate between a ‘supply-push’ mode of learning whereby ‘an inventory of knowledge’ is built up in students’ heads, and a ‘demand-pull’ mode of learning which “shifts the focus to enabling participation” (Seely Brown & Adler, 2008, p. 30). They argue that demand-pull should replace supply-push in order to meet the demands of fast-changing job roles, allowing people to learn throughout their lives, even where the subjects in which they are interested are very niche.

Various writers (e.g., Weller, 2011) have identified the potential for OER and OEP to be used in the context of Continued Professional Development (CPD), and JISC (2012) identify the scope for OEP to extend beyond higher education into “communities of practice (such as subject or professional discipline, sectoral, regional)”, including “using OERs for informal learning or work-based learning” adding that “workplace and employer involvement has been identified as important and deserves more consideration”. However, as yet little has been written about how this might work.

This article reports the findings of a study exploring the potential for OER and OEP to be used on a demand-pull basis in the context of CPD, whereby academics involved in producing OER collaborate with an existing community outside higher education, working together to source, create and adapt CPD resources. The article outlines a proposed model for the way this collaboration might be realised in practice.

## 2. The CPD context – trainers in the UK’s voluntary sector

For the purposes of this study, we focused on an existing community that we anticipated might greatly benefit from OER and OEP – trainers in the UK’s voluntary sector<sup>1</sup>. Venter and Sung (2009, p. 47), reporting on workforce development in the sector, point out that “there are still significant

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1. The voluntary sector is variously labelled within the United Kingdom and elsewhere, alternative names including ‘the voluntary and community sector’, ‘the third sector’, ‘the non-profit sector’ and the ‘not-for-profit sector’. Individual organisations may also be referred to as ‘charities’ or ‘NGOs’.



barriers to training”, including lack of time, cost, and the non-availability of appropriate training. They note that “resources for volunteer training are particularly scarce” (p. 45).

As we wished to explore demand-pull OEP, it was important first to establish the needs of the target community. We therefore conducted an online survey of 101 voluntary sector trainers and training managers<sup>2</sup> in order to identify their existing practices regarding the use of learning resources and their awareness of and attitudes towards OER. The survey results established the sector’s need for relevant, high-quality and reliable learning resources, together with a commonly voiced desire to be able to collaborate more with their peers in the interests of professional development.

The survey results indicated that the trainers were generally unfamiliar with OER. Under half of the respondents indicated that they were aware of OpenLearn and YouTube EDU, only 26% were aware of iTunes U and just 16% were aware of MIT’s OpenCourseWare. Only 4% stated that they had used OER in their training and even fewer respondents indicated that they had adapted OER to suit their individual training contexts. Importantly, the survey responses clearly indicated that voluntary sector trainers would need to gain additional skills in order to adapt and develop OER to suit their particular teaching contexts. For example, almost all the trainers indicated that they find it easy to create and edit Word and PowerPoint documents, but few said they were able to edit images, audio recordings and video/DVD resources, which are common components of OER. The survey responses offered evidence that the provision of OER-related training would encourage trainers to use OER, with 85% of the respondents indicating that they would be more likely to use OER if they received such training. One respondent added that OER would offer a “great benefit BUT...only with appropriate levels of support, both technical and content-based”.

Asked about possible collaborations with higher education, the trainers suggested that while academics could perform a useful role in helping them to develop an online Community of Practice (CoP), their input should not be on a top-down basis and should instead be responsive to the needs of the community, helping trainers to better support their own learners. Indeed, 82% of the respondents indicated that gaining improved relationships with the academic community and with their peers would increase the likelihood of their using OER. Several trainers emphasised the value of being able to quickly adapt to new challenges in response to their learners’ needs, one commenting: “I deliver compliance training and it is difficult as the law changes often. I would find it very useful to be in a community where we could quickly discuss changes in the law and their implications.”

Only 3% of the respondents indicated that the voluntary sector has sufficient good-quality free toolkits available. Additionally, many of the voluntary sector trainers indicated that they find it difficult to assess the quality, level and currency of existing training resources: 57% suggested that it is difficult to evaluate the credibility of a learning resource, 54% indicated that they find it difficult to judge whether content is up-to-date, 47% suggested that they find it difficult to evaluate the educational merit of a resource, 45% indicated that they find it difficult to judge a resource’s educational level, and 63% suggested that it is difficult to judge whether content corresponds with National Occupational

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2. The survey was conducted using Survey Monkey ([www.surveymonkey.com](http://www.surveymonkey.com)) and featured a combination of closed Likert-scale questions and open questions. The sample (n=410) comprised trainers and training managers appearing in the mail lists of three umbrella training organisations.

Standards. Finally, asked how difficult it is to assess their peers' expertise, 75% of the trainers indicated that they found it difficult to judge a trainer's expertise in a particular subject and their teaching ability.

### 3. The theoretical context

Having established the voluntary sector trainers' needs, we drew on theories of informal learning<sup>3</sup> in order to conceptualise a possible model for an online community of open practice in which OER and OEP are used on a demand-pull basis to support the CPD of both the trainers and the volunteers and employees they are responsible for training.

#### 3.1. Informal online learning and CPD

Informal learning is often promoted as particularly appropriate for workforce development. Attwell (2007, p. 4) makes a distinction between formal and informal learning when reporting his research into the use of e-learning in small and medium enterprises (SME). He identifies the popularity of informal over formal learning for CPD, explaining that his research team "found little take up of formal courses" but found "widespread use of the Internet for informal learning, through searching, joining on-line groups and using email and bulletin boards", with Google emerging as "the most popular application for learning". Cross (2007, p. 192) echoes Attwell's observation that much informal learning takes place online, asserting that "the Internet was made for informal learning... It's user-driven. You can pick what you want and take a little or a lot".

#### 3.2. Informal learning and CoP

Lave and Wenger's (1996) CoP theory offered a useful starting point for designing our model. Very broadly, a CoP is a network of individuals who have a common interest. Learning within a CoP tends not to be formal, instead taking place through a process whereby more experienced participants pass their knowledge and skills on to their peers, thereby enhancing the shared expertise of the participants. Siemens (2006, p. 40) explains that "community-based learning" typically draws on "the wisdom of the crowds", creating a "multi-faceted view of a space or discipline" through "social dialogue" and "diversity of perspective". Seely-Brown and Adler (2008, p. 30) suggest that "rich (sometimes virtual) learning communities built around a practice" are the best way to provide demand-pull modes of learning, adding that "often the learning that transpires is informal rather than formally conducted in a structured setting [and]... may be supported by both a physical and a virtual presence and by collaboration between newcomers and professional practitioners/scholars" (Seely Brown & Adler, 2008, p. 30).

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3. The terms 'informal' and 'non-formal' learning are variously used both within and outside the field of educational research, and exploring the distinction between them is beyond the scope of this study. (See Burbules (2006) for an exploration of this issue). In common with Attwell (2007), we use the term 'informal learning' to accommodate all learning outside formal contexts.

## 4. Evaluating online communities of open practice

Downes (2007b, p. 26) proposes that “when [learning] networks are properly designed, they reliably facilitate learning”. So, having established the voluntary sector trainers’ needs, we evaluated two thriving online communities, aiming to identify factors which might be contributing to their success and which might usefully feature in our own model.

Bouman et al. (2008) argue that “certain facilities of social software are able to trigger mechanisms in people that make them engage in offline and online social activities” or “sociality” (p. 5). They identify four different realms of sociality that social software should address in order to incentivise participation:

- Building identity, which can help facilitate trust and connectivity between participants who identify with each other’s goals and values.
- Enabling practice (both social and working practice).
- Self-actualisation, whereby people “develop themselves by using their social environment to learn to discover new perspectives” (p. 11).
- Mimicking reality, in that “people... are more inclined to use software systems that resemble their daily routines, language and practices” (p. 10).

Bouman et al.’s ‘triggers for sociality’ theory was used as the basis for evaluating the design of two online communities that are particularly notable in terms of their high levels of participation:

- MERLOT: Located within the higher education sector, the non-profit organisation MERLOT ([www.merlot.org](http://www.merlot.org)) comprises a collection of over 35,000 OER, some of which are peer-reviewed by trained MERLOT peer reviewers, and an open online community of educators and students who evaluate these learning materials and discuss related pedagogy around their use. MERLOT receives an average of 75,320 visits per month and, by March 2012, had 100,380 registered members globally.
- rightsnet: Located within the UK voluntary sector, the rightsnet community of welfare rights advisers ([www.rightsnet.org.uk](http://www.rightsnet.org.uk)) has an average of 40,000 visits per month and, by March 2012, 7,500 individuals and 1,500 organisations were registered members. rightsnet members are almost all welfare rights advisers and, as such, rightsnet operates as a ‘second-tier’ community which is able to indirectly benefit hundreds of thousands of clients. Shawn Mach, Head of Social Welfare Law Services at the social welfare rights and technology charity Lasa ([www.lasa.org.uk](http://www.lasa.org.uk)), which operates rightsnet, comments that:

As a second-tier organisation rightsnet sees a huge multiplier effect in terms of the impact our advisers have on their clients. I think this is the most effective and efficient way to work as you build a community that is empowered to best help others. We just facilitate the army of advice workers to help themselves and to do what they’re best at. (Mach, 2012)

The rightsnet community resources include up-to-date news on the latest statutory instruments, searchable, cross-referenced summaries of relevant case law, 12 moderated discussion forums offering peer-to-peer support focused on handling client cases, benefit rates information and calculators, and the latest advice sector job vacancies.

Our evaluation of rightsnet and MERLOT has informed the design of our own model, discussed below.

## 5. The model – a collaborative self-educating community of open practice and informal learning

Our model for a collaborative self-educating community of open practice based on informal learning and intended to meet the needs of the voluntary sector trainers (whilst also being transferrable to other sectors and communities) is illustrated in Figure 1.

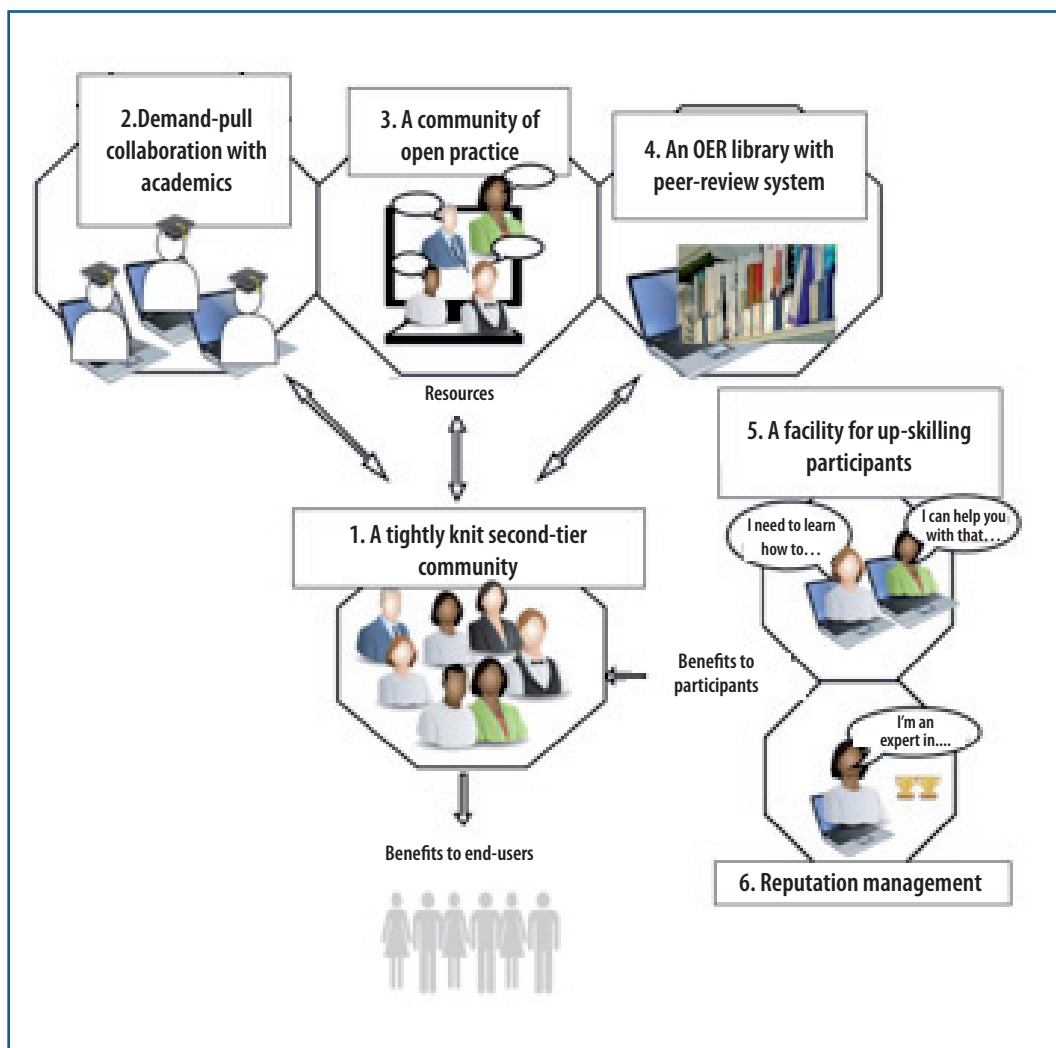


Figure 1: Model for a collaborative self-educating community of open practice and informal learning

Each element of the model is discussed in Table 1 below, which shows the relationship between the model elements, the voluntary sector trainers' stated needs and the theory informing our model, together with existing examples of communities demonstrating individual elements of the model.

During the process of conceptualising our proposed model, we explored numerous online communities both to identify successful community elements and, later in the development process, to assess whether such a model already existed. Elements of our model do appear in some online

Needs of the voluntary sector trainers/training managers		Theory	Solution (elements 1 to 5 in Figure 1)	Examples elsewhere
To share experiences and resources with peers who have similar priorities.	+	Watts (2010, p. 192): "Online learning is not inherently social and works best with groups that already know each other."	<p>=</p> <p><b>1: A pre-existing, tightly-focused second-tier community connected with a particular job role.</b></p> <p>Our model works on a 'second-tier' basis, supporting frontline workers (e.g., the voluntary sector trainers) in doing their job, but not engaging directly with the beneficiaries of those workers (e.g., voluntary sector employees and volunteers).</p> <p><i>Incentive for participation:</i></p> <ul style="list-style-type: none"> <li>• Tightly-focused online communities based on naturally occurring groups are likely to "mimic reality" (Bouman et al., 2008) and, as a consequence, community members are likely to enjoy shared values, practices and modes of communication that are conducive to sustained online participation and support.</li> </ul>	rightsnet, tightly focused around a specific job role, has a particularly strong group identity, evidenced through the use of shared language, including acronyms <sup>4</sup> , through group self-awareness and through direct references made to the group as an entity. Shared resources, ideas and experiences are in abundance in the rightsnet forum postings. The forum also features quite a lot of humour, largely based on in-group knowledge and experiences. <sup>5</sup>
Collaboration with academics who are responsive to their needs and who will help develop an online CoP.	+	Jay Cross (2007, p. 84), e-learning pioneer: Criticises top-down 'management' of online learning communities, asserting that "you can't mandate community. The best you can do is to establish the context, provide a purpose and nurture the group". Conceptualising community members as 'free-range learners' Cross (2007, p.223) suggests that academics' role is "to protect their environment, provide nutrients for growth, and let nature take its course".	<p>=</p> <p><b>2: Demand-pull collaboration with academics.</b></p> <ul style="list-style-type: none"> <li>• Practitioners work with academics to source, create and adapt OER, giving the academics clear direction about their resource needs.</li> <li>• The academics may initially be involved in moderating discussion forums, but it is intended that moderation would eventually be performed by community members.</li> </ul> <p><i>Incentive for participation:</i></p> <ul style="list-style-type: none"> <li>• Participants have autonomy and a needs-led relationship with academics.</li> </ul>	rightsnet involves collaboration between legal specialists and frontline welfare rights advisers and often operates on a demand-pull basis.

4. <http://www.rightsnet.org.uk/forums/viewthread/2818/>

5. E.g., <http://www.rightsnet.org.uk/forums/viewthread/1661/> and <http://www.rightsnet.org.uk/forums/viewthread/1993/>

Needs of the voluntary sector trainers/training managers		Theory		Solution (elements 1 to 5 in Figure 1)	Examples elsewhere
Increased collaboration and interaction with peers.	+	<p>Bouman et al. (2008, p.7): Successful online communities combine people or group-based sociality and object-based sociality. In people- or group-based sociality, a sense of belonging arises from connectivity in a network or a community (e.g., Facebook). In object-based sociality (e.g., Wikipedia) "a shared experience or meaning arises from objects valued as belonging to or characteristic for a certain group".</p>	=	<p><b>3: An online community of open practice featuring discussion forums and other collaborative activities.</b> Our model seeks to equally balance group-based and object-based sociality, allowing opportunities for informal learning through a combination of peer-to-peer discussion, an OER library and various collaborative activities.</p> <p><i>Incentive for participation:</i></p> <ul style="list-style-type: none"> <li>• Sense of belonging and connectivity.</li> <li>• Enabling practice through collaborative problem-solving.</li> </ul>	<p>rightsnet balances group and object-based sociality, combining thriving discussion forums with a narrow but plentiful selection of resources (though many of these resources are not open).</p>
Free, high-quality training resources and reliable information about resources' quality, educational level, currency and any mapping against National Occupational Standards.	+	<p>Bouman et al. (2008): Helping trainers to assess the quality of resources they intend to use would meet Bouman et al.'s 'enabling practice' trigger for sociality.</p>	=	<p><b>4: An OER library featuring a peer-review system of content evaluation.</b> Resources are rated by users against pre-defined criteria, with the facility to add comments about how a resource might be used in particular contexts or ways in which a resource might be improved.</p> <p><i>Incentive for participation:</i></p> <ul style="list-style-type: none"> <li>• Reviewing materials, adding comments and developing learning exercises would offer opportunities for individual identity-building and self-actualisation (two of Bouman et al.'s 'triggers for sociality').</li> </ul>	<p>MERLOT's trained peer reviewers evaluate popular learning materials against criteria covering content quality, effectiveness as a teaching tool and ease of use for students and educators, resulting in an overall 1 to 5 star rating. Learning material users can also comment on the materials and provide learning exercises showing how the materials might be used in particular contexts or for specific educational levels.</p>
Additional skills in order to be able to adapt and develop OER to suit their teaching contexts.	+	<p>Lave &amp; Wenger (1996): CoP theory whereby groups of people who share a concern or a passion for something they do learn how to do it better as they interact regularly.</p> <p>Burbules (2006): Theory of 'self-educating communities' who have "an overt commitment to sharing information, initiating newcomers, and extending their collective knowledge".</p>	=	<p><b>5: Facility for up-skilling participants via a CoP.</b> Discussion forums allow trainers to share their skills and resources, and to work collaboratively in repurposing existing OER to meet their individual settings and in creating new resources from scratch. Initially, OER-specialist academics may take a leading role in up-skilling the trainers though it is anticipated that the community would soon become wholly self-educating through a process of cascading training and skills development.</p> <p><i>Incentive for participation:</i></p> <ul style="list-style-type: none"> <li>• Opportunities for training and skills development.</li> </ul>	<p>rightsnet is a self-educating community where members work together to share experiences and solve complex problems;</p> <p>MERLOT's peer reviewers are trained via a regular online 'Grape Camp', combining instructor-led presentation with individual and collaborative reviewing tasks.</p>

Needs of the voluntary sector trainers/training managers			Theory	Solution (elements 1 to 5 in Figure 1)	Examples elsewhere
To be able to assess their peers' credibility and skills.	+		<p>Burbules (2006, p. 274): Some members of online communities "distinguish themselves through frequency of contributions, quality and originality of contributions, and consensually recognized expertise or wisdom". Reputation management systems offer community members the chance to explicitly demonstrate this within and beyond that community.</p> <p>Bacon (2012): Argues for a 'social capital'-based model of reputation management, explaining that "community is fundamentally a social economy, and its participants build up social capital via their contributions" (p. 14) on a meritocracy basis, whereby "members are given responsibilities and recognition based on achievements, merit, and talent" (p. 37).</p>	<p>=</p> <p><b>6: System of reputation management.</b></p> <p>Badges appear on members' profiles indicating their role(s) in the community and quantifying the tasks they perform for that community, such as a peer reviewer, moderator or forum participant.</p> <p><i>Incentivises participation through:</i></p> <ul style="list-style-type: none"> <li>• Allowing for participant identity-building.</li> <li>• Offering value for career development outside the community.</li> <li>• Allowing users to assess the credibility and expertise of people making comments on the learning materials, thereby 'enabling practice' (Bouman et al., 2008).</li> </ul>	<p>MERLOT features a meritocratic reputation management system which automatically displays a publicly visible profile for each member plus a summary of the ways in which members have contributed to the MERLOT community.</p>

**Table 1:** The elements of a collaborative self-educating community of open practice and informal learning

communities such as MERLOT and rightsnet, as shown above. However, our model is unique in being pan-organisational, drawing together employees and volunteers from many different organisations, in addition to self-employed people, and facilitating learning on a 'connectivist' basis whereby "knowledge is distributed across a network of connections, and... learning consists of the ability to construct and traverse those networks" (Downes, 2007a). Our model is also unique in that it has no commercial element, being based on OEP and the use of OER rather than offering content that can only be accessed via a paid-for subscription.

## 5.1 Maintenance and sustainability of the community

When developing our model, we also explored the ongoing maintenance and sustainability of the proposed community. While the technology involved should cost little (hosting a community website is relatively cheap and can even be free), labour can be much more expensive. Our model therefore includes provision for consistent and reliable discussion forum moderation and technical support sourced from community members. The rightsnet case study shows that moderators can emerge from a strong community of 'veteran' participants. However, people do generally need to be rewarded

for their efforts. With rightsnet, the link between community participation and professional benefit is so strong that members appear to participate willingly in co-moderating the community. However, the same may not be true in communities where the link between participation and practice is less direct. In such cases, it is envisaged that the proposed reputation management system (Element 6 in the model) would help to incentivise participation in the running of a community, allowing individuals to develop and demonstrate in-community credibility while also developing a reputation and credibility outside that community. Through reputation management, it would be possible to incentivise in-community moderation (and other roles necessary to the ongoing development of a community, such as technical support), together with resource provision and evaluation, by recognising and publicly acknowledging such roles.

## 6. Conclusion

Our model takes the most effective components of the two case study communities and combines them to best meet the needs of the voluntary sector trainers and to make good use of the skills and resources offered by collaborating academics. While our model is focused on the voluntary sector, it could easily be applied elsewhere, helping to bridge a perceived disconnection between informal learning and the formal learning that takes place in educational institutions (see Attwell, 2007). Further research might therefore investigate ways in which this model could be applied in other sectors, both in the UK and globally, in order to extend the benefits of OER and OEP to a wider audience.

Our model is still a work in progress and, as yet, has not been piloted. Furthermore, we are deliberately not discussing a software platform for the model as this is beyond the scope of the article and, as online tools are ever-changing, it is more important to think about functionality rather than software. As it stands, though, the model should have the potential to offer a structured yet flexible approach to extending the benefits of OER and OEP beyond the ivory towers of higher education, through a self-educating community of open practice based on informal learning and a 'nurturing' approach by collaborating academics.

## References

- ATTWELL, G. (2007). "Personal Learning Environments - the future of eLearning?". *eLearning Papers*. Vol. 2, No 1. [Accessed: 20 May 2012].  
<<http://www.elearningeuropa.info/files/media/media11561.pdf>>
- BACON, J. (2012). *The Art of Community: Building the New Age of Participation*. Sebastapol, California: O'Reilly Media.
- BACSICH, P.; PHILLIPS, B.; BRISTOW, S. F. (2011). *Learner Use of Online Educational Resources for Learning (LUOERL) - Final report*. [Accessed: 5 June 2012].  
<<http://www.jisc.ac.uk/media/documents/programmes/elearning/oer/LUOERLfinalreport.docx>>



- BOUMAN, W.; HOOGENBOOM, T.; JANSEN, R.; SCHOONDORP, M.; DE BRUIN, B.; HUIZING, A. (2008). "The Realm of Sociality: Notes on the Design of Social Software". *PrimaVera Working Paper Series*. Amsterdam: Universiteit Van Amsterdam. [Accessed: 3 June 2012]  
<<http://primavera.feb.uva.nl/PDFdocs/2008-01.pdf>>
- BURBULES, N. C. (2006). "Self-Educating Communities: Collaboration and Learning through the Internet". In: Z. Bekerman, N. C. Burbules & D. Silberman-Keller. *Learning in Places: The Informal Education Reader*. New York: Peter Lang Publishing. Pages 273-284.
- CAPE TOWN OPEN EDUCATION DECLARATION (2008). *Cape Town Open Education Declaration*. [Accessed: 20 July 2011].  
<[www.capetowndeclaration.org/read-the-declaration](http://www.capetowndeclaration.org/read-the-declaration)>
- CROSS, J. (2007). *Informal Learning: Rediscovering the Natural Pathways That Inspire Innovation and Performance*. San Francisco, California: Pfeiffer/Wiley.
- DOWNES, S. (2007a). *Half an Hour: What Connectivism Is*. [Accessed: 2 October 2012].  
<<http://halfanhour.blogspot.co.uk/2007/02/what-connectivism-is.html>>
- DOWNES, S. (2007b). "Learning Networks in Practice". *Emerging technologies for learning*. Volume 2, pages 19-27. [Accessed: 25 May 2012].  
<[nparc.cisti-icist.nrc-cnrc.gc.ca/npsi/ctrl?action=rtdoc&an=8913424&lang=en](http://nparc.cisti-icist.nrc-cnrc.gc.ca/npsi/ctrl?action=rtdoc&an=8913424&lang=en)>
- EHLERS, U.-D. (2011). "Extending the Territory: From Open Educational Resources to Open Educational Practices". *Journal of Open, Flexible and Distance Learning*. Vol. 15, No 2, pages 1-10. [Accessed: 14 June 2012].  
<<http://journals.akoaooteaoroa.ac.nz/index.php/JOFDL/article/viewFile/2064/2046>>
- GESER, G. (2007). *Open Educational Practices and Resources - OLCOS Roadmap 2012*. [Accessed: 3 June 2012].  
<[http://www.olcos.org/cms/upload/docs/olcos\\_roadmap.pdf](http://www.olcos.org/cms/upload/docs/olcos_roadmap.pdf)>
- GUTHRIE, K.; GRIFFITHS, R.; MARON, N. L. (2008). *Sustainability and Revenue Models for Online Academic Resources: An Ithaka Report*. [Accessed: 20 May 2012].  
<[http://sca.jiscinvolve.org/wp/files/2008/06/sca\\_ithaka\\_sustainability\\_report-final.pdf](http://sca.jiscinvolve.org/wp/files/2008/06/sca_ithaka_sustainability_report-final.pdf)>
- JISC (2012). *Open Practice Across Sectors: A briefing paper*. [Accessed: 10 June 2012].  
<<https://oersynth.pbworks.com/w/page/49655750/OpenPracticeAcrossSectors>>
- LANE, A. (2008). "Am I good enough? The mediated use of open educational resources to empower learners in excluded communities". Fifth Pan-Commonwealth Forum on Open Learning, 13-17 July 2008. London, United Kingdom. [Accessed: 26 June 2012].  
<[http://oro.open.ac.uk/17829/1/Am\\_I\\_good\\_enough.pdf](http://oro.open.ac.uk/17829/1/Am_I_good_enough.pdf)>
- LAVE, J.; WENGER, E. (1996). *Situated Learning: Legitimate Peripheral Participation*. Cambridge, United Kingdom: Cambridge University Press.
- MACH, S. (2012). Interview with Leigh-Anne Perryman, 23 March 2012.
- SCHMIDT, P. (2007). *UNESCO OER Toolkit Draft*. [Accessed: 16 June 2012].  
<[http://wikieducator.org/UNESCO\\_OER\\_Toolkit\\_Draft#Benefits\\_of\\_Open\\_Educational\\_Resources](http://wikieducator.org/UNESCO_OER_Toolkit_Draft#Benefits_of_Open_Educational_Resources)>
- SEELY BROWN, J.; ADLER, R. P. (2008). "Minds on Fire: Open Education, the Long Tail, and Learning 2.0". *EDUCAUSE Review*. Vol. 43, No 1, pages 16-32. [Accessed: 11 June 2012].  
<<http://net.educause.edu/ir/library/pdf/ERM0811.pdf>>

- SIEMENS, G. (2006). *Knowing Knowledge*, Lulu.com.
- VENTER, K.; SUNG, J. (2009). *Do Skills Matter? A Literature Review on Skills and Workforce Development in the Third Sector*. London, Skills Third Sector.
- WALSH, T. (2011). *Unlocking the Gates: How and why leading universities are opening up access to their courses*. Princeton and Oxford: Princeton University Press.
- WATTS, N. (2010). "Reflecting On Models For Online Learning In Theory & Practice". *The All Ireland Journal of Teaching and Learning in Higher Education*. Vol. 2, No 1. pages 19.1-19.12. [Accessed: 13 June 2012].  
<<http://ojs.aishe.org/index.php/aishe-j/article/viewArticle/2019>>
- WELLER, M. (2011). *The Digital Scholar: How Technology Is Transforming Scholarly Practice*. Basingstoke, United Kingdom: Bloomsbury Academic.  
<<http://dx.doi.org/10.5040/9781849666275>>
- YUAN, L.; MACNEILL, S.; KRAAN, Wilbert (2007). *Open Educational Resources - Opportunities and Challenges for Higher Education*. [Accessed: 2 June 2012].  
<[http://wiki.cetis.ac.uk/images/0/0b/OER\\_Briefing\\_Paper.pdf](http://wiki.cetis.ac.uk/images/0/0b/OER_Briefing_Paper.pdf)>

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## Dossier “Informalisation of Education”

### ARTICLE

# New Pathways to Learning: Leveraging the Use of OERs to Support Non-formal Education

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### Abstract

The growth of non-formal education is expanding teaching and learning pathways for the delivery of global education. This growth, in concert with the expanded use of Open Educational Resources (OERs), is creating a potential synergy between non-formal education and OERs to strengthen the continuum of education and training for people who live in underserved and economically disadvantaged regions of the world. The author’s central theme is that OERs provide a valuable educational resource for use in non-formal education that needs to be expanded, researched and refined. OERs are not formal or non-formal resources. Rather, it is how OERs are used in formal and non-formal education settings that define their context and application for teaching and learning. A

basic conceptual framework is provided to offer the reader an initial approach for conceptualising the use of OERs in non-formal education. The author suggests that the process for evaluating non-formal educational activities is similar to the basic design principles used in formal education. These include identifying goals, objectives and competency-based outcomes; developing instructional design parameters; analysing the context and culture of instruction; and evaluating and measuring non-formal teaching and learning. Moreover, the author advocates that further research on OER use in non-formal education, in concert with visionary university leadership, will be critical to maximising the potential of using OERs in non-formal education. The final summary highlights the key issues and points of the article.

### Keywords

non-formal education, open educational resources, formal education, distance education, e-learning

## *Nuevas líneas de aprendizaje: potenciar el uso de recursos educativos abiertos para reforzar la educación no formal*

### *Resumen*

*El desarrollo de la educación no formal está expandiendo las líneas de enseñanza y aprendizaje de la prestación global de servicios educativos. Esta expansión, junto con un mayor uso de recursos educativos abiertos (REA) está generando una potencial sinergia entre la educación no formal y los REA para reforzar la formación y el aprendizaje en todas las etapas educativas de las personas que viven en regiones marginadas y económicamente desfavorecidas. El principal argumento del autor es que los REA constituyen un valioso recurso educativo para la educación no formal que debería expandirse, investigarse y perfeccionarse. Los REA no son recursos formales o no formales por sí mismos, ya que lo que define su contexto y su aplicación a la docencia y al aprendizaje es la forma en que se usan en entornos educativos formales y no formales. Este artículo facilita el marco conceptual básico para conceptualizar el uso de REA en la educación no formal. El autor sugiere que el proceso para evaluar actividades educativas no formales es similar a los principios básicos de diseño utilizados en la educación formal, entre los cuales están la identificación de objetivos, finalidades y resultados basados en competencias; el desarrollo de parámetros de diseño pedagógico; el análisis del contexto y la cultura pedagógica; y la evaluación y medición de la docencia y el aprendizaje no formal. Además, defiende que investigar el uso de REA en la educación no formal, junto con un liderazgo universitario visionario, será esencial para maximizar su potencial en la educación no formal. En el resumen final se destacan los principales puntos y temas tratados en el artículo.*

### *Palabras clave*

*educación no formal, recursos educativos abiertos, educación formal, educación a distancia, aprendizaje virtual*

## Introduction

Over the past decade, the growth of open educational resources (OERs) has leveraged the use of open content across the education continuum, from primary education to higher education to lifelong learning (Butcher, Kanwar & Uvalić-Trumbić (2011). Until recently, OERs have been primarily used by educators as supplementary resources to formal, credentialed education. OERs have, in fact, been used very effectively in non-formal education to provide individual self-directed learning for the acquisition and mastery of basic life skills (Latchem, 2012).

We have seen innovative non-formal applications of OERs in Sub-Saharan Africa and other developing countries to teach basic nutrition, health, HIV prevention, food and safety, and other fundamental life skills to underserved populations that often face extreme poverty, malnutrition, disease and the ravages of living in a conflict zone (Latchem, 2012; TESSA, 2012). Moreover, whilst the non-formal use of OERs may not lead to an advanced university degree or mid-management employment, they potentially may contribute to the preservation and sustainability of human life for underserved populations in developing nations. Indeed, OER uses in non-formal education settings are innovative and powerful educational tools that can have a positive impact on individuals, families and communities.

Today, OERs are increasingly used for non-formal purposes in remedial and adult continuing education, and for formal purposes to earn academic credit leading to a formalised credential (Green, 2012; Latchem, 2012). From a digital or open and distance learning (ODL) vantage point, the use of OERs ranges from supplementing formal university instruction to educating youth and adults in non-formal education settings using various social media applications (e.g., Facebook, LinkedIn, MySpace, etc.) and networked learning applications (e.g., Wikipedia, Twitter, interactive blogs, online learning communities, etc.) (Latchem, 2012; McGreal, 2012). Indeed, it is important to recognise that this vast continuum of OER use in face-to-face and virtual settings, as well as in formal and non-formal education settings, often creates both definitional and applied challenges for practitioners. This will be discussed later in the article.

## Purpose and Scope

The central theme of this article is that OERs provide a valuable resource for use in non-formal education settings. OERs are not formal or non-formal educational content. Rather, it is how OERs are used in formal and non-formal education settings that define their context and application for teaching and learning. Indeed, an illustration of this important distinction may provide greater understanding and clarity for the reader from the outset.

Let's examine a three-page summary OER covering Ernest Shackleton's expeditions to Antarctica. This particular OER could be developed from multiple disciplines including history, geography, engineering, economics and leadership, and from a range of other interdisciplinary content. In a formal university setting, this OER could be used to engage MBA postgraduate students in a

discussion about the key attributes and lessons of leadership. Conversely, this OER could be used for non-formal education in a rural community setting in Kenya to teach English and/or history to primary and secondary students. Whilst this is a basic example, it illustrates the critical distinction between the specific learning objectives and outcomes that are the driving pedagogical factor(s) in using OERs in non-formal and formal education.

The first section of this article will provide a definition of non-formal education from the literature, the author's analysis of the definitional continuum, and a brief review of key issues from the literature. This section will also discuss how ODL systems increase the complexity of the definitional boundaries of non-formal education.

The second section will define OERs and provide a brief summary of their advantages and limitations. Although the focus of this article is on OER use in non-formal education settings, it is not intended to cover all facets of OERs in depth. The OER literature is immense and the scope of coverage contained herein is aimed at accentuating their relevance to use in non-formal education settings.

The third section of this article attempts to provide a conceptual framework for OER use in non-formal and formal education. Indeed, this can be tricky terrain for an author to transverse unless the purpose of including the framework helps the reader reflect upon their own practice and strategies for improving teaching and learning in non-formal and/or formal education settings. The rationale for presenting the framework is twofold. Firstly, most educators' primary frame of reference to their profession is formal education settings such as schools, colleges and universities. In one sense, it is our baseline for assessing teaching and learning in other settings and for other purposes beyond earning a 'formal' credential. By understanding this frame of reference of formal education, it may expand our analyses and approaches to non-formal education. This preliminary framework is not definitive yet may provide a guide to expanding our understanding of a particular set of assumptions for OER use in non-formal education. Secondly, the framework is presented to expand dialogue and reflection from across the professional community for future research and refinement of OER use in non-formal education. It was previously mentioned that the advances in ODL delivery systems such as social media alter and expand the definitional and applied context of OER use in non-formal education settings. This framework needs the collective intervention and ideas of researchers and practitioners to improve its usefulness for educators. Indeed, initiating the dialogue is sometimes an invaluable starting point in our quest for refinement and practical use.

The final section identifies questions for future research and leadership opportunities for universities. The summary highlights the key points of the article. Appendix A provides a list of recommended OER resource websites for readers.

## Section I: Non-formal Education

### From Definition to Practice: A Selected Review of Literature

At first glance, defining non-formal education would appear straightforward by differentiating it from formal education. This is not the case. The challenge is that a range of other definitions

of learning (adult education, informal education, self-directed learning, flexible learning, second chance education, incidental or random learning, e-learning, distance learning, etc.) often overlap and create more confusion than clarity in an operational context for empirical uses of non-formal education (UNESCO, 2011; Latchem, 2012). Although it is beyond the scope of this article to engage in a detailed definitional analysis of all these various forms of learning, it is important for the reader to understand that definitional differences do exist; some overlap whilst others appear to differ on key points.

UNESCO developed the International Standard Classification of Education (ISCED) to facilitate comparisons of education statistics and indicators across countries on the basis of uniform and internationally agreed definitions. In 2011, a revision to ISCED was formally adopted by UNESCO Member States. The product of extensive international and regional consultations among education and statistics experts, ISCED 2011 takes into account significant changes in education systems worldwide since the last ISCED revision in 1997. These revisions provide definitions and updates of formal education, non-formal education and informal learning; ISCED also excluded informal, incidental or random learning from its data gathering matrix. The first data collection based on the new classification will begin in 2014. The UNESCO Institute for Statistics is working closely with Member States and partner organisations (such as OECD and Eurostat) to map education systems to the new classification and revise collection instruments.

Given that most educators are familiar with formal education, an international definition of formal education will help set non-formal education in the appropriate context. UNESCO (2011, p. 8) defines formal education as follows:

36. **Formal education** is defined as education that is institutionalised, intentional, planned through public organizations and recognised private bodies and, in their totality, make up the formal education system of a country. Formal education programmes are thus recognised as such by the relevant national educational authorities or equivalent, e.g. any other institution in co-operation with the national or sub-national educational authorities. Formal education consists mostly of initial education. Vocational education, special needs education and some parts of adult education are often recognized as being part of the formal education system. Qualifications from formal education are by definition recognised and are therefore within the scope of ISCED. Institutionalised education occurs when an organisation provides structured educational arrangements, such as student-teacher relationships and/or interactions, that are specially designed for education and learning.

37. Formal education typically takes place in institutions that are designed to provide fulltime education for pupils and students in a system designed as a continuous educational pathway. This is referred to as initial education defined as formal education of individuals before their first entrance to the labour market, i.e. when they will normally be in full-time education.

38. Formal education also includes education for all age groups with programme content and qualifications that are equivalent to those from initial education. Programmes that take place partly in the workplace may also be considered formal education if they lead to a qualification that is recognized



by national educational authorities or equivalent. These programmes are often provided in cooperation between educational institutions and employers (e.g. apprenticeships).

From the ISCED definition, the key elements of formal education are as follows: it is institutionalised, intentional and planned through public organisations and recognised private bodies; these organisations are recognised by relevant national education authorities or equivalent; qualifications obtained in formal education typically are part of a national qualifications framework; formal education typically occurs in institutions that provide full-time education (schools, colleges, universities, etc.), normally as part of continuous education pathways, from initial education to entrance to the labour market; and workplace programmes that lead to a qualification recognised by a national authority may be considered formal education.

A glaring omission in these definitional attributes is there is not even a passing reference to the use of ODL systems in the delivery of formal education. This is relevant to the current discussion of OERs and non-formal education, and the author will return to this later in the paper.

UNESCO (2011, pp. 8-9), within its ISCED framework, defines non-formal education as follows:

39. Like formal education, but unlike informal, incidental or random learning, **nonformal education** is defined as education that is institutionalised, intentional and planned by an education provider. The defining characteristic of nonformal education is that it is an addition, alternative and/or a complement to formal education within the process of the lifelong learning of individuals. It is often provided in order to guarantee the right of access to education for all. It caters for people of all ages but does not necessarily apply a continuous pathway-structure; it may be short in duration and/or low in intensity; and it is typically provided in the form of short courses, workshops or seminars. Nonformal education mostly leads to qualifications that are not recognised as formal or equivalent to formal qualifications by the relevant national or sub-national educational authorities or to no qualifications at all. Nevertheless, formal recognized qualifications may be obtained through exclusive participation in specific nonformal educational programmes: this often happens when the nonformal programme completes the competencies obtained in another context.

40. Depending on the national context, nonformal education can cover programmes contributing to adult and youth literacy and education for out-of-school children, as well as programmes on life skills, work skills, and social or cultural development. It can include training in a workplace for improving or adapting existing qualifications and skills, training for unemployed or inactive persons, as well as alternative educational pathways to formal education and training in some cases. It can also include learning activities pursued for self-development and thus is not necessarily job-related.

41. The successful completion of a nonformal educational programme and/or a nonformal qualification does not normally give access to a higher level of education unless it is appropriately validated in the formal education system and recognized by the relevant national or sub-national educational authorities (or equivalent).

Based on this definition, the key elements of non-formal education are as follows: it is institutionalised, intentional and planned by an education provider (similar to formal education); its defining characteristic is that it is an addition, alternative and/or a complement to formal education within the process of the lifelong learning of individuals (unlike informal, incidental or random learning); it does not necessarily apply a continuous pathway structure and usually leads to qualifications not recognised as equivalent to formal qualifications by a relevant national authority (unlike formal education); formal qualifications may be obtained through active participation in specific non-formal education programmes if validated in the formal education system (Microsoft Certification for example); and successful non-formal education completion does not typically give access to a higher level of education unless validated in the formal education system by a relevant national authority or equivalent.

Rogers (1996, 2004) approached non-formal education by linking it to a progressive framework that included informal learning, self-directed learning, non-formal education and formal education. Moreover, the progression from informal learning to formal learning becomes more organised, intentional and defined. Latchem (2012) further describes informal learning similarly to what ISCED (2011) defines as incidental or random learning (listening to the radio, watching television, family discussions, etc.). This type of learning occurs in the home, workplace or community setting outside the formal education classroom. Although ISCED (2011) differentiates informal learning from incidental or random learning, the boundaries are very blurred; it states that informal learning is intentional and deliberate, but not institutionalised like non-formal and formal learning.

Reviewing an earlier definition, Hallak (1990) suggested four categories of non-formal education:

- Para-formal education: Evening classes, distance education programmes, etc. that provide a substitute for formal schooling or offer a second chance to those unable to attend regular schooling.
- Popular education: Adult literacy, cooperative training, political mobilisation and/or community development programmes that are explicitly targeted to serve marginal groups.
- Personal improvement programmes: Cultural, language, sports and other programmes provided by clubs, associations and other organisations.
- Professional or vocational non-formal education and training provided by firms, trade unions, private agencies, etc.

Hallak's definition raises some interesting comparisons with the ISCED (2011) definition of non-formal education. Firstly, category one could in fact be credit-based programmes that lead to a formal education credential. Today, evening programmes and online degree programmes for adult learners would fall under his first category and would clearly be considered formal education programmes. Moreover, Hallak acknowledges distance education as an essential component of non-formal education programmes; there is no mention of open and distance education in the ISCED (2011) definition relevant to non-formal education. Hallak's categories two and three, however, align within the general parameters of the ISCED definition of non-formal education. Finally, category four, pertaining to professional or vocational non-formal education, could lead to a formal equivalency if validated against a national qualifications framework by a national education authority.

The application of information and communication technologies (ICTs) to ODL can play a vital delivery role in non-formal education. Relative to OER use in non-formal education, these technologies provide the vehicle for access in making OERs openly and universally available. The author suggests that ODL is an integral component of the definition of non-formal education delivery and access to content, including OERs.

## Definition of non-formal education for the purposes of this article

The use of OERs for non-formal education will be defined in this article as:

- Institutionalised, intentional and planned by an authorised public or private education provider.
- Accessible in face-to-face, blended, and open and online delivery formats, as well as networked learning, social media and virtual learning communities, and utilising a range of audio, video and online digital media.
- Applicable to all ages to support basic life skills training (literacy, nutrition, health and safety, HIV/Aids education, disease prevention and other related work, social or cultural skills, but not necessarily applicable to a continuous pathway structure.
- Not supporting formal, credit-earning instruction or credentials in schools, colleges and universities, unless they are validated within the formal education system by a national education authority or equivalent.

## Section II: OERs

### Defining OERs

UNESCO and the Commonwealth of Learning (2011) define OERs as follows:

**Open Educational Resources (OER):** OER are teaching, learning and research materials in any medium that reside in the public domain and have been released under an open license that permits access, use, repurposing, reuse and redistribution by others with no or limited restrictions (Atkins, Brown & Hammond, 2007). The use of open technical standards improves access and reuse potential. OER can include full courses/programmes, course materials, modules, student guides, teaching notes, textbooks, research articles, videos, assessment tools and instruments, interactive materials such as simulations, role plays, databases, software, apps (including mobile apps) and any other educationally useful materials. The term 'OER' is not synonymous with online learning, eLearning or mobile learning. Many OER — while shareable in a digital format — are also printable.

### Advantages and Limitations of OERs

- The above definition is included to give the reader a brief frame of reference. The advantages and limitations of OERs have been cited by many authors. Kanwar et al. (2010) highlighted

typically cited advantages of OERs, particularly for education systems in developing countries.

These included:

- Helping developing countries save course content development time and money.
- Facilitating the sharing of knowledge.
- Addressing the digital divide by providing capacity-building resources for educators.
- Helping to preserve and disseminate indigenous knowledge.
- Improving educational quality at all levels.

At a practical level, OER advocates cite that OER can be reused, mixed, altered and localised for cultural and social contexts; one does not need permission to use them; there is no digital rights management or restrictive licensing; and one can copy, paste, annotate, highlight and print them out basically free of charge (Butcher et al., 2011; Kanwar et al., 2010; McGreal, 2012).

Common barriers cited include the lack of awareness about OERs; the university elitism of "it was invented here so we'll use our own"; faculty resistance given "my content is king in my kingdom"; and, of course, the lobbying of many publishers who see the OER movement as a threat to their historical business monopoly over content. Content is big business in the commercial world and those models will die hard (McGreal, 2012).

From a practical-applied perspective (Butcher et al., 2011), OERs provide teachers and students with:

- Access to global content that can be adapted and localised by teachers and faculty anywhere, anytime to create new courses, modules or lessons, or enhance existing content.
- More resources and choices for students to supplement their studies with value-added content.
- Opportunities to create diverse student and faculty learning communities that can bridge cultural, gender and ethnic differences to promote social inclusion in classrooms, in communities and in the world. OERs are effective localised cultural-social-ethnic manifestations of the global village.

In short, OERs will increasingly be used for non-formal educational purposes. Moreover, ICTs and ODL systems provide the highway for easy, universal access to OERs. This includes access by educators in developing and developed countries where such resources will be essential for planning and offering non-formal education programmes.

### Section III: A Framework for OER Use in Formal and Non-formal Education

The uses of OERs are diverse and varied in higher education. They are also amenable to delivery via traditional face-to-face instruction, blended and ODL delivery modes. If their use is analysed along the formal and non-formal education continuum based upon a content level, OER use may be conceptually categorised as follows:

- Formal 1: Combining multiple OERs together to create major content units that allow students to earn academic credit and potentially apply these towards a university degree. For example, this is an option being developed by the OER university (OERu).

The OERu has initiated a pilot project through its OER Tertiary Education Network universities to create and offer eight first and second year university courses with an option to earn academic credit that could count towards a bachelor's degree in Liberal Studies. This project is in the early stages but reflects an innovative approach to creating value-added options for students (<http://creativecommons.org/weblog/entry/31947>).

- Formal 2: Combining a range of OERs in a focus area of a specialised discipline to earn academic credit towards a formal university certificate. The ability to combine OERs is one of their unique design features. McGreal (2012) states:

The concept of granularity is also important. An OER can be a course, unit, lesson, image, Web page, exercise, multimedia clip, etc. but it should have a specified pedagogical purpose/context [15]. Content instances can be assembled into a lesson. Lessons can be assembled into modules. Modules can be assembled into courses, and courses can even be assembled together and become a full programme. All of these at their various levels of granularity can be OER. (p. 2)

- Formal 3: Utilising selected OERs as supplemental resources to formal university instruction – making these OERs a formal part of an academic course that may form part of the grading rubric of the course. This is a very common use of OERs by university lecturers and primary and secondary school teachers.

This is the demarcation area between the use of OERs in formal and non-formal education. It is arbitrary and only presented as a guide for conceptualising the formal and non-formal educational uses of OERs. Let's look at some uses of OERs in non-formal education.

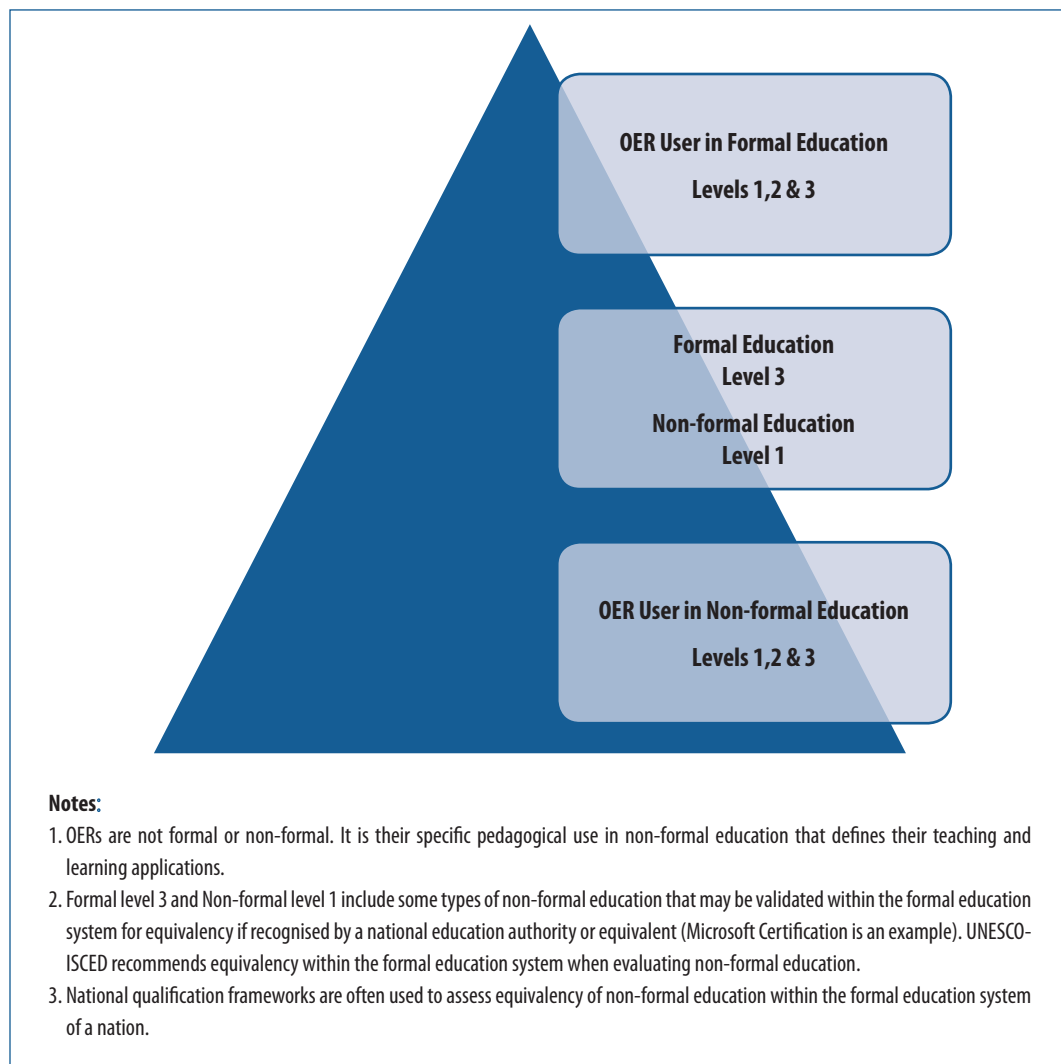
- Non-formal 1: Combining, packaging and integrating OERs in a focus area of a specialised discipline to earn a non-academic credit certificate of mastery or completion. In this scenario, OER use would be in the 'grey area' of the formal–non-formal education continuum; however, it is moving towards content applications that support non-formal education. The TESSA teacher education project in Sub-Saharan Africa is a good example of where formal and non-formal definitions are blurred and converge. TESSA produces OER teacher education materials for direct use by teachers and school administrators. These curriculum OERs have very specific elements that are found in formal education and some are organised as formal lessons with formal learning design principles and outcomes assessment.
- Non-formal 2: Using a set of OERs to provide basic writing skills to adults that did not complete secondary education. This would be a non-formal educational use of OERs; however, the actual instructional design (goals, objectives, assessment metrics, etc.) would mirror that of a formal academic course, the only difference being that it is a non-formal education environment for learning.
- Non-formal 3: Using a set of OERs to provide awareness education about nutrition, personal hygiene, HIV/Aids education and other basic skills. OERs may simply be used to raise awareness

of these topics for a specific population. The purpose is not organised in a formal, systematic sense. In a way, it is basic information sharing.

These levels of OER use along the formal and non-formal education continuum are not all-inclusive or definitive. The aim is simply to give the reader a guide to thinking about OER applications in formal and non-formal education. Moreover, it has already been illustrated (Shackleton Expeditions OER) that a non-formal use of OERs could in fact be organised in a very systematic way that mirrors what a formal university course for academic credit with clear goals, objectives, assignments, grading rubrics and grading looks like.

Indeed, this is not to suggest that formal and non-formal OER use can be categorised simply by whether or not one receives academic credit or formal recognition for learning. Rather, it accentuates that non-formal education programmes can often be validated against a qualifications framework for equivalency within the formal education system by a recognised national education authority. This

**Figure 1.** OER Use in Formal and Non-formal Education



is consistent with the ISCED definition of non-formal education, particularly regarding non-formal equivalency in the formal education system.

Figure 1 provides a summary of the uses of OERs in formal and non-formal education. The figure reflects a hierarchical relationship giving a higher status to formal education over non-formal education. This is typically the way most professionals think of the education continuum. However, this does not mean that the impact or goals of non-formal education, in any context, are any less valuable than formal university instruction.

## Limitations of the OER Use Framework

The first limitation is that the framework arbitrarily ascribes a hierarchical level of application for OER uses in formal and non-formal education based on the content category of the level (credit-based degrees, certificates to non-formal certificates and skills training). This is an obvious bias given how most educators think about the hierarchical structure of education. The framework moves from higher application formal use of OERs to a diminishing non-formal level use. This is problematic because OERs come in diverse content packages and their use should be dictated by the specific learning objectives and outcomes in the teaching and learning process whether for non-formal education or formal education. Notwithstanding this limitation, the framework does give the reader a resource to think about how to conceptualise OER uses in formal education and non-formal education contexts.

Secondly, the ISCED definition states "The defining characteristic of non-formal education is that it is an addition, alternative and/or a complement to formal education within the process of the lifelong learning of individuals" (UNESCO, 2011, p. 8). Is AIDS education in Africa necessarily an addition, alternative and/or complement to formal education and lifelong learning? Is non-formal education in nutrition and health? The defining characteristic of these non-formal education programmes may be the contribution to the health, welfare and safety of African children with no linkage to the formal education systems, credentials and recognised education authorities of the respective country. The proposed framework was not based on this defining characteristic of non-formal according to the ISCED definition. This divergence clearly complicates the demarcation between formal and non-formal education and the use of OERs in both.

Thirdly, and most importantly, does the framework provide the reader with a useful reference for thinking about their teaching and learning approaches to non-formal education? Does it provide a context for using OERs in non-formal education? OER integration into non-formal education programmes is in its infancy and the answers to these questions are not for the author to answer. They are for the readers to answer, and hopefully contribute to, by expanding and refining the framework for using OERs in non-formal education.

## Evaluating the Use of OERs in Non-formal Education

The evaluation rubric and process for assessing OER use in non-formal education may be comprised of four primary assessment metrics. These are: 1) purpose and outcomes of instruction; 2) design

of instruction; 3) context and culture of instruction; and 4) evaluation of instruction (Knowledge Advisors, 2010; Latchem, 2012; Mattox, 2012; Olcott, 2012).

1. What are the purpose, goals and objectives of instruction? Whether supporting a formal university course or a non-formal literacy workshop in rural Kenya, this is the first consideration and teaching goal.
2. The design phase depends on the types of learning goals to be achieved, the content, the competency levels set for students to master, delivery type (face-to-face, blended and/or ODL), and the assessment criteria used in the grading and/or evaluation rubric. A critical factor in the design process is how long does the non-formal educational activity take? Will it be a one-day workshop, a four-month course that meets three times per week, or a two-day seminar on literacy training?
3. The context and culture refers to key drivers of the non-formal educational activity-instruction. Why is it occurring? Who has mandated or recommended that a specific audience/population engage in this learning activity? Where will the non-formal education take place? What language will be used for instruction? What social and cultural norms of the population must be considered in the design principles? Are there gender issues that should be considered? If the non-formal education is delivered via technology, do the participants have the requisite skills to engage in the learning activity using technology (computer, video-based, etc.)? Is technology access available to all students? Will there be on-site facilitators to assist with instruction?
4. How will the non-formal education instructional activity be evaluated? What grading or performance rubrics will be used? Will evaluation measure individual competencies of specific skills and a composite assessment of all competencies set by the activity?

Indeed, these components are common for evaluating any educational activity, formal or non-formal. Moreover, the sophistication of non-formal education is important given many individuals desire to use these learning experiences as part of their non-formal education portfolio for entering formal education systems (vocational-technical institutes, colleges and universities, etc.).

## Section IV: Future Research and University Leadership

### Emerging Issues for Research

The acceleration of non-formal education across the globe raises many questions for the future of OER use. Some key questions that may emerge in the next two to five years pertaining to OER uses in non-formal education include:

- How can OER uses be expanded for non-formal education in developing countries, particularly regions like Sub-Saharan Africa and parts of Asia where economic realities and the digital divide are barriers to technology access, education and qualified teachers? (Kanwar, Kodhandaraman & Umar, 2010).



- Major initiatives such as TESSA (2012) and OER Africa (2012) have made invaluable contributions to education and open resources in Africa. How can we learn from these successes to expand access and use of OERs for non-formal education?
- Non-formal educational uses of OER, whilst considerably less expensive than formal education, still requires resources for staff, delivery and curricular development. What potential business models are needed to expand non-formal uses of OERs? (De Langen & Bitter-Rijkema, 2012; Olcott, 2012).
- How do we categorise OERs for use in non-formal education in organisational OER repositories? Are all OERs equally applicable for use in formal and non-formal education?
- What are the challenges for OER use in non-formal education delivered in blended and ODL formats?

OER development and use is likely to increase in formal and non-formal education in the next five years (Butcher et al., 2011; Latchem, 2011; Olcott, 2012). These resources are 'value-added' supplements for supporting non-formal education. Educators at all levels need to consider integrating these resources into their teaching and learning activities. Universities, especially those with a developed ODL capacity, will be strategically positioned to foster the use of OERs in non-formal education contexts.

### Leadership Opportunities for Universities

- The following summarises some key aspects for university leaders to consider:
- What is the broader scope of the university's role and mission for the delivery of training and non-formal education? Is the university offering these types of institutional outreach via ODL?
- Is the institution promoting and using OERs as supplemental resources for formal academic courses and programmes? How can these uses be integrated into the non-formal education enterprise of the university?
- How can universities mobilise their OER inventory to align with non-formal educational uses and provide access to these for use in developing countries?
- How do institutions build common standards for OER use in non-formal education? Will common quality standards be necessary for benchmarking the global categorisation of OERs used in non-formal education?

## Summary

This article examined the growing potential of using OERs in non-formal education programmes. OERs are not formal or non-formal resources. It is how OERs are used in formal and non-formal education programmes and settings that define their context and application for teaching and learning.

The definition of non-formal education generates considerable debate across the profession. The author discussed the challenges of defining non-formal education given the range of related terms such as informal education, adult education, self-directed learning, incidental and random learning, and others. The ISCED definitions of formal and non-formal education were presented to provide the reader with comprehensive definitions and to form the basis for how non-formal education was defined in this article.

A framework for using OERs in formal and non-formal education was presented to provide the reader with a conceptual reference for thinking about his/her approach to teaching and learning, and to integrating OERs into non-formal education programmes. The limitations of the framework were highlighted and the author concluded with a summary of potential topics for future research and leadership opportunities for universities in delivering non-formal education.

## References

- ATKINS, D.E.; BROWN, J.S.; HAMMOND, A.L. (2007). *A Review of the Open Educational Resources (OER) Movement: Achievements, Challenges, and New Opportunities*. Accessed 27 May 2012.  
<[www.hewlett.org/uploads/files/ReviewoftheOERMovement.pdf](http://www.hewlett.org/uploads/files/ReviewoftheOERMovement.pdf)>
- BUTCHER, N. (author); KANWAR, A. (ed.); UVALIĆ-TRUMBIĆ, S. (ed.). (2011). *A Basic Guide to Open Educational Resources (OER)*. Vancouver, Canada: Commonwealth of Learning / Paris, France: UNESCO.  
<[www.col.org/oerBasicGuide](http://www.col.org/oerBasicGuide)>
- COMMONWEALTH OF LEARNING (2012). Accessed 28 June 2012.  
<[www.col.org](http://www.col.org)>
- CONNEXIONS (2012). Accessed 28 June 2012.  
<[www.cnx.org](http://www.cnx.org)>
- CREATIVE COMMONS (2012). Accessed 28 June 2012.  
<[www.creativecommons.org](http://www.creativecommons.org)>
- DE LANGEN, F.H.T.; BITTER-RIJKEMA, M.E. (2012). "Positioning the OER Business Model for Open Education". *European Journal of Open, Distance and e-Learning*. No 1, pages 1-13.  
<<http://www.eurodl.org/?p=archives&year=2012&halfyear=1&article=483>>
- GREEN, C. (2012). "Thanks to Creative Commons, OER university will provide free learning with formal academic credit". Accessed 28 June 2012.  
<<http://creativecommons.org/weblog/entry/31947>>
- HALLAK, J. (1990). *Investing in the Future: Setting Educational Priorities in the Developing World*. Paris, France / Oxford, United Kingdom: UNESCO, International Institute for Educational Planning.
- HARVARD/MIT EDX (2012). The Future of Online Education for anyone, anywhere, anytime. Accessed 28 June 2012.  
<[www.edx.org](http://www.edx.org)>

- KANWAR, A.; KODHANDARAMAN, B.; UMAR, A. (2010). "Towards Sustainable Open Education Resources: A Perspective From the Global South". *The American Journal of Distance Education*. Vol. 24, No 2, pages 65-80.  
<<http://www.tandfonline.com/toc/hajd20/24/2>>  
<<http://dx.doi.org/10.1080/08923641003696588>>
- KNOWLEDGEADVISORS (2010). "Informal Learning Measurement" White Paper. Accessed 28 June 2012.  
<[www.knowledgeadvisors.com](http://www.knowledgeadvisors.com)>
- KNOWLEDGE CLOUD (2012). Maintained by Athabasca University, UNESCO Chair in Open Educational Resources. Accessed 28 June 2012.  
<[www.oerknowledgecloud.com](http://www.oerknowledgecloud.com)>
- LATCHEM, C. (2012). *Quality Assurance Toolkit for Open and Distance Non-formal Education*. Vancouver, Canada: Commonwealth of Learning.
- MCGREAL, R. (2012). "The need for Open Educational Resources for ubiquitous learning". Paper presented at the Pervasive Computing (PerCom) Conference 2012, Lugano, Switzerland.  
<<http://auspace.athabascau.ca/bitstream/2149/3169/1/PEREL%20JanFINAL.pdf>>
- OER AFRICA (2012). Accessed 28 June 2012.  
<[www.oerafrica.org](http://www.oerafrica.org)>
- OER ASIA (2012). Accessed 28 June 2012.  
<[www.oerasia.org](http://www.oerasia.org)>
- OLCOTT, D. (2012). OER perspectives: emerging issues for universities. *Distance Education*. Vol. 33, No 2, pages 283-290.  
<<http://www.tandfonline.com/doi/full/10.1080/01587919.2012.700561>>  
<<http://dx.doi.org/10.1080/01587919.2012.700561>>
- OPEN COURSEWARE CONSORTIUM. Accessed 28 June 2012.  
<[www.ocwconsortium.org](http://www.ocwconsortium.org)>
- OPENLEARN (2012). Accessed 28 June 2012.  
<[www.open.edu/openlearn](http://www.open.edu/openlearn)>
- ROGERS, A. (1996). "NFE, development and learning". Unit 2 of Course 7, *Non-formal and adult basic education at a distance*, in University of London/IEC External Diploma/MA in Distance Education. University of London/IEC, Cambridge.
- ROGERS, A. (2004). "Looking again at non-formal and informal education – towards a new paradigm". *the encyclopaedia of informal education*.  
<[www.infed.org/biblio/non\\_formal\\_paradigm.htm](http://www.infed.org/biblio/non_formal_paradigm.htm)>
- TEACHER EDUCATION IN SUB-SAHARAN AFRICA (TESSA) (2012). Accessed 28 June 2012.  
<[www.tessafrica.net](http://www.tessafrica.net)>
- UNESCO (2006). "Non-formal education". *Guidebook for planning education in emergencies and reconstruction*. Paris, France: International Institute for Educational Planning, UNESCO.  
<[http://www.iiep.unesco.org/fileadmin/user\\_upload/Research\\_Highlights\\_Emergencies/Chapter12.pdf](http://www.iiep.unesco.org/fileadmin/user_upload/Research_Highlights_Emergencies/Chapter12.pdf)>

UNESCO (2011). Revision of the International Standard Classification of Education (ISCED). 36C/19, 5 September 2011. General Conference, 36<sup>th</sup> Session. Paris, France: UNESCO.

UNESCO (2012). Accessed 28 June 2012.

<[www.unesco.org](http://www.unesco.org)>

UNESCO/COMMONWEALTH OF LEARNING (2011). *Guidelines for open educational resources (OERs) in higher education*. Paris, France: UNESCO / Vancouver, Canada: Commonwealth of Learning.

## Appendix A

Recommended OER resources:

<b>Knowledge Cloud</b>	<a href="http://www.oerknowledgecloud.com">www.oerknowledgecloud.com</a>
<b>Commonwealth of Learning (COL)</b>	<a href="http://www.col.org">www.col.org</a>
<b>Connexions</b>	<a href="http://www.cnx.org">www.cnx.org</a>
<b>Creative Commons</b>	<a href="http://www.creativecommons.org">www.creativecommons.org</a>
<b>Harvard/MIT edX</b>	<a href="http://www.edx.org">www.edx.org</a>
<b>OER Africa</b>	<a href="http://www.oerafrica.org">www.oerafrica.org</a>
<b>OER ASIA</b>	<a href="http://www.oerasia.org">www.oerasia.org</a>
<b>Open Courseware Consortium</b>	<a href="http://www.ocwconsortium.org">www.ocwconsortium.org</a>
<b>TESSA (Teacher Education in Sub Saharan Africa)</b>	<a href="http://www.tessafrica.net">www.tessafrica.net</a>
<b>OpenLearn</b>	<a href="http://www.open.edu/openlearn">www.open.edu/openlearn</a>
<b>UNESCO</b>	<a href="http://www.unesco.org">www.unesco.org</a>

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## Dossier “Informalisation of Education”

### ARTICLE

# Professionalisation of Teaching in Universities: Implications from a Training Perspective

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### Abstract

While the professionalisation of teaching is not a new topic of pedagogical study, its consideration in today's training context is relevant from a three-fold perspective: 1) Integrating formal, non-formal and informal learning systems; 2) Lifelong learning; and 3) Competency-based training, where importance is placed on initial training and continuing education, and on professional development.

After a review of these three aspects, the article provides a brief characterisation of the professionalisation of teaching and the professional development of teachers. Finally, a number of implications regarding trainer training in higher education are analysed.

## Keywords

professionalisation, professional development, lifelong learning, competency-based training, trainer training, higher education

## *Profesionalización docente en la universidad: implicaciones desde la formación*

### **Resumen**

*Aunque el tema de la profesionalización docente no es nuevo como campo de estudio de la pedagogía, sí que resulta relevante su consideración en el contexto formativo de hoy en día, y lo es desde diferentes prismas: 1) desde la triple perspectiva de la integración de los sistemas de aprendizaje formal, no formal e informal; 2) desde la consideración del aprendizaje a lo largo de la vida; 3) desde la lógica de la formación basada en competencias, en la que se le da importancia a la formación inicial y continua, y que tiene un enfoque de desarrollo socioprofesional.*

*En este artículo, tras esta triple consideración, pretendemos caracterizar mínimamente cómo es hoy en día la profesionalización docente y el desarrollo profesional, para centrar la atención en el profesor desde una perspectiva profesional. Finalmente, se analizan algunas implicaciones de dicho planteamiento sobre la formación de los formadores en la educación superior.*

### **Palabras clave**

*profesionalización, desarrollo profesional, aprendizaje permanente, formación por competencias, formación de formadores, educación superior*

## 1. Introduction

Changes in the working environment, triggered mainly by globalisation and the introduction of information and communication technologies (ICTs), have created new training needs. The training institution and classroom have often proved incapable of satisfying them. Besides the number and inadequacy of reforms carried out, owing mainly to the constant development of employment demands in the light of such fast-moving, progressive change, we find that labour institutions or firms are themselves becoming training institutions and producers of immediate, specific qualifications and competencies. They stand as extraordinary systems that are capable of consolidating professional development and professionalisation strategies.

The demand for professional development training leads us to acknowledge that other potential training scenarios do indeed exist beyond formal settings and universities themselves. In this respect, it is necessary to talk of training in, or training provided by business organisations, associations, corporate universities, etc., such as those that are subsequently able to offer students employment, and also of other non-specialised pedagogical agents that are capable of complementing the training given by traditional teaching staff (practicum tutors, adjunct lecturers, guest lecturers, etc.).

Therefore we depart from the assumption that there are diffuse boundaries between the various systems for training and acquiring professional competencies, since the permeability/flexibility between systems is now their most obvious characteristic. To some extent, lifelong learning is being taken as the approach that can assume and perfectly integrate everything connected with formal, non-formal and informal learning contexts as a whole.

With these general observations about professionals' training, our intention is to illustrate just how complex it is to talk of professionalisation in general and of the professionalisation of teachers in particular. Therefore, we depart from the assumption that initial training, if there is any, is insufficient for the professionalisation of university lecturers. We also assume that such training needs to be understood from the logic of lifelong learning and the interconnection of scenarios – for training and work – to make it possible (Tejada, 2007, 2012).

Consequently, we feel compelled to focus on their points of reference to ensure that the issues raised by the study of the professionalisation of university lecturers are properly addressed. Finally, a number of implications regarding trainer training in higher education have to be mentioned.

## 2. Teachers as professionals, and their professionalisation

Today, the fact that teaching is regarded as a profession and teachers as professionals is nothing new. However, a very different matter is theoretically agreeing on the professionalisation of teaching and related concepts in this semantic field (teaching performance, professional status, professional identity construction, teaching career, promotion, remuneration, social recognition, working conditions, professional self-esteem, and occupational health).

Given the constraints on this study, we shall not go into this debate. However, it is worth noting just a few things, since such considerations are fundamental to addressing the issue of university lecturer training.

Le Boterf (1999) says that a *professional* is someone capable of managing a complex working situation. So, he opts for a definition that associates professionalism with competence. His proposal gives an explicit breakdown of the various components that characterise a professional:

- He/She is able to proceed properly, above and beyond his/her duties, in a specific context or situation.
- He/She is able to combine personal and environmental resources, which, in specific contexts, he/she is able to mobilise properly.
- He/She is able to transfer personal resources to situations that are required by the context.
- He/She is able to learn from experience, and learn to learn.
- He/She is able to commit to his/her work and to professional relationships with others.

By including teaching and the analysis of relationships between training and professionalism, which is of interest here, we could characterise the teaching profession under the following criteria (Shulman, 1998, in Fernández Cruz, 2006):



- A duty of service to others with a certain 'vocation'.
- An understanding of a corpus of theories or established knowledge.
- A qualified mastery of practical actions: skills and strategies that underpin professional practice.
- Exercising judgment under circumstances of inevitable uncertainty: not directly applying knowledge or skills, but exercising practical judgment under uncertain circumstances.
- A need to learn from experience, construed as the interaction between theory and practice.
- A professional community that develops quality and increases knowledge: being a professional means being a member of a profession that has certain public responsibilities in relation to individual practices.

The importance of this point of view is that it connects perfectly with the image that makes teachers identify with their work: the social function of teaching; a balance between theoretical and practical knowledge; the artistic nature visible in the complexity and singularity of the work; and the existence of a professional community that increases knowledge (Marcelo, 2009).

On the other hand, we depart from the assumption that *professionalisation* is a process that is articulated around the construction of a professional identity, professional competencies, access requirements, the associated training, the development of a professional career, and the processes of evaluation of professional performance (Tejada, 2009, 2011). Professionalisation as a process does not constitute the final state that occupations lead towards, but rather a continuous process that pursues their useful and responsible practice (Darling-Hammond, 2005). As such, it is a demand that stems from social, economic and labour development, and a desirable one at that, since it ensures better quality in professional performance (Murillo, 2007).

Likewise, it is possible to talk of *professional development* understood as a process through which trained teachers achieve high levels of professional competence and "expand their understanding of self, role, context, and career" (Duke & Stiggins, 1997). More specifically, it could be considered as the process of teachers' learning throughout their professional lives, which includes initial training, the time when they join the profession, in-service training (understood as formal, directed programmes), constant striving at local level (among peers, in teaching teams) and teachers' self-directed learning. This whole process ensures the development and strengthening of social, ethical and technical competencies within the framework of a profession under constant construction (Robalino, 2007).

In short, we understand the professional development of teachers as a gradual evolution in the performance of the educational function towards modes and situations of greater professionalism, which are characterised by the depth of critical judgment and its application to the overall analysis of the processes involved in teaching so as to act intelligently. It is an evolution constructed on the growth of the teacher as a person in every aspect, which is anchored firstly in the integration of basic structures of practical knowledge acquired through experience in the world of teaching and professional practice, and secondly in assistance with professional growth and improvement that teachers receive in the form of training. Adult development, the accumulation of experience, and training therefore appear to be at the root of the professional development of teachers (Villegas-Remser, 2003; Fernández Cruz, 2006, Nemiña et al., 2009, Marcelo, 2011).

Into the mix described above, it is necessary to add new working scenarios that are characterised by internationalisation, regional development, cooperation with work-based organisations, education reforms, the implications of social development, technological development, new pedagogies, institutional restructuring, new groups of students, etc., which in turn create new training needs. With their emergence, a variety of issues will need to be taken into account, such as the type of qualifications that university lecturers should have, the transformation that their role in the knowledge society should undergo, the conditions that need to be created to practise the profession in this new scenario, or the role that initial training and continuing education play in shaping professional qualification and professional development from a perspective of lifelong learning (Tejada, 2009; Tejada & Fernández Cruz, 2009).

In a context of independent lifelong learning, the *professional development* of teachers implies that they should (Mas & Tejada, 2012):

- Continue systematically to reflect on professional practice.
- Do research in the classroom.
- Incorporate, into their teaching, the results of research in the classroom and of academic research.
- Assess the effectiveness of their teaching strategies and change them accordingly.
- Assess their own learning needs.
- Collaborate with other professionals in an interdisciplinary manner (training-work).
- Incorporate ICTs and learning and communication technologies (LCTs) into their professional practice.

With these brief observations, which serve to bring the terms 'professional', 'professionalisation' and 'professional development' to the fore, we can consider that the main actors are the professionals. In this way, we are able to verify that the functions performed are specific, concrete and, to some extent, delimited (Navío, 2007; Fernández Enguita, 2009). We are referring to planning/programming, teaching, evaluation, tutoring, guidance, research, innovation and network facilitation, to name a few.

However, many teachers embark on their professional lives with obvious shortcomings in the mastery of professional teaching competencies. Sometimes, even the knowledge that they possess is too fragmented and decontextualised – even though it might be presented in the form of 'recipes' or ostensible skills – to intervene in instructional situations. This phenomenon gives rise to precarious employment and professional imposture. We would like to say that the lack of a specific training profile and of access requirements to the profession, very often means that the recruitment and selection processes do not yield the expected results and cannot provide any assurance of quality in professional practice (Mas & Tejada, 2012).

Finally, this characterisation of teaching profession, which also implies that an ethical code has to be available, throws up several problems. Even though much thought has been given to the issue (Hortal, 2002; Mauri, 2003; Martínez Navarro, 2010; Vázquez & Escámez, 2010), it is not possible to talk of a clear code of ethics that is shared by professionals of higher education. Something similar happens with the professional identity dimension. This is where a particular problem arises: university

lecturers very often identify themselves with the specialty and not with teaching, the latter of which becomes a somewhat secondary aspect of their professional practice. It is possible to corroborate that there is greater concern for updating and developing competencies that are more specific to the specialty than to teaching (e.g., psychopedagogical competencies) (Herranz, 2001; Beyjaard et al., 2004; Villa, 2008; Bain, 2008; Rial, 2008; Zabalza, 2009).

However, in the past few years, concerns about improving this professional profile have been growing, since there is an awareness of its importance to the quality of education; indeed, it becomes a determining factor of such quality. This is clearly exemplified by the way in which this profession is considered in Europe today. In a comparative and official manner, the characteristics of the teaching profession are included in the document *Common European Principles for Teacher Competences and Qualifications* (European Commission, 2005). While it refers to professionals in the non-university education system, in our opinion it is transferrable to university lecturers. According to the above-mentioned document, the principles of the profession are that it should be well-qualified, placed within the context of lifelong learning, mobile, and based on partnerships.

- A **well-qualified** profession. All teachers are required to be graduates from higher education institutions; all teachers are required to have extensive subject knowledge, a good knowledge of pedagogy, the skills and competencies required to guide and support learners, and an understanding of the social and cultural dimension of education.
- A profession placed within the context of **lifelong learning**. Teachers should be supported in order to continue their professional development throughout their careers; they and their education authorities and/or employers should recognise the importance of acquiring new knowledge, and teachers should be able to innovate and use evidence to inform their work.
- A **mobile** profession. Mobility should be a central component of initial and continuing teacher education programmes. Teachers should be encouraged to spend time working or studying in other European countries for professional development purposes.
- And lastly, a profession based on **partnerships**. Institutions providing teacher education should organise their work collaboratively in partnership with schools, education programmes and services, and with local working environments, work-based training providers and other stakeholders.

Regarding higher education lecturers, the same document considers the following to be important:

- Teacher education programmes should be delivered in masters and doctorate cycles to ensure their place in higher education.
- Partnerships between teachers in employment and work-based organisations and other stakeholders should be strengthened.
- Those responsible for training teachers and teacher trainers should have experience of classroom teaching practice and have reached a high level in the teaching competencies required of teachers.

Three levels of competencies have been considered of relevance to trainers, (European Commission, 2008):

- a) *Vocational competencies* that enable the trainer to train work-practice related, basic vocational and technical skills.
- a) *Pedagogical and social competencies* to facilitate didactic processes and the work with young people and colleagues, in particular fostering the integration function of training, mentoring, corporate learning elements and the effective transfer of knowledge.
- c) *Management competencies* to support so-called secondary training-related processes, including quality monitoring and assurance.

Vocational competencies are considered a prerequisite for becoming a trainer. However, most trainers lack pedagogical, social and management competencies, which have therefore become a priority for continuing education actions.

### 3. Implications for lecturer training

Having taken this open approach to the professionalisation of teachers, it is now necessary to make some observations about the implications for their training. We should depart from the fact that, within the higher education environment, university lecturer training does not enjoy a good bill of health. Serious efforts have been made, of course, in universities as a whole, driven by the dynamics of the process of building the European Higher Education Area (EHEA). The consequent reforms to curricula and the shift in the teaching-learning paradigm have given rise to a diversity of lecturer training programmes and also to the creation of a number of training support units. However, the various forums and studies on this issue continue to stress shortcomings in teaching competencies, as well as the difficulties that lecturers have in keeping their skills up to date. These shortcomings refer mainly to a lack of competencies in relation to new educational challenges (including individualised learning, preparing students to learn independently, mixed-ability classes, preparing students to make the most of ICTs, etc.) (Mas & Tejada, 2012).

In addition, these processes are not usually connected with either educational innovations or educational research. The incentives for lecturers to continue updating their teaching competencies through their professional careers are scarce.

In order to overcome this state of affairs, the basic implications could be:

1. To consider the professional profile and professionalisation as a framework of reference for training design: while there is no single understanding of 'professional profile' in the literature (and now is not the time to focus on the issues surrounding a single profile), it is indeed necessary to establish the different levels of qualification in accordance with the different scenarios of professional action and the demands thereof (tenured lecturer, adjunct lecturers, temporary lecturers, tutors, etc.). This consideration needs to be taken into account in the initial training and continuing education of our

professionals, in terms of shaping professional qualification and professional development from a perspective of lifelong learning.

From the professional development angle, it is also expedient to reflect on lecturer professionalisation. Regarding any professional profile, whatever the level of qualification, we are of the opinion that it is crucial to consider the process of professional development, taking account of employment trajectory and professional performance. In this respect, it is necessary to consider the different professional categories in accordance with the professional competencies assigned to them, and even in relation to a professional career as a whole (new, junior, senior and expert lecturer, training coordinator, manager, etc.) (Tejada & Fernández Cruz, 2009). Here, we shall avoid going into any further detail about the articulation of such a system (number of years spent at each stage or level, professional practices to be implemented, level of responsibility and institutional commitment, etc.). What is clear is that moving up through these stages is, at one and the same time, a professionalisation system.

In addition, emphasis should be placed on the conditions of professional practice, from the entry requirements to the evaluation of professional performance, both of which have an impact on a professional career.

2. Professional practice and action as points of reference and training strategies. Undeniably, the current professional action culture (albeit evolving) is totally out of date. The new demands for more collaborative approaches (Montero, 2011, González Sanmamed & Fuentes, 2011) to cope with professional requirements and challenges place us firmly on the path of the logic of teamwork, which may even be interdisciplinary in nature. This indicates that existing fragmentary approaches – departments, knowledge areas and the like – will need to be overcome. The new logic of curricular articulation (ensuing from the competency-based approach) and its development (involving the integration of theory and practice) (Korthagen, 2010) is destined towards a culture of teaching teams, inasmuch as it affects the design, development and evaluation of training, or subjects even, on which several lecturers may work in partnership. We also need to include three additional aspects, which are key in this scenario: reflection on and for the action, the ethical dimension, and the logic of continuing education.

In short, the logic of competency-based training implies a more integral kind of training aimed at professional problem-solving, which entails the reconstruction of content from the perspective of a productive logic, in close connection with the worlds of education and employment.

We believe that it is important to underscore that training plays a key role in professionalisation; it is closely related to practice and, indeed, *centred on practice*. This has repercussions for initial training and continuing education, and it is a direct consequence of a competency-based training approach. As far as initial training is concerned, this would entail supporting approaches such as the *dual education system* and *work-linked training*, where vocational training and work are coherently integrated, especially in the final periods of initial training (Tejada, 2012). We should not forget that these work-related practicum periods have a socialisation and professional inclusion value that is by no means negligible. Regarding continuing education, nobody disputes its practical orientation and close links to the real needs of training in the workplace. We are referring to *tailored in-service programmes*, using

strategies such as *mentoring*, *coaching*, etc., because of their impact on professional development (Tejada, 2006, 2007, 2012). Continuing education should be very flexible in terms of its articulation and the paths that lecturers can follow. The role that ICTs play in this setting is important, given their potential to articulate and serve as the vehicle for such education.

This point about new methodological strategies is nothing more than a consequence of the logic of competency-based training and the principles that govern it (De Miguel, 2006; Tejada, 2007). We are basically referring to social constructivism; from this perspective, we can activate basic and strategic learning modalities that are based on problems, case studies and professional action, which, in different social forms (groups, teams, partnerships) will allow us to implement other methodological strategies whose effectiveness has been more than proven in professional competency training and development. We are referring to research/action, self-directed learning, training workshops, quality circles, learning communities, etc.

3. The time for training: the roles of initial training and continuing education. In their contributions to this topic, various authors have underscored the lack of consistency between teachers' – or, in this instance, lecturers' – initial training and continuing education.

Initial training cannot provide lecturers with knowledge and skills that they need to develop throughout their professional careers (Montero, 2002). As we have maintained throughout this article, a lecturer's training and professional development should be considered a lifelong task, which should consequently be structured and funded. Training and professional development will be more effective if it is coherently coordinated on a national scale and properly funded. The ideal approach would be to establish an uninterrupted continuum of training and education that spans all the stages from initial teacher training to joining the profession, and then to continuing professional development throughout the whole career, which includes formal, informal and non-formal opportunities. This would mean that all lecturers would (a) take part in an effective induction programme in the first three years of service; (b) have access to structured guidance and be mentored by experienced lecturers or other relevant professionals throughout their careers; (c) take part in regular debates about training and development needs, in the context of a general development plan for the institutions where they work.

In addition, continuing education would benefit all lecturers if:

- They were encouraged and supported throughout their careers to expand and develop their competencies by formal, informal and non-formal methods, and could get their efforts recognised.
- They had access to other continuing professional development opportunities such as exchanges and secondments (irrespective of whether or not they are funded by official lifelong learning programmes).
- They had the opportunity to study (and the time required to do so) to obtain additional qualifications and to take part in higher education research and studies.
- More were done to foster creative partnerships between the institutions where lecturers work and work-based organisations, higher education and research centres, and other stakeholders

in order to support high-quality training and effective practices, and also to develop innovative local and regional networks.

4. One of the most important dimensions in our field of analysis is the content of trainer training. Professional competencies would be the guiding principles of the curriculum to be articulated. Content modules should be closely linked to competency units (Tejada, 2002; Mas & Tejada, 2012).

Nowadays, it should be borne in mind that the content to be selected/integrated into the training and education curriculum (initial and continuing) should be considered from the perspective of new reference parameters: modernisation; technological bases; digital and language literacy; the shaping of social, technological and economic networks and exchanges; the promotion of intra- and inter-institutional exchanges; discipline integration; and new fields of training.

Under these parameters, let's now consider the old and new content: tutorials, discipline didactics, student assessment, learning, motivation, new technologies, methodological strategies, practices, lecturer self-evaluation, subject coordination, planning, materials production, etc. (Mas & Tejada, 2012).

Likewise, taking content into account, training moment needs to be considered. It seems more relevant for initial training to address familiarisation with courses and programmes and the possibility of being able to intervene through expert support, and to develop the ability to reflect on practice, strengthening basic didactic training, etc. Thus, content associated with the technological evolution of the world of employment, trainer professionalisation, occupational health, ergonomics, preventing occupational burnout, etc. would be set aside for continuing education.

5. Creation of trainer networks: the creation of trainer networks undeniably plays a more important role in the global scenario, and will continue to do so. At this moment in time, the importance of some of them is already becoming clear, both inside training organisations and institutions (trainer intranets) and outside (extranets). We are also destined to support and include other professionals within the network: tutors, trainers and advisors. By doing so, we furthermore manage to transform the training network into an advice and support network.

From this perspective, we value advice because it enables us to share knowledge and information, it helps us identify professional problems and to seek alternatives, and also to motivate lecturers and directors to become involved in processes of change and improvement, both professional and organisational. Moreover, advice can be a good support for innovation and research as a professionalisation strategy. In this respect, it is possible to propose lines of actions, to coordinate innovation initiatives, to disseminate results, to provide resources, etc.

6. It would also be necessary to embrace the internationalisation of trainer training and education, both initial and continuing, thus broadening the socio-geographic horizons of such training. In turn, this would dovetail with one of the principles of Europe 2010: mobility. On this issue, there are examples of training and education programmes (initial and continuing) for inter-university and international trainers. Among its set of actions, the 2007/2013 Lifelong Learning Programme contemplates this consideration by highlighting training exchanges and the mobility of training professionals (Erasmus, Leonardo da Vinci, etc.).

7. Recognition, accreditation and certification of competencies: there should be opportunities for professionals to update their competencies. This entails the need to clarify qualifications, as we have already mentioned, and their equivalence according to the European Qualifications Framework (EQF, European Commission, 2008b). At one and the same time, it makes it crucial to have valid, transparent systems for the assessment, recognition and accreditation of formal, non-formal and informal learning of trainers.

8. Management of professional competencies. In recent years, competencies have become elements that facilitate training activities, and they are also playing a more important role in human resources management within institutions. The number of organisations that have adopted competency-based human resources practices and systems is by no means negligible. The move in this direction has been brought about by the need to seek and find solutions to management problems in new working environments (Fernández Cruz, 2008).

In this respect, new approaches are emerging, such as *professional competency-based management*, to open up new prospects for functional mobility, work motivation, and professional and personal progress. At one and the same time, they promote a new way of thinking, of 'learning to learn' in order to incorporate new knowledge to develop professional competencies to the full, or to generate new personal abilities and skills, all within an approach – as mentioned throughout this article – of lifelong learning.

## References

- BAIN, K. (2008). *O que fan os melhores profesores universitarios*. Santiago de Compostela: Tórculo Editores.
- BEYJAARD, D.; MEIJER, P. C. [et al.] (2004). "Reconsidering research on teachers' professional identity". *Teaching and Teacher Education*. Vol. 20, No 2, pages 107-128.  
<<http://dx.doi.org/10.1016/j.tate.2003.07.001>>
- DARLING-HAMMOND, L; BRANSFORD, J (eds.) (2005). *Preparing teachers for a changing world: what teachers should learn and be able to do*. Hoboken-New Jersey: Jossey-Bass/Wiley.
- DE LA HERRÁN, A. (2001). "Didáctica universitaria. La cara dura de la Universidad". *Revista Tendencias Pedagógicas*. No 6, pages 11-38.
- DE MIGUEL, M. (coord.) (2006). *Metodologías de enseñanza y aprendizaje para el desarrollo de competencias. Orientaciones para el profesorado universitario en el EEES*. Madrid: Alianza Editorial.
- DUKE, D. I.; STIGGINS, R. J. (1997). "Más allá de la competencia mínima. Evaluación para el desarrollo profesional". In: J. Millman & Linda Darling-Hammond (dirs): *Manual para la evaluación del profesorado*. Madrid: La Muralla. Pages 165-187.
- EUROPEAN COMMISSION (2005). *Common European Principles for Teacher Competences and Qualifications*.  
<[http://ec.europa.eu/education/policies/2010/doc/principles\\_en.pdf](http://ec.europa.eu/education/policies/2010/doc/principles_en.pdf)>



- EUROPEAN COMMISSION (2007). *Mejorar la calidad de la formación del profesorado*. COM (2007)392 final.  
<[http://ec.europa.eu/education/com392\\_en.pdf](http://ec.europa.eu/education/com392_en.pdf)>
- EUROPEAN COMMISSION (2008a). *Eurotrainer. Making lifelong learning possible. A study of the situation and qualification of trainers in Europe*.  
<[http://ec.europa.eu/education/more-information/doc/eurotrainer1\\_en.pdf](http://ec.europa.eu/education/more-information/doc/eurotrainer1_en.pdf)>
- EUROPEAN COMMISSION (2008b). *The European Qualifications Framework: a new way to understand qualifications across Europe*.  
<[http://ec.europa.eu/education/lifelong-learning-policy/doc44\\_en.htm](http://ec.europa.eu/education/lifelong-learning-policy/doc44_en.htm)>
- FERNÁNDEZ CRUZ, M. (2006). *Desarrollo profesional docente*. Granada: GEU.
- FERNÁNDEZ CRUZ, M. (2008). "El prácticum en la construcción del conocimiento profesional docente". In: E. Correa (coord.). *Vers une conceptualisation de la situation de stage: explorations internationales*. Sherbrooke: Éditions CRP.
- FERNÁNDEZ CRUZ, M. (2011). *Formación y desarrollo profesional del Docente. Profesionalización de los docentes universitarios* [Faculty access project]. Universidad de Granada.
- FERNANDEZENGUITA, M. (2009). "La profesión docente en España: reflexiones y sugerencias". In: M. Puelles (coord.). *Profesión y vocación docente. Presente y futuro*. Madrid: Biblioteca Nueva. Pages 119-138.
- GONZÁLEZ SANMAMED, M.; FUENTES, E. (2011). "El prácticum en el aprendizaje de la profesión docente". *Revista de Educación*. No 354. Pages 47-70.
- HORTAL, A. (2002). *Ética general de las profesiones*. Bilbao: Desclée de Broywer.
- KORTHAGEN, F. A. (2010). "La práctica, la teoría y la persona en formación del profesorado". *Revista Interuniversitaria de Formación del Profesorado*. No 68, pages 88-101.
- LE BOTERF, G. (1999). *L'ingénierie des compétences*. Paris: Éditions d'Organisation.
- MARCELO, C. (2009). "Professional Development of Teachers: past and future". *Sisifo. Educational Sciences Journal*. No 8, pages 5-20.
- MARCELO, C. (coord.) (2011). *Evaluación del desarrollo profesional docente*. Barcelona: Editorial Davinci.
- MARTÍNEZ NAVARRO, E. (2010). *Ética profesional de los profesores*. Bilbao: Desclée de Broywer.
- MAS, O.; TEJADA, J. (2012). *Docencia universitaria. Funciones y competencias*. Madrid: Síntesis (in press).
- MAURI, M. (2003). "Los aspectos morales de la docencia universitaria". In: B. Roman Mestre (coord.). *Por una ética docente*. Bilbao: Grafite Ediciones. Pages 143-162.
- MONTERO, L. (2002). "La formación inicial: ¿puerta de entrada al desarrollo profesional?". *Educar*. No 30, pages 69-89.
- MONTERO, L. (2011). "El trabajo colaborativo del profesorado como oportunidad formativa". *CEE. Participación educativa*. No 16, pages 69-88.
- MURILLO, F. J. (2007). *Evaluación del desempeño y carrera profesional docente. Un estudio comparado entre 50 países de América y Europa*. Santiago de Chile: UNESCO.
- NEMIÑA, R.; GARCÍA RUSO, H.; MONTERO, L. (2009). "Desarrollo profesional y profesionalización docente. Perspectivas y problemas". *Profesorado. Revista de Currículum y Formación del profesorado*. Vol. 13, No 2, pages 1-13.
- NAVÍO, A. (2007). "El formador como profesional: dilemas en el contexto de la formación para el empleo". *II Jornadas de Formación y Orientación para el Empleo*. Seville (19-23 November).

- OECD (2009). *Los docentes son importantes: atraer, formar y conservar a los docentes eficientes*. Paris: OECD.
- RIAL, A. (2008). "Diseñar por competencias: un reto para los docentes universitarios en el Espacio Europeo de Educación Superior". *Innovación educativa*. No 18, pages 169-187.
- ROBALINO, M. (2007). "Los docentes pueden hacer la diferencia; apuntes acerca del desarrollo profesional y el protagonismo docente". *La professionnalisation des enseignants de l'Education de base: Les recrutements sans formation initiale*. Séminaire International, Sèvres (11-15 June).
- TEJADA, J. (2002). "La formación de formadores. Apuntes para una propuesta de plan de formación". *Educar*. No 30, pages 91-118.
- TEJADA, J. (2006). "El prácticum por competencias. Implicaciones metodológico-organizativas y evaluativas". *Bordón. Revista de Pedagogía*. Vol. 58, No 3, pages 121-139.
- TEJADA, J. (2007). "Estrategias formativas en contextos no formales orientadas al desarrollo socioprofesional". *Revista Iberoamericana de Educación*. No 43/6, pages 1-12.
- TEJADA, J. (2009). "Profesionalización docente en el escenario de la Europa del 2010. Una mirada desde la formación". *Revista de Educación*. No 349, pages 463-477.
- TEJADA, J.; FERNÁNDEZ CRUZ, M. (2009). "La cualificación de los actores de la formación: una mirada desde la profesionalización docente". In: J. Tejada [et al.] (coords). *Estrategias de innovación en la formación para el trabajo*. Madrid: Tornapunta. Pages 13-44.
- TEJADA, J. (2011). "Evaluación del desarrollo profesional docente basado en competencias". In: C. Marcelo (coord.). *Evaluación del desarrollo profesional docente*. Barcelona: Editorial Davinci. Pages 23-47.
- TEJADA, J. (2012). "La alternancia de contextos para la adquisición de competencias profesionales en escenarios complementarios de educación superior: marco y estrategia". *Educación XX1*. Vol. 15, No 2, pages 17-40.
- TEJADA, J. (2012). "La formación de competencias profesionales a través del aprendizaje servicio". *Cultura y Educación* (in press).
- VÁZQUEZ, V.; ESCÁMEZ, J. (2010). "La profesión docente y la ética del cuidado". *Revista Electrónica de Investigación Educativa*. Special issue. Accessed 12 September 2011.  
<<http://redie.uabc.mx/contenido/NumEsp2/contenido-verdera.html>>
- VILLA, A. (2008). "La excelencia docente". *Revista de Educación*. Extra issue. Pages 190-191.
- VILLEGAS-REMSER, E. (2003). *Teacher professional development: an international review of the literature*. UNESCO.  
<[www.unesco.org/iiep](http://www.unesco.org/iiep)>
- VOLMARI, K. (2008). *Networking in VET teacher education in Europe: What's in it for me?* Accessed 15 November 2008.  
<[http://projects.ambernet.it/timabalt/sa\\_files/9\\_Volmari.pdf](http://projects.ambernet.it/timabalt/sa_files/9_Volmari.pdf)>
- ZABALZA, M. Á. (2009). "La convergencia europea en la universidad" [presentation]. *Actas VI Congreso Internacional Universidad y Educación Especial. Atención a la diversidad: un reto para la convergencia* [CD format]. Cuenca, 30-31 March and 1-2 April.

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