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Table of Contents

Editorial
Introduction to Open Praxis volume 8 issue 4
Inés Gil-Jaurena 281

Research articles
Pedagogical framing of OER—The case of language teaching
Linda Bradley, Sylvi Vigmo 283

Web Strategies for the Curation and Discovery of Open Educational Resources
Vivien Rolfe 297

Student Assessment of Quality of Access at the National Open University of Nigeria (NOUN)
Juliet Obhajajie Inegbedion, Folorunso Israel Adu, Christine Yetunde Ofulue 313

Role of Faculty Development Forums in Virtual Teaching Environment:
A Case Study of Marketing Research & Case Group
Rizwan Saleem Sandhu, Sajid Hussain 325

Innovative practice articles
Building Capacity for Open and Distance Learning (ODL) in West Africa
Sub-region: The Pivotal Role of RETRIDAL
Clifford Amini, Oluwaseun Oluyide 337

Teaching Project Management on-line: lessons learned from MOOCs
Rita Falcao, Luis Fernandes 351

Book reviews
Book review of Minds Online: Teaching Effectively With Technology
Nathan Sand 359

Book review of Developing Adaptive and Personalized Learning Environments
Jason R Ward 361

List of reviewers 2016 (volume 8) 365
Introduction to Open Praxis volume 8 issue 4

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This last Open Praxis issue in 2016 is an open issue that includes four research papers, two innovative practice papers and two book reviews. Open Praxis, a peer-reviewed open access scholarly journal focusing on research and innovation in open, distance and flexible education, publishes contributions which demonstrate creative and innovative research, and which highlight challenges, lessons and achievements in the practice of distance and e-learning from all over the world. In this issue, 14 authors from Sweden, United Kingdom, Nigeria, Pakistan, Portugal and the United States of America have contributed to the different sections.

As a novelty from now on, Open Praxis will include authors’ ORCID identifiers. As stated in the ORCID website:

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Open Praxis will include authors’ ORCID ID in each paper and metadata; once the paper is published, authors will be able to link their Open Praxis paper from their ORCID profile, using the CrossRef Metadata Search. Past, current and potential future Open Praxis authors are invited to join the ORCID community (https://orcid.org/register) and to include their ORCID ID in their Open Praxis profile.

Coming back to the content of this issue, the research papers section begins with two papers related to open educational resources (OER). The first one, by Linda Bradley and Sylvi Vigmo (Pedagogical framing of OER - The case of language teaching), analyze the case of Lektion.se, a Swedish repository of OER, and focus on teachers’ participation in it, specifically for the subjects Swedish as a Second Language and Swedish for Immigrants (thus, OER for language learning). The findings identify drivers and barriers for sharing OER, related to aspects such as the structure of the repository itself or the lack of awareness of the full implications of OER.

Vivien Rolfe writes the second paper on OER; in her study, entitled Web Strategies for the Curation and Discovery of Open Educational Resources, presents an impact and sustainability analysis some years after a series of OER projects were developed in the UK. In the case of De Montfort University, they opted for using Wordpress and SEO techniques for hosting OER and making them discoverable. The paper details the technological aspects and results in this particular case, and reflects about its effectiveness providing practical insight and recommendations to readers interested on sustainable OER web distribution.

The contribution by Juliet O. Inegbedion, Folorunso I. Adu and Christine Y. Ofulue, Student Assessment of Quality of Access at the National Open University of Nigeria (NOUN), analyzes students’ perspective about admission and registration processes that they face when they want to access to NOUN study programmes. After introducing the history of NOUN and its commitment with providing higher education for all, the authors study the quality of the access processes, which can facilitate the fulfilment of the university mission. The findings show what students find more and less clear and useful, providing guidance to the institution for improvement of access to NOUN.
The last research paper by Rizwan Saleem Sandhu and Sajid Hussain (*Role of Faculty Development Forums in Virtual Teaching Environment: A Case Study of Marketing Research & Case Group*) reports on the contribution of a faculty forum to professional development and capacity building of participants. The experience, where faculty present, listen, read, share, discuss, etc. in the forums, is valued by for the development of teaching skills in virtual environments. The authors report on the effectiveness of this modality for capacity building.

The innovative practice paper section opens with another contribution related to professional development and capacity building; Clifford Amini and Oluwaseun Oluyide (*Building Capacity for Open and Distance Learning (ODL) in West Africa Sub-region: The Pivotal Role of RETRIDAL*) describe and value the experience of the Regional Training and Research Institute for Distance and Open Learning (RETRIDAL), which develops different workshops and research in order to build a network of expertise in ODL in the region. The effort and impact of this centre are highlighted in the paper.

Finally, Rita Falcao and Luis Fernandes (*Teaching Project Management on-line: lessons learned from MOOCs*) explore various MOOCs as a way of identifying appropriate teaching methods and strategies to introduce in their online courses about the same topic (project management). The benchmarking and meta-analysis of MOOCs has facilitated the design of an e-learning course that includes innovative elements and a student-centered approach; the process the authors have followed is narrated in the paper.

Finally, the issue includes a review by Nathan Sand of the book *Minds Online: Teaching Effectively With Technology*, published in 2014; and a review by Jason R. Ward of the book *Developing Adaptive and Personalized Learning Environments*, published in 2016. Both books are of interest for open and online teaching.

In this issue last issue in 2016, we specially thank all the reviewers who have collaborated in the four issues that compose volume 8. Their names and affiliations are listed in the full issue and in the journal website (http://openpraxis.org/index.php/OpenPraxis/pages/view/reviewer).
Pedagogical framing of OER—The case of language teaching

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Abstract

This study investigates what characterises teachers’ pedagogical design of OER, and potential affordances and constraints in pedagogical design in an open education practice, when contributing to a Swedish repository Lektion.se. The teachers’ framing of the OER shared on the repository included the analyses of a delimited number of OER for learning Swedish. The analytical work with analysing what characterised the OER, was followed up with teacher interviews to explore teachers’ incentives for sharing. The OER selected for analysis were investigated linked to the features given in the repository, to identify what distinguished different categories of OER when framed by the teachers. The OER displayed a continuum of ways of framing an activity, though the majority was represented by low levels of description, which afforded less guidance. The teachers expressed a positive attitude towards sharing. The findings suggest that OER need to be defined and supported by web features to enable going beyond reuse.

Keywords: OER; sharing; participation; pedagogical design; repository

Introduction

The development of Web 2.0 has led to new arenas for learning in which participation and contribution have a prominent position (Drotner, 2008; Dohn, 2009). Part of this development has been the increased databases of online materials for learners in general, and of particular interest for this paper the vast possibilities brought forth for teaching and learning activities in terms of online open access. What these potential transforming conditions can bring to education, are still under scrutiny from different perspectives and with challenging and critical questions. Open educational practice (OEP) and Open Educational Resources (OER) are such areas, commonly referred to as movements or initiatives. OER have not been as adopted in teaching and learning practice as first assumed when the concept was introduced at the UNESCO conference in 2002 where OER were defined as “educational resources that are freely available for use, reuse, adaptation, and sharing” (Nikoi & Armellini, 2012, p. 166). Similarly, Pawlowski and Bick (2012) explain OER as “freely accessible resources for educational purposes” (p. 209). A great deal of what is posted in online learning repositories is created by teachers to be used with students, in the classroom as well as online (Clements & Pawlowski, 2012; McGreal, 2011).

To be able to define implications of OER, Wiley (2014) developed the so-called 5Rs framework (retain, reuse, revise, remix, re-distribute). The framework describes the following rights for access to materials: retain (the right to make, to own and control copies of content), reuse (in a wide range of ways), revise (adaptation, making adjustments, modifications and alterations), remix (combinations with the original or revised content with other open content, thereby making something new such as for example a mashup), and finally, re-distribute (sharing the new content with others) (Wiley, 2014).

Purpose

This paper aims to scrutinise a repository of OER from the point of view of what characterises teachers’ pedagogical design of OER in an open education practice and what the affordances and
constraints are in teachers’ pedagogical design in the sharing of OER. To date, there is little research concerning teachers’ pedagogical design of OER and the potential implications of pedagogical foundations for OER which is the overarching interest of this study.

The focus in our study is the Swedish repository of OER, Lektion.se, which is well-known in the Swedish teacher community. The teachers’ uploading and sharing of learning activities and rationale for participation will be explored. The number of teachers who actively contribute by sharing their OER in the repository is low, however, when compared to the number of members in Lektion.se.

In the light of escalating migration, Swedish as a Second Language (SAS) and Swedish for Immigrants (SFI) are two subjects which are becoming increasingly important. With this as a point of departure, we argue it is of interest to shed light on teachers’ conditions for contributing and sharing OER in an online space designed specifically for teachers. The focus on Swedish for Immigrants (SFI) and Swedish as a Second Language (SAS) will serve as an example, due to its increased societal interest and potential interest on a more generic level linked to implications of the escalated migration. The number of posted OER to these two subject areas is low, which also reflects the state of OER in other subjects in this repository.

To address the conditions for pedagogical design of OER by the community of teachers in the Swedish repository, Lektion.se, the following research questions were developed:

1. What characterises teachers’ pedagogical design of OER in open education practice, when digitally mediated on the repository Lektion.se?
2. What are the potential affordances and constraints in pedagogical design in teachers’ sharing of OER on the repository Lektion.se?

Framing the concept of OER

While it can be said that MIT introduced open educational materials in 2001, we have still not reached a shared understanding of how to conceptualise OER, and the “fuzzy” concept is still being negotiated (Pawloski & Bick, 2012; Nikoi & Armellini, 2012). Tuomi (2013) argues we must “provide a more detailed picture of the conditions of openness and the nature of open resources” (p. 60) to be able to discuss what OER can imply for learning. Furthermore, it is argued that OER could have an impact on the transformation of education, and could bring about “new forms of collaboration and production” (Tuomi, p. 73), together with “calls for a paradigm shift” for OEP (Nikoi & Armellini, 2012, p. 167). This in turn could ensure the development of high-quality OER as well as stimulate pedagogical innovation.

Expectations have been high, but not yet been reached when it comes to adopting OER in education (Pawlowski & Bick, 2012). Concerning the impact on higher education, it has been argued that the value of OER is yet to be clarified, and there are issues in need of being addressed for OER to have an impact on education (Nikoi & Armellini, 2012). We have still not “reached a critical threshold” (2012, p. 167). In addition to this discussion, in order to understand OER we need to move from the current state as a “descriptive, prescriptive, and often speculative” perspective (2012).

With respect to OER as part of the learning process when linked to the UNESCO definition, Blythe (2014) suggests that learning is a “process that requires editable, digital materials in keeping with the complex and dynamic nature of learning and teaching” (p. 662). Moreover, education is discussed as closed or open, which in turn indicates different approaches to learning and teaching materials. While a closed system implies traditions characterised by printed material, spaces for learning confined to classrooms and the focus of learning as knowledge as packaged into discrete units that are transmitted. Open education, on the other hand, is based on quite different assumptions. Open
education assumes learning as creation in collaboration with others, including open digital materials that can be easily adapted to contextual conditions and requirements (Blythe, 2014, p. 662). Referring to Weller (2010), the granularity of OER is explained as part of a continuum, in which we can find large- and small-scale OER. The first can be exemplified with an online university course at one end of the line and with a lesson plan on the other end (Blythe, 2014). Similarly, Pawlowski and Bick (2012) referring to Pirkkalainen and Pawlowski (2010), also define OER as sharing “instructional/didactic designs and experiences” of lessons, besides more physical artefacts such as textbooks (p. 209).

Some issues concerning OER remain unresolved for researchers and according to Wiley, Bliss, and McEwen (2014) there are five remaining challenges that need to be tackled: metadata to enable OER search, sustainability linked to costs, imbalance between subjects, and addressing contextual aspects and remixing. Regarding the latter issue, Wiley, Bliss and McEwen (2014) suggest that there is little empirical evidence that users are engaged in more than reusing.

From a specifically critical focus on the OER movement in higher education, Knox (2013) has reviewed current literature to investigate what foundations were given for encouraging OER and what views of learners were being implicitly assumed of relevance for teaching and learning. The findings indicate that there is a general lack of pedagogical rationale and theoretical framework connected to OER. Besides arguing for a critical exploration of the OER movement, Knox proposes the need for a critical exploration of the rationale for OER in higher education, research on the role of pedagogy, which tends to be overlooked when OER are connected to self-directed learning, as well as focusing on pedagogical implications of OER in education (Knox, 2013).

**Transforming conditions for teaching and learning**

During the last decades, research on teaching and learning on digitally mediated sites has received a great deal of attention, pointing in particular to questions of what potential consequences digital technologies may have on educational practices. Their transforming dimensions as cultural tools (Säljö, 2010) have been argued to bring social implications (Erstad, 2011) and are not easily compared with previous development of technologies.

Human action as situated in social practices and the development and appropriation of technologies lead to a “performative nature of learning” according to Säljö (2010, p. 61). In a similar vein, Jenkins, Clinton, Purushotma, Robison and Weigel (2006) framed a participatory culture that described how the affordances of digital tools enable ways of producing content, which increasingly have involved collaboration, co-authoring, publishing and sharing material online as part of social practices (Bradley & Vigmo, 2013; Godhe, 2014). This also points to an increased focus on collaborative dimensions of learning that depart from interests in learning as part of human social practices (Säljö, 2010; Ludvigsen, Lund, Rasmussen & Säljö, 2011; Vygotsky, 1978).

As a consequence of learning about digital media as contextual and not being neutral, it follows that learners’ engagement can be seen as part of “cultural forms”. Websites are designed according to certain “rhetorics” that can for example offer opportunities to link to other sites, to navigate in special ways, and offer various ways of user interaction (Buckingham, 2006, p. 265). Similarly, from a sociological perspective, Selwyn (2011) points to the over optimistic expectations, or “techno-romantic” views of what technologies per se will add to a learning situation, and argues there is cause to adopt a more critical stance towards the uses of technology in educational contexts. The critique is directed towards a general rhetoric not departing from realistic uses of technology in practice. In the above sections we have displayed how pedagogical issues have been conceptualised to indicate some of the argued transforming conditions for teaching and learning, contextualised as social and collaborative activities.
The next section discusses pedagogical rationales as they are framed in research on OER, in particular in relation to language teaching and learning.

**Focused studies on OER in language learning and teaching**

We now turn to some recent empirical studies to illustrate findings of OER research in language learning and teaching.

Though sharing and reuse can be argued to have been part of previous practices, the creation and sharing, and reuse of activities can now be done much more easily under different conditions with web resources. In spite of this, OER have not been widely adopted by teachers and the reuse and sharing have not been visible enough for teachers, indicating difficulties with access, and therefore leading to a low uptake (Beaven, 2013).

LORO² was developed as a resource with the aim of creating a repository for language learning and teaching online and from a distance, with over 700 resources for six languages (Beaven, Comas-Quinn & Sawhill, 2013; Comas-Quinn & Fitzgerald, 2013). Findings from studying LORO indicated that the repository was used for finding resources, for inspiration and for ensuring a more standardised teaching practice. Furthermore, it was found that time for development of teaching practices, an increase in their confidence, the appreciation of having colleagues’ feedback on own uploaded resources and increased quality of teaching material, were of importance, as teachers would prepare and choose their best work for sharing (Comas-Quinn & Fitzgerald, 2013). Of particular interest was that pedagogy is “embodied in the open resources available” and that this, according to the language teachers led to “experimentation, collaboration and discussion” (Comas-Quinn & Fitzgerald, 2013, p. 5).

In a study with the intention of combining an interactionist perspective on learning with a constructivist one, language learning was explored as “working ‘with’ language” (Dixon & Hondo, 2013, p. 111). This descriptive study involved an online resource for learning German, *Deutsch Interaktiv*, framed as a self-paced resource offered for free. This online resource is described as a programme, mainly addressing receptive language learning activities, that is listening and reading, thus lacking social aspects of language in use. Regarding notions of OER, the perspective taken in this study was the re-purposing of an online programme as an OER (Dixon & Hondo, 2013). Openness in this study can be interpreted as open for integration of resources, rather than resources being open in the sense implied in the 5R framework.

The iTILT project (interactive Technologies in Language Teaching) was investigated as an OER that focused on the use of interactive whiteboards to encourage communication among language learners together with their teachers who participated in training during a year (Whyte, Cutrim Schmid, van Hazebruck Thompson & Oberhofer, 2014). To investigate practices from an action research perspective with 40 language teachers from classrooms in seven European countries, more than 200 short videos were captured. Together with other training materials with comments, the video clips were made available online. The aim was to investigate how OER can enhance open practices in particular together with interactive whiteboards (Whyte et al., 2014). Based on findings from previous research, teachers indicate several foci for continued development of the OER field; quality assurance as one aspect linked to teacher education, pedagogical issues and teachers’ continued development (Whyte et al., 2014).

To summarise, the studies presented serve to exemplify how development and research have addressed teaching practices, and explorations of resources in various teaching and learning contexts. The research studies presented, demonstrate that some have adopted an evident pedagogical framing, situating the uses of OER in an already developed structure aimed at teaching...
and learning a language. The aims of these studies were to integrate present structures, but also develop and extend the teaching and learning space by including other resources and links.

**Methodological approach**

This section describes the data collected. Further, it displays the context, and how the analytical processes were performed.

**Context**

The study is based on teachers’ online postings and uploaded OER in Lektion.se, the largest Swedish repository of OER with over 230,000 members, a majority being teachers since affiliation to a school is among the prerequisites for membership. The Lektion.se repository hosts a vast number of OER, approximately 27,000, representing all school subjects and levels. The present study focuses on OER tagged by teachers either as Swedish as a Second Language (SAS) or Swedish for Immigrants (SFI). At the point of designing the web site in 2004, the original intentions from the creators were for teachers to easily connect with each other through an open educational space Lektion.se used *lektion (lesson)* instead of *OER*. The name Lektion.se would symbolise an arena that teachers were used to in their daily practice.

On the web, Lektion.se promotes itself as a database with learning and teaching materials produced by teachers for teachers; resources which can be accessed for free once being a member. On the site, it is declared that teachers will be able to access *thousands of tips and ideas for teaching* (translation from Swedish). Apart from OER, there are also other resources available such as a teacher forum enabling social and collegial exchange, available job positions and an archive with a selection of links and services for teachers.

**Data**

The data consisted of posted OER during a delimited time period of three months from March to May 2015. In total, 40 OER were shared under the two selected subjects, Swedish as a Second Language and Swedish for Immigrants, covering the levels from Swedish primary to upper secondary level. These OER were posted by 17 teachers, of which a majority only shared one OER, while the most active teacher shared 8 contributions.

Further, interviews were made with participating teachers around the conditions of sharing in order to increase the understanding of teachers’ engagement in sharing. All 17 teachers were contacted through the mailing tool in Lektion.se and six volunteered to be interviewed. They were asked five open-ended questions regarding frequency in posting, reasons for posting, how the site was situated in their teaching, their reasoning about why few teachers post OER, and other online resources they used. The five questions were:

1) How often do you contribute by posting on Lektion.se?
2) Why do you contribute by posting on Lektion.se?
3) How do you use Lektion.se in your teaching?
4) There are many registered teachers on Lektion.se but only few contribute by posting; what do you think are the reasons for that?
5) What are some other online platforms you use in your work?

Through scrutinising specific areas within language learning, that is the examples of Swedish as a Second Language and Swedish for Immigrants, a delimited representation was offered of the OER posted on Lektion.se. The aim was to illustrate and exemplify a restricted number of OER with
concrete examples to enable an in-depth qualitative analytical perspective regarding teachers’ pedagogical design, and potential affordances and constraints of sharing OER in the context of Lektion.se. Multiple rounds of analysis of OER were carried out to address the nature of the OER teachers uploaded.

When submitting an OER to Lektion.se, tagging is requested. There are a number of pre-selected OER type options for the contributors to choose from in a drop-down list in alphabetical order in Swedish such as assignment, article, discussion points, own research, help to students, group work. However, it is also possible to enter a new key phrase if any of these types should not apply to the OER in question. Further, according to the repository instructions, each posted OER should be provided with a description of what it is about and how the OER has been used, by entering information in a text field. This design enables the teachers to get an idea about the material before downloading. The system accepts most file types; uploaded files are, however, automatically converted into .pdf files. The incentive behind this procedure is that most people can open this file format (Lektion.se, instruction video for teachers). However, assuming that not all teachers are aware of this, there may be some constraints regarding editing, like revising and remixing according to Wiley’s (2014) framework.

The OER in Lektion.se are constituted by information on the start page of the OER; Author (Författare), Date (Datum), Subjects (Ämnen), Level (År), Lesson type (Lektionstyp) as well as the description of the learning description (Beskrivning). On the top right, there is a link for downloading the OER lesson (Ladda ner lektionsfil).

![Figure 1: The interface displayed on the start page of the OER How does it smell? (Hur luktar det?), when clicking on an OER link where the information about the OER is presented. The description (Beskrivning) is highlighted with the red square in the left column. (See Table 1, Level 2 with a translation of the description into English).](image)

Concerning the social media dimension (Figure 1) this particular OER has received 4 likes. This feature also becomes visible when searching among “Popular lessons”, which provides the most
liked OER at the top of the list displayed as a result of a search. All 40 OER had likes (thumbs up) from other participants for the OER. 12 had 1–9 likes, 20 had 10–19 likes, and 8 had between 20 and 50 likes. Due to lack of teachers discussions connected to the OER selected for our study, this feature is not within the scope of the study. This could be a limitation, since no data was possible to retrieve to address the research questions. Further, our data did not include the number of downloads made for each lesson since they were regarded as not contributing to the interests of the present study.

Figure 2: The downloaded OER lesson *Hur luktar det? (How does it smell?)*
In this case, the representation modes are text and image in a fill-in exercise.

The combination of reading the instruction on the start page of the OER and then downloading the OER lesson provides an interested teacher with information of the intended application of the OER. Figure 2 shows the downloaded OER lesson from Figure 1 of choosing the right smell connected to the drawn images.

**Analysis and results**

We categorised the OER provided by the teachers, from the point of view of descriptions of the learning description for the OER (see red square around Beskrivning in Figure 1) and the chosen OER type. The descriptions were scrutinised in-depth together with investigations of the pedagogical design of the OER activity. Further, the results of the interviews are discussed.
Scrutinising pedagogical descriptions

In the instructions required by Lektion.se concerning sharing and uploading OER, teachers were asked to describe “how the lesson has been used and what it is about” (translated from Swedish). In other words, the only instructions given to the teachers indicate focusing on the application of the OER in a learning context, together with attributed information about the objective of learning.

Investigating and analysing the teachers’ descriptions, resulted in OER ranging from providing basic information to expanding on formulations to assist others in their potential reuse of the OER. Analytically, we identified three levels of descriptions for the OER, (see Table 1). These descriptions were also scrutinised concerning if or how they were related to other qualities of open other than reuse, as described by Wiley (2014). The 5Rs were used to investigate whether the teachers’ design could indicate affordances and constraints in the sharing of OER in this particular repository and what was found as characteristic of the teachers’ pedagogical design of their OER.

| Level   | Learning context | Learning instruction                                                                                                           | Intended learning outcomes                                                                 |
|---------|------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Level 1 | Analysing a debate article | Information not given by the teacher                                                                                         | Information not given by the teacher                                                      |
| Level 2 | A paper with pictures of images which smell differently | A short work task where pupils get words dealing with smell. The pupils should also pair the right word with the right image. SAS and possibly SFI. | Information not given by the teacher                                                      |
| Level 3 | Let the dice decide! The students will let the dice decide what an image will look like. | Each student will get a piece of paper with 6 squares. In each square there are six numbered alternatives. They choose environment with the dice. They google images of objects that the dice gives them. Then they draw the images on the paper, color them, and cut them out. After that, they describe their image orally or in text. Target group: SAS. | They get to practice vocabulary, concord and prepositions. The more advanced students can write a story based on the twisted picture. They also practice fine motor ability by elaborating a bit. There are many suggestions of how to collaborate, practicing classroom language. |

Table 1 displays three examples of OER with different levels of description. They are becoming more and more elaborate, from providing a learning context only (Level 1), to providing a learning context and learning instruction (Level 2), and finally providing learning context, learning instruction and intended learning outcomes (Level 3). The examples under each level were translated from Swedish (Level 2 in the table is displayed in Figure 1, description (Beskrivning)).

In Level 1, only the Learning context is provided. In the example in Table 1, the teacher has introduced the activity as Analysing a debate article and nothing more (OER posted 6 May, 2015). Thus, the description to this exercise is neither giving any guide to other teachers nor opening for other ways of appropriating the OER. This approach in describing the activity and learning context was the most prominent among the 40 analysed OER, 19 belonging to this category (see Figure 4 below, which is attributed to Level 1).

In Level 2, the Learning context is complemented with a Learning instruction (see Table 1). This particular example introduces an OER with the Learning context that “A paper with pictures of images which smell differently” (OER posted 27 May, 2015). The following Learning instructions accompany the Learning context with suggestions of how to apply the OER in the classroom “A
short work task etc. . . etc”. Writing a *Learning instruction* together with providing a *Learning context* was represented by 10 out of the 40 posted OER.

The third example, Level 3, illustrates a more elaborated approach providing *Learning context, Learning instruction* and *Intended learning outcomes* (See Table 1). The *Learning context* to the OER *Let the dice decide!* (OER posted 20 May, 2015), opens up for ways of using the OER. Further, *Learning instructions* describe the activity in detail, in terms of suggested procedures in the classroom. Also, this example specifically mentions learning as situated in a classroom, i.e. also providing *intended learning outcomes*. 11 of the 40 analysed OER were identified as Level 3, a more elaborated pedagogical framing by the teachers.

Concerning the OER types, the most common representation and visualisation was text in combination with images or fill-in exercises. 14 were pure text, 2 were videos and 2 PPT presentations. Categorising the OER *types* in each of the 40 OER, the learning activities were; speaking (12), writing (7), grammar (4), a combination of listening, reading and speaking (3), a combination of writing, speaking, reading (3), word practice (3), culture (3), reading—vowels (2), mathematical concepts in Swedish (2), language history (1).

In sum, when teachers share a more elaborated description of the pedagogical activities with the downloaded OER activity: *Learning context, Learning Instruction* together with *Intended learning outcome* it facilitates for other teachers to use the OER.

**To share or not to share—teachers’ reasoning about a sharing OER and open educational practice**

The analysis of the six interviewed teachers contributed to insights into the conditions around online sharing of open teaching and learning resources. The views of the respondents were quite uniform in terms of answers to the five questions identified in the interviews. Their reasoning contribute to shedding some light on issues that need further research. To the first question, dealing with frequency in posting, the outcomes of the interviews corroborate that there is a large number of members on the site although few are engaged in posting OER. Generally, teachers are periodically involved. However, one aspect raised by the respondents, who do share, is that teachers would like to give others the advantage they have had in obtaining materials themselves.

To the second question of reasons for posting, the incentives for contributing are expressed in terms of the environment being a supportive one where teachers appreciate getting feedback and “likes” of work performed in an extended meeting space with colleagues also outside of the physical space at work. An opportunity to get response from others is a strong driving force by those who are active in sharing their resources. There is a notion that visualising what is done in a sharing-culture is a positive thing. Another reason for posting is to share ideas with other teachers of what has worked in the classroom. This points to social and collegial dimensions of importance for contributing.

Concerning the third question of how using the site is situated in teaching, it is used as a bank of ideas for teaching. Since the tool has a transparent search function when time is short between classes, this assists in finding some activities for teachers. Another answer given is that when lacking existing exercises within a certain area, it is possible to fill that gap by producing new exercises and then sharing, which the respondents do.

To question four, reasoning about why few teachers post OER, lack of time or prioritising other non-digital dimensions of teaching is one major reason. Another reason stated is that teachers might be reluctant because they are uncertain about holding the right quality to be shared in an online environment. The common understanding is that teachers will become more collaborative if they
just get past the threshold of being afraid of being critiqued. There is a lack of sharing culture as a phenomenon as expressed in this quote from one of the interviewees:

“There is no sharing culture in our school; each and everyone is hiding in their office and refuses to show WHAT s/he is doing. I have ONE colleague that I know of who uses Lektion.se but I don’t think that she has shared anything yet… but it’ll come :).”

Finally, a more cynical side is the proprietor aspect, i.e. that teachers may be unwilling to share what they have invented.

In the fifth and final question about other online collaborative resources used in teaching apart from Lektion.se, teachers mention other common digital channels such as social media and video-sharing, e.g. Facebook and YouTube. Once the border is crossed of starting to post online, the respondents claim that it is much easier to continue, being more productive in sharing online.

**Discussion and conclusion**

In this study, we investigated what characterises teachers’ pedagogical design of OER in an open educational practice, exemplified by Lektion.se, a web resource for teachers for sharing and reuse of resources that are openly licensed. Our specific interest aimed at investigating a limited number of OER created and shared for Swedish as a Second Language and Swedish for Immigrants on this particular site. We drew on Wiley’s (2014) framework of OER to explore and demonstrate affordances and constraints in teachers’ pedagogical design in OER. With our analyses of OER, we suggest there are affordances with elaborated pedagogical framing of the OER on the site. A less elaborated pedagogical design can constrain other teachers’ uses of the OER since they would have little guidance in how to make use of the OER.

The site Lektion.se has a structure for uploading and sharing a resource that requires certain information to be provided. In the analytical work, we found three levels of describing the OER, from short descriptions of *Learning context* to longer ones of *Learning instructions* and even *Intended learning outcomes* that opened up for other teachers to go beyond the twin concepts of *share* and *reuse* (see Beaven, 2013). Though we identified three levels in our data, there were few examples that were open for using and developing the OER in the way Wiley describes. This indicates that there are teachers, although few in our data set, who developed a more open pedagogical design in their descriptive and instructive comments to their OER.

The name of the site *lesson* is normally associated to activities indicating an educational space and within a certain timeframe. As argued by Blythe (2014) and Pawlowski and Bick (2012) lesson plans can be shared as examples of didactic designs and experiences from lessons on a micro level. However, the lessons in the programme do not exclude learning online and distance, synchronous or asynchronous as other aspects of pedagogical design, though these are seldomly highlighted. The notion of *lesson* as essential to the rhetoric of the site Lektion.se, risks constraining the mindset of participating teachers. This connects to Buckingham’s (2006) notion of websites holding certain rhetoric in terms of what teachers are required to do for uploading and sharing. This can be seen as an example of the movement of OER still being on a descriptive and prescriptive level (Nikoi & Armellini, 2012). The automatic conversion to pdf-format in Lektion.se, can be a constraining aspect, since we can assume that quite a few teachers are less aware of how this format can be modified. The drawback of the decision to convert everything to .pdf could have been explained earlier on the site since it severely limits the usability of material beyond reuse as lesson plans (c.f. Wiley, Bliss & McEwen, 2014).

There is little awareness and no consensus of the definitions of the concepts of OER and, thus, our findings also suggest that the participatory culture (Jenkins et al., 2006) is based on a restricted
definition of OER, to state only sharing and reuse. Most teachers in our limited scope of 40 OER, shared only one resource, and the activities described were more traditionally framed and with a clear tendency for text-based OER. However, judging by the relatively high number of “likes” given to the investigated OER, this shows that participants on the site appreciated the OER. These results can also be interpreted as reflecting existing teacher practices, and that development of and uptake of OER should be seen as part of an inherently imperfect world (Selwyn, 2011). The need to balance over optimistic assumptions of what OER can add needs to be included in the discussion and further development of OER.

The lack of awareness of the underlying intentions with an OER in this kind of open practice can become inhibiting, not for sharing as such perhaps, but for sharing OER that can be used by other teachers (and learners) as resources that can be further developed and re-contextualised, as in the 5R framework (Wiley, 2014). The teachers themselves mention fear of not reaching quality standards as one potential explanation for not sharing. The low number of contributing teachers may also reflect a general collegial approach, as one characterised by a non-sharing culture. The limited number of interviews should be interpreted with caution. It may, however, indicate that there are practitioners’ sharing cultures that exemplify the need for investigating qualities in OER for language learning and language teaching. Moreover, it can be argued to exemplify teachers’ critical stance and caution towards over optimistic expectations of technology (Selwyn, 2011) as an actor of change.

Though presenting findings from a limited case study, we argue that the contribution to the research within OER and language learning and teaching align with previous calls for more research on pedagogy and design and the role of OER (Knox, 2013). The results from the case study presented here, brings to the fore that there is a need to make explicit the pedagogical rationale underpinning the uses of OER to teachers, to enable development of OER beyond reuse. Besides defining the concept OER and what they imply for teaching practices, a repository needs to include features that support more diverse contribution but also continue to address and further develop quality aspects.

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Endnotes

1 Lektion is translated to Lesson in English
2 LORO http://loro.open.ac.uk/
3 Email communication with Lektion.se, 12 November 2015 and 18 May 2016

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Web Strategies for the Curation and Discovery of Open Educational Resources

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Abstract
For those receiving funding from the UK HEFCE-funded Open Educational Resource Programme (2009–2012), the sustainability of project outputs was one of a number of essential goals. Our approach for the hosting and distribution of health and life science open educational resources (OER) was based on the utilisation of the WordPress.org blogging platform and search engine optimisation (SEO) techniques to curate content and widen discovery.

This paper outlines the approaches taken and tools used at the time, and reflects upon the effectiveness of web strategies several years post-funding. The paper concludes that using WordPress.org as a platform for sharing and curating OER, and the adoption of a pragmatic approach to SEO, offers cheap and simple ways for small-scale open education projects to be effective and sustainable.

Keywords: Open educational resources; OER curation; OER discovery; OER sustainability; Reuse; Search engine optimisation; SEO

Introduction
The HEFCE-funded Open Educational Resources (OER) Programme ran in the UK from 2009 to 2012 and was managed by Jisc and the Higher Education Academy (HEA), with around £12.5 million invested across three rounds of activity (Jisc, 2015a).

The HEA discipline subject centres led 25 projects, and 65 were managed by individuals and Higher Education institutions. In reality, the involvement across the further- and higher education sector was beyond that, with multiple institutions and groups participating in the subject centre activity and as project partners. The pilot phase focused on boosting OER creation skills and release, and the later phases aimed to further embed open practice in institutions. The UK OER programme (UKOER) was part of a global movement of investment in open education innovation provided by charitable foundations and governments, and a parallel tranche of activity has produced guidelines and policy to support OER development at local level (Stacey, 2013).

To date, there have been few examinations of the activity and impact of UKOER projects in the intervening years, and whether the diverse strategies for creating and sharing OER were effective? The adoption of sustainable approaches was an important part of the funding criteria, in order to “get the best value from the work that has been funded” and to provide longevity and “options for sustainability after funding ceases” (UKOER Phase 3 Call – Jisc, 2015b). The ambitions of the projects were varied in order to sustain their efforts, from changing institutional policy, establishing intellectual property guidelines and open licensing policy, involving students and other partners in co-creation, and/or integrating OER in curricula. One of the advantages of this programme was oversight of the technological standards by the Centre for Educational Technology and Interoperability Standards (CETIS). They encouraged an open approach to the use of technology that was very much driven by the OER community rather than imposed upon them (Thomas, Campbell, Barker...
This encouraged innovation in open practice and technological approaches, and the project achievements were notable and detailed in the end of programme evaluation and synthesis report (McGill, Falconer, Dempster, Littlejohn & Beetham, 2013).

De Montfort University participated in all three phases of the UKOER Programme and adopted a philosophical stance quite different to other projects by partly moving away from the reliance on institutional repositories to curate and share resources. We explored a number of technological ideas for maximising the distribution of open content via the web, namely through hosting OER on the WordPress.org platform and adopting search engine optimisation (SEO) to enhance the discovery of resources. Making OER discoverable is an obvious but important barrier to overcome in order to drive sharing and adoption of materials (Yergler, 2010), and ‘access’ is the cornerstone to which the activities enabled by openness are defined—whether to retain and curate your own content, reuse, revise, remix and redistribute new versions on the web (Wiley, 2014). The use of SEO and reporting through Google Analytics services although the mainstay of Internet marketing has also been used for the promotion of other academic and professional services websites with success (Kent, Carr, Husted & Pop, 2011; Plaza, 2011). We considered some of these analytical measures not only in terms of website usability, but to understand facets of OER discovery and visitor interaction.

When considering how to promote access to OER, the role of search engines is not often discussed, yet they are a primary tool for discovering academic content and an important component for student information literacy development (Ladbrook & Probert, 2011). Google accounts for the majority of web search activity (NetMarketShare, 2016), and our projects adopted Internet marketing techniques to increase the search engine ranking of our projects and to drive visitors to our sites. The approaches were adapted from ‘The Challenge’ which is an open digital marketing course that has run globally since 2008 (http://www.challenge.co). The four principle sources of traffic to a site include direct views where the visitor has knowledge of the URL, organic traffic from search engine retrieval, referrals where the URL has been placed as a ‘back-link’ in another location, and via social media. Typical SEO activity includes the researching of appropriate keywords that are then strategically placed ‘on-site’ within the written content, alongside ‘off-site’ marketing activity. As described previously, we established WordPress.org blogs as a hub for the curation and display of OER, and SEO techniques to distribute the content (Rolfe & Griffin, 2011a). It is important to review the performance of websites adopting SEO approaches regularly, and also to set targets and goals for intended visitor behaviour ((Waisberg & Kaushik, 2009). The performance of the sites were analysed regularly, and albeit not with goals of profitability in mind, targets were set for the ambitions of the OER sites to acquire global ‘reach’ with a degree of ‘impact’ or benefit to the end user (Rolfe, 2010). An additional digital marketing technique is the creation of content in multiple formats for easy dispersal across the web, and this was embedded within our projects and also served to promote interoperability and OER accessibility (Rolfe & Griffin, 2011a).

This paper captures the details of the De Montfort University open education projects that hosted OER on WordPress blogs, static websites and institutional repositories (2009–2012). It reflects upon the digital strategies adopted from the outset and the approaches used in the intervening years post-funding. It draws upon web analytical data and project evidence to examine the effectiveness of the approaches taken in terms of the ‘reach’ and ‘impact’ inferred by visitor metrics. It is important to acknowledge at the outset that in recent times, optimisation techniques have evolved for other popular social media channels such as YouTube, and there have been changes to Google ranking algorithms and the growth in paid-for search engine advertising. It is also recognised that larger-scale projects will employ more structured means using linked data to organise and facilitate the retrieval of knowledge on the web (Dietze, Sanchez-Alonso, Ebner, Qing Yu, Giordano, Marenzi, &
Pereira Nunes, 2013; Chicaiza, Piedra, Lopez-Vargas, & Tovar-Caro, 2014), although this was not the focus of the approach at De Montfort University.

**Methodology**

**Project Details**

In the first project phase of UKOER (2009), De Montfort University partnered with the Universities of Leicester and Northampton on “Transforming Inter-professional Groups through Educational Resources” (TIGER), and undertook work with the HEA Bioscience Centre to share laboratory skills OER in the “Virtual Analytical Laboratory” (VAL). In Phase 2 (2010) funding was awarded to the “Sickle Cell Open—Online Topics and Educational Resources” project (SCOOTER) that shared OER on the social and medical aspects of sickle cell disease (Rolfe, 2011). In Phase 3 (2011), the “Biology Courses” project shared a range of life science subjects from forensics to biomedical science, and incorporating the “Midwifery Open Resources for Education” project (MORE). Content was offered under a Creative Commons open license mainly using the CC BY-SA version. The projects were housed in the primary locations and distributed to other social media sites as indicated in Table 1.

**Table 1: The primary location of projects on the web, and their distribution via social media sites**

| Project            | Primary URL                     | YouTube/Flickr/Pinterest                                      |
|--------------------|--------------------------------|--------------------------------------------------------------|
| 2009–2014 VAL      | hlsweb.dmu.ac.uk/ahs/elearning/  |                                                              |
| 2014 VAL           | val.biologycourses.co.uk        |                                                              |
| 2009 TIGER         | tiger.library.dmu.ac.uk         | youtube.com/user/tigeroer                                    |
| 2010 SCOOTER       | sicklecellanaemia.com           | youtube.com/user/SCOOTERDMU                                  |
|                    |                                 | flickr.com/photos/sicklecellanaemia                         |
| 2011 MORE          | more.library.dmu.ac.uk          | youtube.com/user/moreoer                                     |
| 2011 BIOLOGY COURSES | biologycourses.co.uk            | youtube.com/user/biologycourses/                          |
|                    |                                 | flickr.com/photos/biologycourses/                          |
|                    |                                 | pinterest.com/biologycourses/                              |

Further technical details of projects are shown in Table 2, with projects located with external hosts or university servers. In 2009 VAL was a static HTML website launched onto a faculty server and subsequently was moved to an external host in 2014 after the server was closed. In 2010 and 2011, the SCOOTER and Biology Courses projects were hosted externally on WordPress.org blogs and employed SEO techniques. The 2009 TIGER project and the 2011 MORE project were hosted on institutional repositories managed by the university library.
Table 2: Dates of projects and technological approaches adopted, including the use of search engine optimisation (SEO) techniques

| Platform             | Host                  | Date of Site Launch | SEO |
|----------------------|-----------------------|---------------------|-----|
| 2009–2014 VAL        | HTML website          | University server   | Sep-08 |
| 2014 VAL             | HTML website          | Reclaim Hosting     | Sep-14 |
| 2009 TIGER           | DSpace 1.7.1          | University server   | Mar-10 |
| 2010 SCOOTER         | WordPress.org         | Mint Host           | Nov-10 | Yes |
| 2011 MORE            | DSpace 1.7.1          | University server   | May-12 |
| 2011 BIOLOGY COURSES | WordPress.org         | Reclaim Hosting     | Nov-11 | Yes |

OER Release and Granularity

For the projects using WordPress.org, OER were released on optimised blog posts, and also indexed via a separate HTML content page. In order to analyse OER use and discovery on the Internet, it is necessary to define granularity and the distinguishing characteristics of a top-level item. Keet proposes a taxonomic structure with the most basic characteristic at the top-level, and with descending hierarchies of content (Keet, 2010). Littlejohn suggests schema for learning objects where they are defined in educational terms (course, module unit), purpose terms (is it a learning object or an asset) or in terms of metrics (numbers of pages, time to complete) (Littlejohn, 2003). In the current study, the top-level is defined by the overarching educational topic that is then broken into a series of OER (video, narrated animations, photographs, text documents, audio files, documents). OER are accessed through web pages or blog posts containing further disaggregated content released in multiple file types. The multiple file types were also released to other web platforms, e.g. videos to YouTube, and photographs to Pinterest and Flickr. The lowest hierarchical levels are not recorded, as their fate would be impossible to track, for example separate graphics within animations.

SEO Techniques

A pragmatic approach was adopted to SEO to evolve a basic level of activity to ensure that projects ranked well in Google and were referred to from other locations (Rolfe & Griffin, 2011a). SEO techniques were based on those developed by The Challenge and used Market Samurai software (http://nobelsamurai.com) for keyword research, ultimately a trade off between word and phrases that were relatively unique and also popular with surfers. The blogs used additional SEO plug-ins, Technorati tags, RSS feeds and other features for encouraging engagement with, and distribution of articles. Chosen keywords were included in blog text and in page content, and other organisations and communities would be encouraged to place the URL on their website to obtain a ‘back-link’. The goal of SEO is not just to rely on people knowing the URL but to drive discovery from other locations, such as another university or a social media channel. For SCOOTER and Biology Courses, these approaches were applied at the time of the project funding to establish the sites, and no further keyword analysis has been done in the intervening years.

Project URLs and representative OER were placed on Jorum.ac.uk, http://MERLOT.org and http://OERCommons.org. The objective of publishing OER in multiple file formats to maximise interoperability and accessibility also served to provide content to disperse through other social media channels. File formats included: photographs / images (JPEG, GIF, PNG), video (Mpeg-4,
ogg, WebM), animation (SWF), text-based documents (MS Office Doc, PDF, txt file), screen capture (SWF, Mpeg-4), audio (Mpeg-3, WAV). OER were therefore readily distributed to Facebook, Twitter, YouTube, Flicker and Picassa to name but a few areas, primarily through using the single click service http://Posterous.com which dispersed content to multiple sites and was disbanded in 2012.

**Analysis of Internet Use**

Google Analytics was used for insight into website visitors and behaviours. The Google Analytics service presents a number of different parameters and features for reporting (Google, 2016). In the ‘Audience’ data cluster, the following parameters are expressed, along with time on site, geographical information and device usage. Data from some of these analytics were interpreted to provide a view of the reach and impact of OER.

1) Sessions (formerly visits): the number of sessions interacting with website, APPs or social media platforms up to an end point which is either after 30 minutes of inactivity, at midnight or linked to a campaign change.

2) Users (formerly visitors): an estimation of unique visitors based on cookie trafficking.

3) % new sessions—how many sessions from people who visited the site for the first time.

4) Page views—number of pages viewed in all site sessions.

5) Pages per session—average page views in each session.

6) Bounce rate—the percentage of sessions that were a single page visit (the visitor explored the website no more).

A second cluster of useful analytics called ‘Acquisition’ alludes to the channels by which traffic reaches the website, and can provide interesting information regarding what other companies, organisations and outlets have placed your URL on their site—or ‘back-linked’ to it.

1) Referrals—a ranked list of other websites back-linking and therefore referring users on to your site.

2) Channels—comparison of the main access routes to your site, be it an organic Google search (user applies keywords for a search or via AdWords), direct (user has knowledge of your URL), referral (back-link) or social via social media outlets.

**Data Capture and Analysis**

The analytical data for the TIGER and MORE repositories was kindly provided by De Montfort University up to April 2015. The data was gathered using Google Analytics within the DSpace platform. For the static VAL website, both the early 2009 and later 2014 versions, an Analytics tracking code was generated and entered into the source code of each web page. For the WordPress blogs, data was collected via an Analytics plug-in. The use of Google Analytics allows for parity and comparisons across the different platforms. Data collected from other social media sites—predominately Flickr and YouTube, was drawn upon to provide a broader picture of activity; Flickr Stats provide an indication of total numbers of views per individual photograph, and YouTube Analytics indicates total views for each video. Jorum data is also calculated as total number of times a resource is viewed. For Flickr and YouTube, analytic data was compiled up to August 2015. The data was downloaded into an Excel spread sheet for analysis.
Results

Project Details

Projects (Table 3) comprised 424 web pages and blog posts covering 45 health and life science topics, and there were 271 ‘stand alone’ OER in total. VAL comprises 11 lab skills topics, e.g. how to operate a microscope at the top-level, with OER shared in multiple file formats. Following the closure of the original VAL website, some revisions were made to the new version re-launched in 2014, with the removal of some HTML web pages and publishing of some of the OER in additional formats. TIGER and MORE collections are divided into a series of healthcare topics with resources also on YouTube. SCOOTER and Biology Courses shared OER as blog posts along with additional news articles to help the SEO strategy. SCOOTER comprises 9 academic disciplines with 110 OERs published in multiple formats. Biology Courses clustered into 10 biology topics using similar SEO approaches to SCOOTER.

Table 3: Details of numbers of topics and OER items released onto primary locations and social media sites

|                     | Total no. pages and posts | No. Topics | No. OER | Multiple files | YouTube | Flickr |
|---------------------|---------------------------|------------|---------|----------------|---------|--------|
| 2009–2014 VAL       | 123 HTML pages            | 11         | 34      | 87             |         |        |
| 2014 VAL            | 78 HTML pages             | 11         | 42      | 91             |         |        |
| 2009 TIGER          | 15 HTML pages, + OER posts| 8          | 27      | 403            | 30      |        |
| 2010 SCOOTER        | 9 pages, 90 OER posts, + news blog posts | 9 | 110 | 306 | 25 | 67 |
| 2011 MORE           | 15 HTML pages, 35 OER posts| 7 | 35 | 103 | 72 |        |
| 2011 BIOLOGY COURSES| 6 pages, 53 OER posts, + news blog posts | 10 | 57 | 144 | 53 | 150 |
| TOTAL NO. ITEMS     |                           | 45         | 271     | 1047           | 180     | 217    |

The total number of pages and posts = individual HTML web pages, WordPress pages, WordPress blog posts containing an OER or a WordPress ‘news’ post.

Audience Details

Based on analytic data from De Montfort University, Google Analytics and other social networking sites, the number of sessions and visits undertaken by global audiences up to the 2015 analysis point was around 1.26 million (Table 4). There is a distinction between those accessing materials via repositories and those using the WordPress.org blogs, with the latter being clearly more discoverable and receiving larger numbers of visitors. The vast majority of users accessing OER are retrieving video content via YouTube.
Table 4: Total number of sessions and visits to various primary locations and social media sites and the dates of analytical data retrieval

| Repository          | Total no. Pages and Posts | YouTube | Jorum | Flickr |
|---------------------|---------------------------|---------|-------|--------|
| Apr-15              | Aug-15                    |         |       |        |
| 2009–2014 VAL       | 73270                     | 324     |       |        |
| 2009 TIGER          | 2532                      | 13236   |       |        |
| 2010 SCOOTER        | 30040                     | 362248  | 52    | 19009  |
| 2011 MORE           | 2054                      | 317020  |       |        |
| 2011 BIOLOGY COURSES | 21504                    | 356866  | 57000 |
| 2014 VAL            | 7818                      |         |       |        |
| TOTAL               | 4586                      | 132632  | 1049370 | 376    | 76009  |

Data presented as total number of sessions collected by Google Analytics for Repository, Blog and HTML pages; For YouTube, Flickr and Jorum, data represents total number of times a resource is viewed.

Geographical and Device Distribution

Data is unavailable for TIGER and MORE, but all other sites reach wide geographical distribution across all five continents (Table 5). Access favours English-speaking countries and includes Latin America, Asia and the Middle East. SCOOTER OER have been translated into sub-African and Brazilian languages to support the development of sickle cell learning materials in these locations.

Table 5: The distribution of visitors from different global locations visiting project sites, with the top five for each listed (and % of top visits)

| 2009–2014 VAL 152 countries | 2014 VAL 98 countries | SCOOTER 149 countries | BIOLOGY COURSES 150 countries |
|-----------------------------|-----------------------|-----------------------|-------------------------------|
| United Kingdom (56.33%)     | United Kingdom (27.96%) | United Kingdom (33.61%) | United Kingdom (46.11%)      |
| United States               | United States         | United States         | United States                 |
| Australia                   | China                  | India                 | India                         |
| India                       | Russia                 | Canada                | Brazil                        |
| Malaysia                    | Japan                  | Brazil                | Philippines                    |

The distribution of sessions by type of device used to access the OER represents desktop as the dominant means of using the materials, although for Biology Courses, the use of mobile and tablet devices is more prevalent (Figure 1). This may reflect the geographical or demographic preference and device culture, or the file type of OER predominating? In terms of browser, Internet Explorer, Chrome, Firefox and Safari were in the top four most used operating systems for all sites.
Acquisition Channels and Referrers

Users were able to access the OER through direct searching (having the URL), organic searching via browsers, by referral and accessing the URL ‘back-linked’ on another site, or by social media (Figure 2). The SEO strategies of Biology Courses and SCOOTER are apparent with less of a reliance on direct traffic, and having numbers of visits boosted by organic searches and referrals compared to the static and un-optimised HTML sites (VAL) and repositories (MORE and TIGER).
Despite not continuing to review the keywords as part of the SEO activity in recent years, SCOOTER and Biology Courses continue to attract visitors through web searches and referrals, and this is partly through serendipitous back-linking (Table 6). The URL of the projects are picked up by other universities and organisations and included on their websites, and this directs traffic back to the blogs.

Table 6: Details of the top ten referring organisation websites (with % of traffic to site). Strategically acquired links = un-highlighted; serendipitous links = bold

| 2009–2014 VAL | SCOOTER | BIOLOGY COURSES |
|---------------|---------|-----------------|
| 1 | oup.com (14.87%) | google.com (15.56%) | youtube.com (10.44%) |
| 2 | blackboard.gcal.ac.uk (13.28%) | en.wikipedia.org (10.73%) | facebook.com (8.23%) |
| 3 | global.oup.com (10.02%) | cdc.gov (5.27%) | vivrolfe.com (7.81%) |
| 4 | moodle.coventry.ac.uk (5.37%) | google.co.uk (<5%) | medev.ac.uk (6.36%) |
| 5 | ibls.moodle.gla.ac.uk (<5%) | globalsicklecelldisease.org | dmuvip10041904.wikispaces.com (<5%) |
| 6 | abpischools.org.uk | sicklecellanaemia.posterous.com | global.oup.com |
| 7 | moodle.uws.ac.uk | hlsweb.dmu.ac.uk | oercommons.org |
| 8 | elearningrepository.nhs.uk | onlinebooks.library.upenn.edu | stumbleupon.com |
| 9 | dmu.ac.uk | google.co.in | methodsnorthwest.ac.uk |
| 10 | open.jorum.ac.uk | methodsnorthwest.ac.uk | pinterest.com |
At the time of these projects, back-linking campaigns used by businesses would invest in positioning the URL on as many other sites as possible, from authoritative organisations and social media ‘profiles’ pages, to blogs and forums. The profile of referring sites (Table 6) shows partners that were specifically targeted and connections that happen serendipitously. VAL was initially picked up by other universities, Oxford University Press (OUP) to support a bioscience textbook series and the Association of British Pharmaceutical Industry (ABPI). SCOOTER and Biology Courses equally have been discovered by new organisations, and evidence of the use of social media to distribute OER via the web can be seen with the use of YouTube, Facebook, Wikispaces and Pinterest, that were set up at the out set of these projects.

Discussion

Between 2009 and 2012, De Montfort University participated in the UKOER programme and shared a body of health and life science OER with academic communities around the globe. The projects adopted a range of technological approaches with OER collections released onto university servers and that hosted externally. Projects shared OER across five health and science thematic areas, and the academic teams and students involved gained digital skills to create resources that were openly licensed using Creative Commons, and that were shared in a variety of file formats. These projects have reached a global audiences and resources have been viewed in excess of 1 million times. The projects have provided free access to OER with no enrolment or payment restriction, achieving aspirations set out early on for technological openness (Downes, 2006).

The intention of these projects was to provide simple means for academic teams to share OER where there might not be the technological infrastructure or support for the use of other established approaches of discovering and reusing OER. Larger-scale projects that have the relevant technical and IT expertise have looked at the use of Linked Data to evolve common vocabularies and approaches to facilitate the organisation and retrieval of knowledge. The goal is to unify what has become a fragmented landscape for OER and other learning materials on the web (Dietze et al., 2013; Chicaiza et al., 2014). Whilst this paper acknowledges these as important approaches for the sustainability of open education that will be discussed later, it was our intention to explore the effectiveness of a simple practitioner-based approach in this instance.

Reflections on SEO approaches and OER discovery

Wiley (2014) describes access as the definitive step in achieving openness in education, and a healthy life-cycle for OER and learning resources requires them to be discovered, improved and reused (Yergler, 2010). For two projects, we used WordPress blogs and adapted Internet marketing techniques to facilitate the curation of OER, and to promote discovery through organic web searches, referrals from other websites, direct traffic through knowledge of the URL and via social media. Details of the SEO approaches were previously reported although these techniques have altered with time due to algorithm changes that dictated how websites are ranked on search engines (Rolfe & Griffin, 2011a). We evolved a pragmatic approach that would be a achievable by one individual and a time investment of a few hours per week. SEO involves initial work to identify pertinent keywords, and these are set up as categories on the WordPress blogs, and used as keywords within blog articles. The SEO approaches included the use of one of the keywords as the website URL—hence the use of “sicklecellanaemia.org” rather than the SCOOTER acronym, and “biologycourses.com” rather the project name. The use of website optimisation to achieve business targets is time and money intensive, and we did not have the capacity for a large-scale campaign for example placing back-links (URLS) in multiple locations. We achieved this via a light-touch
through publishing OER in multiple formats that could then be uploaded to social platforms such as YouTube and Flickr. By including the project URL where possible when setting up new profile pages, and in the basic video or photo information, this created a 'long tailed' back-link that are still providing visitors to this day. The primary WordPress.org hub contained all the project details, copyright and open license terms and conditions.

Our analytic data shows how effective the use of WordPress blogs are for promoting OER discovery are compared to placing materials in a repository where traffic is minimal without knowledge of the URL. The SEO techniques worked well for SCOOTER and Biology Courses, with them gaining high-ranking positions on page one of Google for their main keywords early on (Rolfe & Griffin, 2011b). In 2012, SEO fell victim to changes to the Google Algorithm, and the rankings of websites decreased if it had the keyword as the URL (Wikipedia, 2015); this rule had a big impact on the ranking position of SCOOTER and Biology Courses. However, as they became more established, the reliance on SEO to gain ranking diminished, as the URLs were adopted by other organisations, and visitors discovered content through social media platforms. Therefore, it was not our intention to change these URLs just for the purpose of SEO. For business, there might be a different approach, with high-ranking on Google still imperative, as sites ranking in page positions 1, 2 or 3 will gain the majority of the traffic (Brooks, 2004), and an estimated 62% of users only ever clicking on links from the first page of the search results (Malaga, 2008). Today, the lack of regular fresh content on the sites would also affect their ranking, but the use of YouTube and Flickr mitigates this in terms of traffic, and all projects are achieving a level of sustainability and discoverability with little effort.

In considering the effectiveness of the projects using WordPress and SEO techniques there are many advantages compared to those hosting their content on university repositories. Firstly, the blogs are easier to discover, and content is also visible on YouTube and Flickr that drives visitors back to the sites. These techniques were simple enough for academic colleagues to carry out without the need for specialist technology support. The sites that are hosted externally are not subject to changes in infrastructure or personnel within universities, as seen with the original VAL project where the server was closed. With cost effective hosting services for education such as ReclaimHosting.com, it becomes viable to host OER in multiple web locations, and at least two locations are recommended to add resilience to change if other services and infrastructure comes and goes.

Reflections on WordPress for OER curation

The benefit of a blog for curating digital content is that resources can be added in perpetuity through the publishing of a new post. For SCOOTER and Biology Courses, all OER was published as blog posts, and additional ‘news’ blogs relating to the projects further integrated the chosen keywords to boost the discovery of the projects. In order to apply a model for the curation of digital materials, each asset is allocated an intrinsic value regarding their actual use or potential for use (Grindley, 2015). From the traffic data we assume all these projects are still valued today, with regular users and reusers of the sites visible on a monthly basis. Although the temporal distribution of data is not shown, this would be an appropriate area for future study to more fully understand which OER are more popular than others, and where possible, which granularities of materials are most likely to be used and reused by returning visitors.

Other OER projects have adopted similar approaches to curate and promote OER discovery. In the Phonar Open Photography Class funded in UKOER Phase 3 (https://phonar.org), a WordPress blog was used as a central project location that could be web searched, and was shown to receive high volumes of traffic. This became an approach that other departments were encouraged to adopt.
at the host university (McGill & Gray, 2015). The Triton project (http://openspires.oucs.ox.ac.uk/triton/) was another example of using WordPress to host an OER collection. One of the benefits reported was the use of setting up categories of content and using the tags feature to make retrieving content simple. In our projects, the SEO keyword research was used to determine the blog categories which are part of the WordPress search feature. Searchability on the sites themselves were further enhanced by the use of tagging, and also by including a static HTML index page. The problem is with this approach, the selection of keywords based on web discovery will possibly conflict the use of common vocabularies as part of Linked Data approaches (Zerr, d’Aquin, Marenzi, Taibi, Adamou & Dietze, 2014). The picture is even more complex with the advent of strategies for optimising discoverability within YouTube and other social media platforms; therefore future evaluations need to look at a holistic approach.

**Interoperability with wider open educational systems**

The application of common schemas and vocabularies is an important goal for web developers to enhance discovery and interoperability of content, (Zerr et al., 2014), but the uptake of these shared approaches is challenging. As the web has fragmented into a multitude of platforms, and people increasingly view on a diverse range of devices, a number of competing metadata schemas are being exploited by repositories and technologists to address these issues (Dietze et al., 2013). Dietze describes four challenges to interoperability—how to integrate data from heterogenous educational repositories; how to deal with constant change; how to structure texts and evolve taxonomies, and how to compile metadata to facilitate web discovery at scale (Dietze et al., 2013).

At the time of the UKOER programme (2009–2012) a wide range of activities and platforms were adopted, from university repositories, WordPress blogs, SlideShare, YouTube and wikis, and many projects adopted Dublin Core elements into HTML metadata (Robertson, 2011). This was the approach taken with our static HTML websites (the Virtual Analytical Project), and common templates for the sharing of OER on blog articles were developed to include details of author, resource title, level of study, date of publication and other items. An added approach to tackling interoperability was to release OER in multiple file formats, again which served to facilitate web discovery. For example, Adobe Flash animations published as .swf files were also released as .MP4 video for YouTube. Most of these steps were not time intensive, with the exception of providing animation and video audio transcripts. Here the approach for each resource was to write a storyboard and script first to form the basis for a narration. For other videos, the transcripts were produced from the recordings afterward. Multiple content versions allowed for distribution via different platforms and could be responsive to change when services disappeared; multiple files provided users with choice over format to reuse, and facilitated interoperability across platforms and devices. We were also endeavouring to meet appropriate standards of accessibility to produce resources that would suit diverse learner needs. As stated by McAndrew,

“Accessibility is absolutely vital for a project to produce truly “open” educational resources. The ethos of “open” is to be accessible—consider “open” in the widest social sense, not (as often illustrated) geographically. If the outputs are not meeting appropriate accessibility requirements then they have failed to be ‘open’ before they have even left the building, and a sustainability decline has already commenced”. (McAndrew, in Thomas et al., 2012).

An area of future work would be to track the fate of resources within education systems to see which of these strategies were most effective in encouraging use and reuse.
What was the lasting impact of the OER?

What of the impact of these projects? According to the OER Research Hub eleven impact hypotheses, our OER are readily discoverable beyond the host institution, arguing a case for having met enabled different usage patterns to take place other than materials hosted within the university setting (OER Research Hub, 2014, Hypothesis 2). All projects are globally distributed, with access favouring English-speaking countries. Interestingly, Brazil is a top visitor to the SCOOTER project, and several of the OER (to our knowledge) have been translated into Brazilian languages, and also African dialects, supporting the development of sickle cell learning materials in these locations. We therefore can argue for equality of access and the serving of a broader base of learners than traditional education (OER Research Hub, 2014, Hypothesis 3)?

Another indicator of reuse is through the back-links from other websites. There are three approaches to this—1) you may approach a collaborator directly e.g. Oxford University Press, to discuss an informal partnership around projects, or to place a back-link on their site; 2) a collaborator may be interested in your site and approach you as in ABPI; 3) or people use your URL without discussion therefore growing back-links serendipitously. Again, a former SEO strategy, acquiring back-links was outsourced work to achieve high volumes of traffic. A number of authoritative organisations link to our OER projects including commercial and charitable bodies, thus clearly achieving a level of ‘redistribution’, (Wiley, 2014, one of the 5R’s), and this could possibly be added as a new area of impact in the OER Research Hub’s hypothesis framework.

Limitations to approaches used

In analysing Google and repository analytic data, several assumptions are made. Firstly any interpretation is limited since there is no linked demographic data to determine who is using the materials. Google Analytics has recently introduced demographic data that can be interpreted from Cookies (Google, 2016), but this says little about the open learner or educator. The analytic data is vulnerable to spamming, and variability is introduced through visitors altering browser sessions and removing Cookies. Data is best interpreted in a semi-quantitative manner providing an indication of trends and movement in the data, rather than undertaking a statistical analysis. The analytical evaluation was confined to Google searches only, although Google is known to dominate the majority of Internet searching (Burns, 2008), but there is no insight into browsing strategies on other systems reported in this publication.

The approach presented is a pragmatic and simple solution for OER curation and discovery for academic teams where technologist-support and infrastructure is not available. A limitation is the lack of application of linked data and semantic web technologies, and also the maintenance of standards within these projects without a level of technical expertise.

Conclusions

The exploration of digital marketing approaches adapted from the business world has identified a series of technological steps that can benefit small-scale OER projects. The utilisation of the WordPress.org blogging platform is a simple means of curating and sharing OER. Using SEO techniques and social media channels, OER can quickly become widely dispersed and discoverable on the Internet, as shown with activity sustained several years-post funding with little regular maintenance. We would propose hosting OER in at least two locations to overcome the vulnerability of university-based or web services. Thomas et al. (2012) recognised the challenge for technologists and service managers to keep abreast of developments to sustain content and OER activity, and
it is a recommendation that the different groups within the OER community need to work together—academics, curators, technologists—to draw together ideas to ensure that OER is discoverable and forms a sustainable viable option for education and society.

The question of impact becomes more speculative based upon analytics alone, but the health and life science materials shared are clearly serving communities beyond the host institution, and recent interview data alludes to the on-going benefits to students and teachers within the host institution (Rolfe, 2015).

This paper provides insight into how OER can be distributed on the web in a simple and sustainable manner. The question remains, how will the OER fare with time as it becomes remixed and republished? We will need to consider whether we wish to continue tracking the fate of our content, or whether those involved in global open education will have to accept that OER will fledge and leave their project nests as part of the natural cycle of events.

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Student Assessment of Quality of Access at the National Open University of Nigeria (NOUN)

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Abstract
This paper presents a study conducted by Inegbedion, Adu and Ofulue from the National Open University of Nigeria. The study focused on the quality of access (admission and registration) at NOUN from a student perspective. A survey design was used for the study while a multi-stage sampling technique was used to select the sample size. All the 78,555 registered students in all the 61 Study Centres of the University at the time of the study formed the population; out of which 3,060 students were sampled. The questionnaire instrument is the Institutional Internal QA Tools and Instrument developed by the African Council for Distance Education (ACDE) as a regulatory mechanism. The data collected were analyzed using simple statistics. The result showed that 66% of the students confirmed that NOUN has published clear policies on the admission and registration of students. About 29.1% of the students were not satisfied with the transparency of the admission process. In conclusion, the study revealed high quality of access and some deficiencies in website and Internet connectivity.

Keywords: Access; Quality; Student assessment; Higher Education; distance education

Introduction
Higher education in Nigeria dates back to the 19th century, with the introduction of liberal education by the early Christian missionaries. The hunger and taste for higher education in the country led to the establishment of Yaba Higher College in 1932 to provide middle level manpower in medical, engineering and other vocations including secondary school teachers. At that time, secondary schools were referred to as higher middle schools. After some time, Yaba Higher College offered sub-degrees in programmes such as teacher training, medicine, engineering and agriculture, but there was restriction.

In 1945 the Elliot Commission recommended the establishment of University College in Nigeria. In 1948 the University College of Ibadan was established to serve as a college under the University of London. In 1959 the Ashby Commission was established to ascertain Nigerian’s post-independent educational needs. The recommendation of Ashby Commission led to the establishment of University of Nigeria Nsukka in 1960 as the first indigenous university in Nigeria. Ashby Commission further recommended balance in the structure and geographical distribution of university education. In compliance to the recommendation, University of Lagos and Ife were established in 1962; in the same year University College of Ibadan attained an autonomous status as a degree awarding institution. With the continuous increase in demand for university education, more federal, state and private universities were established.

At 2008 there were twenty-seven federal universities, thirty-six state universities and forty-one private universities (NUC, 2008). In spite of the growing number of universities, the demand for university education kept increasing. On this premise some of the existing conventional universities engaged in part-time and satellite/outreach programmes across the country as a way of bridging the educational demand and supply gap. Most of the programmes in these universities were basically
profit-oriented which seemed to have caused more educational problems in the area of quality. Therefore, the country was not only faced with the problem of supply of higher education, but also had to battle with the issue of quality in university education. In an attempt to ensure quality of university education in Nigeria, satellite campuses were banned in 2001. Thus, to ensure increase in quality access to university education, the National Policy on Education was revised. One of the objectives for the revision was to lift the suspension order on open and distance learning programmes by the federal government (FRN, 2004). Section 9, sub-section 92 of this document stipulated the goals of Distance Education in Nigeria and included the provision of “access to quality education and equity in educational opportunities for those who otherwise would have been denied” (FRN, 2004, pp. 4–5). This gave recognition to the need to increase access to university education through National Open University of Nigeria which was first established during the second republic of the government of Alhaji Shehu Shagari as National Open University (NOU) on 22nd July 1983 backed by an Act of the National Assembly; but it was suspended in 1984 by the military government that took over the civilian regime.

In 2002, the NOU Act of 1983 was resuscitated and the name changed from National Open University (NOU) to National Open University of Nigeria (NOUN), as it is today. From the time of its re-birth, the issue of quality has been of great concern to stakeholders. One major criticism of distance education has been the quality of its products in terms of numbers and compromise (Badu-Nyarko, 2013). Therefore, questions such as: would the products from NOUN attain same quality as the products from the conventional systems? Will the increase in enrolment not reduce the desired quality? Can quality of access to university education be ascertained through NOUN? These questions have been of great concern to all. This study therefore assessed the internal quality assurance mechanisms in admission and registration in NOUN. To guide the study three research questions were raised: What is the perception of students on the criteria standards set on admission? What is the perception of students on the criteria standards set on registration? What percentage level of access do students have to documents guiding their admission and registration into the university? The findings of this study will be found useful to distance education planners and policy makers in getting the right data and documents in access that would help enhance the quality of open and distance learning and specifically to NOUN management to know the areas of improvement on the existing data and documents.

**Conceptual Framework**

A constitutional approach model was adopted in deriving the framework. This model deals with the constitutional rights to education. In the world over, education is recognized as a fundamental right. “Constitutional protections of education range from general aspirations toward universalizing primary school to unequivocal guarantees of free and equal access to education at all levels” (Heymann, Raub & Cassola, 2014). Policies give guiding principles and procedures on how specific actions should be taken towards the achievement of set objectives. The issue of provision of higher education for all is promoted at the international level by policies such as the World Declaration of Education for All. For instance, the Universal Declaration of Human Rights Article 26.1 and the United Nations Convention on the Rights of Persons with Disabilities, which advocates for all people with disabilities to have equitable access to higher education. Every country’s education system, irrespective of type and level, is driven by a constitution where policy emanates from. Howell & Lazarus (2003) and Ryan (2011) added that it is not enough to set policy on access to higher education, but there should be criteria to determine the level of access integration such as race, gender, culture, and educational status.
The key focus is that every country’s constitution must have policy guiding access to different types and levels of schooling in the country. Nigeria’s constitutional policies on education could be traced to Elliot and Ashby commissions. Elliot Commission was set up on 13th June 1943 by the Secretary of State for the Colonies with the mandate to report and make recommendations on the organization and facilities of the existing centres of higher education in British West Africa. The Commission commenced work in September 1943 and submitted its report in June 1945. Part of the Commission’s recommendations was to establish a university college in Nigeria as a way of increasing access. This recommendation led to the establishment and commencement of academic programmes in University College, Ibadan in 1948. In 1959 the federal government of Nigeria set up the Ashby Commission to “conduct an investigation into Nigeria's needs in the field of Post-Secondary School Certificate and Higher Education over the next twenty years (1960–80)”. The Ashby Commission findings revealed a low access into sixth-form and university admissions. Each of these commissions’ recommendations led to the formulations of policies, which gave way to higher education in Nigeria. To further strengthen the educational sector, the National Policy on Education was introduced, which was reviewed from time to time to meet the need of the child and the society. One of the outcomes of the reviews and developments led to resuscitation of National Open University of Nigeria as documented in the 2004 National Policy on Education.

The second part deals with the criteria set that will give access to the different levels of schooling. The criteria set determines the level of openness, especially in the case of open and distance learning. In this instance, the procedure for admission and registration comes into play. The process of admission and registration brings the dichotomy between the closed and open system of schooling. So in this study, the focus is on the criteria provided for open and distance learning which act as determinant for open access into higher education.

Thirdly, what are the maintenance mechanisms for the policies and procedures? This hinges on the strategies that would help sustain and improve the policies and procedures. This aspect is vital in the process. A continuous evaluation of the procedures helps in providing relevant access. Relevance here implies removal of barriers that would have deterred a citizen who demands and is willing to receive higher education. Barriers should not be restricted to only the assumed barriers such as age, religion, sex and race. The recipient is in the best position to actually define or relate what is a barrier to him or her. Therefore the involvement of the recipient at the maintenance mechanism is crucial. This discussion leads to the concept of access model for higher education as presented in Figure 1.

Two major purposes for higher education are for manpower development and self-actualization. This is prominent in open and distance learning. With reference to Figure 1, the government is the

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**Figure 1: Access Model for Higher Education**

*Source: Researchers, 2015*
constitutional body that creates and oversees the activities of the education sector by setting policies and procedures. For the purpose of adequate placement to aid the expected knowledge, the prospective candidate needs to gain entrance through the prescribed criteria; the process of gaining studentship must be well specified as well as the mechanisms of checking the compliance of the processes. This is where the access model becomes useful in this study. For the purpose of this study, the education sector in the model shall be the National Open University of Nigeria.

Quality Assurance in Access to Distance Education

Quality is important in the input and output of higher education especially in open and distance learning. The quality movement in distance education started in Australia, which is traced back to the work of the studying committee on External Studies in the mid-1980s. Quality could mean excellence, worth or value of a product. In this context this could be applied to education, where the grandaunts are the products of a school system. The process through which the quality is brought to bear brings about quality assurance. Quality improvement, quality assurance, and benchmarking are processes used in determining quality (Inglis, 2005). The difference in the framework lies in their scope, institutional application, structures, and method of application (Harman, 2000). The use of the frameworks depends on their implications, the similarities and differences the frameworks have for the purpose.

The quality of a product of a school system starts from the entrance level. It is within the access to education paradigm that quality assurance has become one of the fundamental aspects in planning and managing open and distance learning (ODL) provision (Belawati & Zuhairi, 2007). The term quality assurance refers to a process of defining and fulfilling a set of quality standards consistently and continuously with the goal of satisfying all consumers, producers and the other stakeholders. Quality assurance became important for ODL during the 1980s and 90s when enrolments into distance institutions went on the increase. The stakeholders were concerned with the quality assurance at the access level, but dealing with quality assurance at the access level calls for clear interpretation of what access entails in an ODL environment. Gale (2009) points out that it is critical to be clear about what type of access is being referred. The question is access to what? Access should be more than opening doors to students to register but more about providing support structures (Kasiram & Subrayen, 2013, p. 70). “Fundamental to access and equity in higher education is the extent to which the system responds effectively to full diversity as a key indicator of its quality” (Ngubane-Mokiwa, 2014, p. 5). Keegan (1996, p. 12) believed that:

Distance education is a form of education fraught with problems for administrators, teachers and students. It is characterized by the fragility of the non-traditional in education. These difficulties concern the quality and status of education. These difficulties concern the quality and status of education at a distance. Good practice in distance education seeks to provide solution for these inherent difficulties.

It could be said that open learning removes barriers in access such as admission, pre-requisites, physical attendance at a particular place and time, possession of prescribed equipment, books, and journal (Gandhe, 2009). Entrance into open and distance institutions is often faced with the challenge of access and thereby we should look for ways of improvement. Policy is required to guide improvement procedures. Moore and Kearsley (2012, p. 193) state that policy should not be in a vacuum but should seek to inform specific actions. Diko and Letseka (2009, p. 228) contend that policy formulation in educational settings cannot benefit the students if they are not appropriately implemented at grassroots level. It is not enough to set policy on access to higher education but there should be criteria to determine the level of access integration as specified by Howell and Lazarus (2003), Ryan (2011) and Ngubane-Mokiwa (2014). Policies for quality assurance are
strengthened by getting feedback from the students; hence Vickerman and Blundell (2010, p. 26) stress the importance of regular consultation of students to enhance higher education practices. They also highlight the gap between policy and practice, particularly with regards to education for students with disabilities.

**Access Quality Assurance Mechanisms at the National Open University of Nigeria (NOUN)**

To ensure quality in access into NOUN, the following mechanisms are put in place:

- Admission requirements are in accordance with the minimum benchmark (NOUN, 2013).
- There is no entrance examination into NOUN, but all entrants into the programmes must meet the minimum national requirements for university registration.
- There is no restriction in terms of age, sex, religion, race, state of origin, time, space (within Nigeria only), and number of candidates admitted.
- There are clear policies and documents guiding the admission process.
- NOUN engages in online admission and registration.
- Admissions received online are authenticated at the study centres by asking candidates to present the originals of their credentials. Designated NOUN staff verifies the credentials.
- There is a process for changing course and programme. The provision for change of programme is often given to students who are found not qualified in the programme to which they applied but are found qualified in another programme. Students could also add and delete courses within a specified time.
- The university has an access programme where students can make up for their deficiencies in their Senior Secondary School Certificates (SSSC) before proceeding to the degree programme.
- Prospective students are given adequate information on admission requirements on the university website, student prospectus, Daily News Papers and flyers.

**Methodology**

A survey design was adopted in the study. All of the 78,555 enrolled students at the time of the study from 61 study centres of NOUN formed the population. A sample size of 3,060 was selected (table 1). Multi-stage sampling technique was used in selecting the sample size. First, the population was stratified into six geo-political zones in the country as South West, South South, South East, North East, North West, and North Central. Purposive sampling technique was used to select the two most populated study centres from each geopolitical zone, making twelve study centres used for the study. The study centres were classified from one to twelve starting from South West to North Central. The selection gave a total of 3,060 sampled students.
Table 1: The Study Sample

| S/N | Geo-Political Zones | Sampled Study Centres | Population in Sampled Centres | Sample for the Study |
|-----|---------------------|-----------------------|-------------------------------|----------------------|
| 1   | South West          | 1                     | 19,740                        | 987                  |
|     |                     | 2                     | 2,170                         | 217                  |
| 2   | South South         | 3                     | 8,460                         | 423                  |
|     |                     | 4                     | 9,440                         | 472                  |
| 3   | South East          | 5                     | 4,920                         | 246                  |
|     |                     | 6                     | 2,380                         | 119                  |
| 4   | North East          | 7                     | 740                           | 37                   |
|     |                     | 8                     | 500                           | 25                   |
| 5   | North West          | 9                     | 1,520                         | 76                   |
|     |                     | 10                    | 2,260                         | 113                  |
| 6   | North Central       | 11                    | 3,160                         | 158                  |
|     |                     | 12                    | 3,740                         | 187                  |
|     | **Total Sample**    |                      | **3060**                      |                      |

A questionnaire titled *Student Assessment of Institutional Quality Assurance Practices in National Open University of Nigeria* was used to collect data. The questionnaire was divided into two sections. Section A was used to capture the demographic data of the students, such as study centre. Section B was used to measure criteria standards for admission and registration. Likert scale of 0, 1, 2, 3, 4 with 0 = not aware; 1 = unsatisfactory; 2 = satisfactory; 3 = highly satisfactory and 4 = excellent. For the interpretation of the percentage, the scale was categorized in three: not aware and unsatisfactory as one, the second was satisfactory and the third was highly satisfactory and excellent. In addition, the mean is accepted at 2.00 and the mean below 2.00 is rejected.

The instrument was validated by five academic staff of the rank of senior lecturer and above, who have spent five years and above in the university. To test for reliability, the instrument was administered to 100 students from two study centres outside the sampled study centres (50 students from each study centre). Split-half reliability test was used for the analysis, and reliability co-efficient attained was 0.8. Four research assistants were trained, who joined the researchers to administer the adjusted instrument to the sampled subjects. Out of 3,060 questionnaires administered, only 2,471 were retrieved successfully, which formed 81% retrieval. Percentage, mean and standard deviation were used in analyzing the data.
Results

Answer to Research Questions

Research Question 1: What is the perception of students on the criteria standards set on admission?

Table 2: Perception of Students on Criteria Standards set on Admission

| S/N | Criteria Standards                                                                 | Please tick as appropriate | Mean | Std Dev |
|-----|-----------------------------------------------------------------------------------|-----------------------------|------|---------|
|     |                                                                                   | 0 Not Aware                 | 1 Unsatisfactory   | 2 Satisfactory | 3 Highly satisfactory | 4 Excellent |      |        |
| 1   | The university has published clear policies on the admission of local and overseas students. | 800 (32.4) 39 (1.6) 628 (25.4) 302 (12.2) 702 (28.4) | 2.03 | 1.60    |
| 2   | The admission process is transparent and is made available for scrutiny by relevant stakeholders. | 401 (16.2) 140 (5.7) 638 (25.8) 303 (12.3) 989 (40.0) | 2.54 | 1.46    |
| 3   | There are existing mechanisms for selection of qualified candidates seeking admission. | 473 (19.1) 283 (11.5) 618 (25.0) 195 (7.9) 902 (36.5) | 2.31 | 1.52    |
| 4   | The university has special provision to ensure equity and access to disadvantaged groups within its target student population. | 659 (26.7) 335 (13.6) 537 (21.7) 209 (8.5) 731 (29.6) | 2.01 | 1.57    |
| 5   | All admissions are done electronically.                                            | 188 (7.6) 163 (6.6) 384 (15.5) 301 (12.2) 1435 (58.1) | 3.07 | 1.30    |
| 6   | Students’ admissions are based on specific criteria.                               | 167 (6.8) 278 (11.3) 584 (23.6) 342 (13.8) 1100 (44.5) | 2.78 | 1.30    |
| 7   | There are existing mechanisms for the placement of all applicants into various programmes. | 450 (18.2) 329 (13.3) 460 (18.6) 346 (14.0) 886 (35.9) | 2.36 | 1.52    |
| 8   | All applicants into the postgraduate programmes have placements.                   | 1012 (41.0) 137 (5.5) 477 (19.3) 210 (8.5) 635 (25.7) | 1.72 | 1.65    |
| 9   | There is no restriction on the number of candidates admitted.                     | 431 (17.4) 279 (11.3) 480 (19.4) 318 (12.9) 963 (39.0) | 2.45 | 1.52    |

N = 2,471
Source: Field Study

The area of great importance in Table 2 is the percentage of those who are *not aware* and the *unsatisfactory*. 47% respondents indicate *not aware* and *unsatisfactory* on the placement of applicants to postgraduate programmes and its mean is 1.72, which falls below 2.00. 40% indicate *not aware* and *unsatisfactory* response on the university provision for access and equity to disadvantage group. On the publication of clear policies on the admission of local and overseas students, 34% are *not aware* and *unsatisfactory*. 32% are *not aware* and are *unsatisfactory* of the existing mechanisms.
for the placement of all applicants into various programmes. Electronic admission also cut attention: 14% are not aware and are unsatisfactory of the electronic admission. The standard deviations are close to the mean. This implies that the responses are within the mean.

**Research Question Two: What is the perception of students on the criteria standard set on registration?**

**Table 3: Perception of Students on Criteria Standards set on Registration**

| S/N | Criteria Standards                                                                 | Please tick as appropriate | Mean  | Std Dev |
|-----|-----------------------------------------------------------------------------------|----------------------------|-------|---------|
|     |                                                                                   | 0  | 1  | 2  | 3  | 4  |       |       |
| 1   | The student handbook provides details of facilities and support services available to the learners. | 343 (13.9) | 420 (17.0) | 599 (24.2) | 260 (10.5) | 849 (34.4) | 2.34 | 1.44 |
| 2   | Information to prospective learners includes details of admission requirements, the procedure for enrolment and the requirements for progression through the programme. | 345 (14.0) | 217 (8.8) | 443 (17.9) | 423 (17.1) | 1043 (42.2) | 2.65 | 1.44 |
| 3   | Enrolment into the programmes is strictly in line with the specified norms and admission guidelines. | 238 (9.6) | 156 (6.3) | 641 (25.9) | 332 (13.4) | 1104 (44.7) | 2.77 | 1.33 |
| 4   | Appropriate students' demographic data such as present place of employment, sex, age, last school level etc. are obtained. | 298 (12.1) | 178 (7.2) | 485 (19.6) | 369 (14.9) | 1141 (46.2) | 2.76 | 1.41 |
| 5   | Registerable courses are made available to students. | 246 (10.0) | 321 (13.0) | 419 (17.0) | 313 (12.7) | 1172 (47.4) | 2.75 | 1.41 |
| 6   | Students’ difficulties and challenges on course registration are attended to promptly and efficiently. | 240 (9.7) | 508 (20.6) | 534 (21.6) | 331 (13.4) | 858 (34.7) | 2.43 | 1.39 |

N = 2,471
Source: Field Study

Details on student handbook to support registration and students’ challenges in course registration had 31% and 30% not aware or unsatisfactory respectively, as presented in Table 3. Generally, the mean falls within 2.00 and 2.78, which is an indication of satisfactory response to the criteria standards.
Research Question Three: What percentage level of access do students have to documents guiding their admission and registration into the university?

Table 4: Percentage of Students' Access to Admission and Registration Documents

| S/N | Documents                              | N   | %   |
|-----|---------------------------------------|-----|-----|
|     | Guidelines on Admission               | 1808| 73.2|
|     | Newspaper advertisement                | 1147| 46.4|
|     | Student Undergraduate Handbook         | 1251| 50.6|
|     | Student Postgraduate Handbook          | 925 | 37.4|
|     | University Website                    | 2108| 85.3|
|     | Student Database                       | 1224| 49.5|
|     | Periodic Information through study centre notice board | 1891| 76.5|

N=2471
Source: Field Study

From the data in Table 4, students have more access to the university website (85.3%) through which they are able to get the guidelines on admission. Students do not have much access to students' handbook: the undergraduate recorded 50.6% and postgraduate 37.4%.

Discussion, conclusion and recommendations

From the data presented in Table 2, it is observed that provision of access into NOUN for all those who are qualified is not well publicized with the record of 26.7% for not aware and 13.6% as unsatisfactory, which gave a total of 40%. Also, not all postgraduate applicants have placement. This negates the purpose of encouraging open and distance education in the country as specified in the National Policy of Education (2004). It is also observed that the university has defined the types of access available to the university, such as access policies and existing mechanisms for placement; but most of the students are not aware of these policies and mechanisms. Policy without adequate implementation is a failure. In this instance there appears to be a loophole in the policy implementation hence the less drive or it could also be that the processes put in place to implement the policies are weak. For instance, although the students have greater access to documents and information through the university website, it appears that the information on the website is not robust, hence students do not have much access to other documents and information. With a robust website, soft copies of other documents could be uploaded into the site which will facilitate access to other information.

From the findings, it could be concluded that students' admission and registration is facilitated by the type of information that is made available to them. To have a wider access in open and distance institution, the type of available access must be clearly defined and made available to the prospective students and learners through a medium that is easily accessible to them.

In conclusion, it could be said that students do not have equal access to student handbook as they have to the university website. This could limit the information on access and could also affect their course registration.
We suggest the following recommendations:

1. Access into NOUN should be given a wider publicity. This can be achieved through radio and television jingles. Demographic data (age, sex, ethnicity, religion, disability, qualification to be obtained, last school level obtained, etc.) should be well defined in the jingle.

2. Information in the student handbook needs to be beefed up to include facilities and support services available to the learners.

3. Since the findings showed that students have more access to the university website for information, it is advised that the website be made robust to include categories of citizens that are eligible for admission apart from just stating the last school level requirement; student handbook, and demonstration of course registration.

4. There should be a link on the student portal through which the student can read electronic newspapers and periodicals.

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Role of Faculty Development Forums in Virtual Teaching Environment: A Case Study of Marketing Research & Case Group

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Abstract

The online learning has broadened the teaching spectrum from Face-to-Face to virtual environment, and this move has brought traditional teacher-centered instruction to learner-centered instruction. This paradigm shift appears to place demands on faculty to modify faculty’s instruction roles that are different from those encountered in Face-to-Face teaching. This study explores the role of faculty development forum in improving the virtual teaching skills of academic staff members in an online university. The study has used single holistic case study approach, and the data from nine respondents have been collected through an interview schedule divided into four sections of 1) Basic Information, 2) Presentation Skills, 3) Subject Knowledge and 4) Research Orientation as per the objectives of the study. It can be theorized from the findings of the study that in virtual environments where faculty members lack the learning opportunities and exposure available in the conventional environments such forums prove to be very effective in capacity building of the faculty.

Keywords: Capacity Building; Virtual Learning; Teaching Skills; Faculty Development

Introduction

The online learning has broadened the teaching spectrum from face-to-face to virtual environment, and this move has brought traditional teacher-centered instruction to learner-centered instruction. This paradigm shift appears to place demands on faculty to modify faculty’s instruction roles that are different from those encountered in face-to-face teaching. Whereas the change in delivery of instruction in virtual environment does not allow teachers to put the basics of teaching aside, likewise presentation skills, subject knowledge, and research orientation; all have vigorous importance in virtual environment and faculty must develop these basic teaching catalysts in order to provide the worth learning propositions to the students. From a traditional teaching perspective, it has been viewed that technology plays a huge part in information transfer and that is apparent. It has made information available at the tip of one’s fingers. However, there are consequences; while it makes life easier, emphasis on machine reduces the need for teachers and students’ interaction; consequently this reduces the role of mentor to student’s relationship in education. This will impact culture in the long term because, when demand for teachers goes down, it offers less consolation for the teaching profession and indirectly discourages the new generation of people to take teaching seriously. To counter the traditional teaching perspective, the capacity building forums are developed in educational institutions, which not only provide new instructional roles to teachers but also offer emotional and motivational support to teachers to cope with the teaching skills in virtual environments. Professional development of teachers through capacity building forums is a commitment to continuous thinking about teaching profession; it pays attention to enhancing subject knowledge, research orientation and communication skills of teachers. These capacity building forums also keep the teacher intellectually alive in the learning environment in order to undergo ongoing professional learning process.
It has been observed that most teachers in university use to teach as they themselves were taught and they learn by taking visiting lecturers at college or university level and through training in their respective disciplines (García, Arias, Murri & Serna, 2010). Teaching in online mode of education is the big challenge for those teachers who are not having the experience of traditional teaching. To cater to this challenge, many universities are introducing faculty development programs, and these are designed to enhance teaching skills among teachers by adding up technological orientation towards their teaching portfolio, as technology is the embedded feature of online teaching environment in current teaching climate. In face-to-face teaching the adequate subject knowledge and effective presentation skills are the core ingredients that glorify the tutoring (Beetham & Sharpe, 2013). These two core skills persist strong standing even in online mode of education in addition to the momentous transformation in teaching methodology from teacher-centered instruction to learner-centered instruction.

Virtual learning environments always demand teaching brilliance in terms of subject expertise and effective presentation skills from the novice teachers to deliver high quality education to students. Many universities are addressing this concern by introducing their own faculty development programs (Armellini & Jones, 2008; Salmon, 2013). It has become contemporary for the institutions to articulate supportive development programs for the faculty to foster the paradigm shift of teaching in virtual environment. On-the-job training method is considered to be the most cost-effective method for faculty development in different educational institutions that allows teachers to strengthen their subject knowledge and enhance presentation skills. In 21st century the role of teacher has changed from distributor of information to facilitator, coach and orchestrator of knowledge and guiding students to turn knowledge into wisdom. This unique role of teachers initiates knowledge generation in learning and fosters the paradigm to create a culture of inquiry in spite of just sticking on the delivery of information. To ensure the absorption of learning into practice, these initiatives of faculty development should work within their true contexts to achieve the desirable results (Bell, Maeng & Binns, 2013).

Apart from developing subject expertise and delivery skills among faculty, institutions should pay attention towards the technological development of the faculty to cope with the new learning environment prevailing in academia (Laurillard, 2012). Salmon (2011) explains the experience of faculty as a learner with the advancement of technology; it is proved to be an entrenched method of development of knowledge and skills among teachers that contemplate substantial impact on their teaching practices. McQuiggan (2012) highlights that teachers and students are newly exposed to online learning environment and online teaching is yet an under explored phenomenon which entails different challenges and risks taking on faculty’s end. It is compulsory for teachers to explore their beliefs and practices in online environment in order to equip themselves with contemporary teaching skills of 21st century (Åkerlind, 2011). McQuiggan (2012) argues the emerging teaching skills of 21st century excite teachers to develop new teaching ideas and delivery of means to ensure academic effectiveness towards knowledge construction (Salmon, 2011).

Research-driven approach has become a necessity for university teachers—both new and experienced academic staff (Barajas & Gannaway, 2007; Smet, van Keer & Valcke, 2008). Faculty development programs attract teachers to engage in continuous learning processes, which result in applying their experience and theory into practice (Gregory & Salmon, 2013).

So, learning and development are important for teachers because, we believe, teachers should be leading by example. They should embrace continuous learning on a personal level and inevitably, if they do this, they will be more productive, motivated and successful. If this ethos is shared with other faculty members and supported by university, then it really has the potential to cascade throughout the organization and hopefully instigate some professional change and generate some
significant improvements in quality of teaching. Continuous faculty learning will inevitably involve some departmental effort to strengthen the skills of teachers while working in an online environment. Any learning activity designed to enhance the skills of teachers, their knowledge and competence represents a learning milieu in any organization. It also complements the spirit of cost-effectiveness and peer-to-peer learning through platforms like Marketing Research & Case Group (MRCG). Through these platforms, faculty can do a quick self-assessment and this could be a personal SWOT analysis, or it could be a more complex diagnostic tool for faculty to identify areas where they need professional development in order to strengthen their teaching skills.

**Marketing Research & Case Group (MRCG)**

MRCG was a unique initiative taken by the faculty of Marketing under the aegis of the Department of Management Sciences, of a public sector e-learning based university of Pakistan. This capacity building forum was established in October 2013; it was designed to cater to the needs of faculty professional development, explicitly to address the area of subject knowledge, presentation skills, research orientation and pedagogy in an efficient and effective way. On faculty side, this group (MRCG) was tailored to meet the prerequisites of in-service teachers with a new set of experiences: presentation skills, research orientation and subject knowledge in accordance with virtual environment. Apart from this, MRCG is also a knowledge-centered forum for the faculty, which includes planning, strategic thinking, transfer of knowledge and expert opinion on contents of the courses taught at university. Members of MRCG often found eager to participate in their respective area of interest, though novice teachers are not often seen acquaintance with research exposure. MRCG organizes its sessions on weekly basis in which one faculty member presents its prepared topic to the other members of the forum. Twenty-two members of the forum are stationed in three locations: Lahore, Islamabad and Karachi. Presentation schedule for 22 weeks is communicated to all members in advance with clear mention of the turn of each member.

**Aim and objectives of the study**

The aim of this study is to explore the efficacy of capacity building forums for faculty of Distance Education/Online University through case study research method.

The objectives are:

- Explore the development of presentation skills as a result of the capacity building forum MRCG
- Explore the enhancement of subject knowledge as a result of the capacity building forum MRCG
- Explore the orientation on research skills as a result of the capacity building forum MRCG
- Explore the overall efficacy of the forum as a result of the capacity building forum MRCG

**Methodology**

Single case study method is selected as a research approach for this study. This method provides a holistic and vibrant view of the research that is being studied (Yin, 2003). In a case study the researcher has less control over occurrence, and the focus remains on contemporary phenomenon in line with real-life context. Hyde (2000) explained that qualitative methods seek to recognize the core notions and effort to find the associations between variables. The qualitative data method comprehends the transcripts of interviews or observation. A case study method gives deeper inside of the phenomenon through interviews. Data collection plays a very important role by providing...
empirical evidences in order to support the research findings. Therefore, in order to explore the impact of MRCG on teachers’ professional development and the factors those contribute to the enhancement of teaching skills among the members of MRCG. This study followed the principles of data collection for case study specified by Yin (2003), which are in-depth interviews with permanent members of MRCG. Purposive sampling was used for this study, which is also known as judgmental sampling, or criterion-based sampling. In depth interviews in a case study approach are used to explore the in depth understanding of the phenomenon (Merriam, 1988).

Data from 9 respondents have been collected through an interview schedule divided into four sections: 1) Basic Information, 2) Presentation Skills, 3) Subject Knowledge and 4) Research Orientation, as per the objectives of the study. In each section different questions were asked covering the dimensions of different themes of the study. In each question respondents were required to describe their response in words.

**Selection Criteria for Respondents & Ethical Consideration**

The selected respondent should be permanent members of the Marketing Research and Case Group (MRCG) for at least one year, and should be faculty members of the Department of Management Sciences of the university and teach courses related to business and management. In order to complete this study with appropriate research guidelines, research ethics have been followed with utmost care. Sufficient time was given to the respondents of the study to come up with their true views about the research questions asked. Consent of the respondents and their permission to use the data has been taken. In addition, confidentiality of the responses has also been strictly maintained to ensure the privacy of their data.

**Data Analysis**

Content analysis is an appropriate approach for this research by keeping in view the primary themes of the study and their relationship with the underlying phenomenon. According to Bryman (2004), content analysis is an established approach to analyze qualitative data under the given themes. He further defines content analysis in the following way:

“An approach to documents that emphasizes the role of the investigator in the construction of the meaning of and in texts. There is an emphasis on allowing categories to emerge out of data and on recognizing the significance for understanding the meaning of the context in which an item being analyzed (and the categories derived from it) appeared” (Bryman, 2004, p. 542)

For the analysis of the collected data following steps were taken:

1. First responses of all the respondents were arranged question wise in each section
2. Contents of all the responses in each theme were separately analyzed
3. Analysis for each theme was then recorded below it in the concerned section
4. In this section only analysis against each question has been reported by omitting the original responses to avoid unnecessary length
5. Where it was important in the analysis, the original response of one respondent has been reproduced as evidence

**Results**

The findings regarding the objectives of the study are presented in this section. The findings are presented in four headings that correspond to each objective.
A. Basic Information

Content analysis of responses of most of the respondents clearly showed that members joined the forum with the main motivation and primary purpose of improving their communication & presentation skills, subject knowledge, understanding of case studies and research related understanding & skills, such as reading and writing research papers. One respondent who joined the forum because it was mandatory must also have developed the same purpose in mind after joining the forum.

Responses have clearly depicted that all respondents, except one, have strongly agreed to the point that MRCG being a capacity building forum has resulted into the development of teaching skills for an online distance-learning environment. They have explained that the forum, by helping improve on the front of presentation skills, subject knowledge and research, has developed in them contemporary teaching skills. It is widely understood that teaching skill is the combination of presentation, research and subject knowledge. The one respondent who did not agree to this might not have carried development of teaching skills as purpose of the forum. On the point that whether joining the forum has resulted in any improvement, all the respondents have overwhelmingly agreed to the point. Respondents have clearly described that the forum has made a significant positive change in their learning, especially in areas of confidence during presentations and understanding of research tools.

From the contents of the responses it has been learned that all the respondents have unanimously accepted the fact that they have benefited from MRCG. Main mentioned benefits of the forum are same as already described in the responses of above questions. These benefits are: enhanced confidence during presentations, better understanding on how to read and present a research paper and more awareness of contemporary research tools and techniques. Responses are evident of the fact that MRCG as capacity building forum has resulted in capacity building of its members.

On the question of limitation of MRCG as a learning forum, responses were split into two categories: those who felt limitations in the way presentations were held on the forum and those who felt that there was no limitation as far as the format of the forum was concerned. Some members confirmed that the forum was not only open but also allowed equal opportunity to all its members. One respondent has considered the forum to be not clear as whether all members presented on pure marketing topics or research topics.

B. Presentation Skills

Data showed that respondents were of the opinion that MRCG had improved their presentation skills by enhancing their confidence to face people, enabling them to craft their topic well, allowing them to manage time and making them build and defend arguments. Most of the respondents have considered enhanced confidence to present as the main improvement as presenter. One of the respondents said:

“Yes, because I feel more confident. Before MRCG whenever I presented something in front of audience my mind went blank and feet used to be trembling.”

On this question—how did MRCG help put their point of view in a proper manner—respondents have elaborated that, since it was a forum where every participant could freely ask questions and share comments on presentation and presenter, over the time presenters learnt from critique to present their point of view in a proper manner. Logically speaking this is critique that let a presenter put his/her point of view in a manner. The respondents in case of MRCG have confirmed the same. One respondent put it this way:
“As I am a research scholar, the timing of such activity is no doubt to be the perfect and facilitating my concepts and ideas about the research. There is no doubt that the platform is helpful. I always welcome the substantial critique provided by my colleagues and seniors that really help me in rectification of crude work and produces more refined and error free work.”

Pressure of the audience, anticipation of questions and limited time of sessions are reported to be the main factors that contributed to the personal organization of members as presenters. What can be read between the lines is the factor of managing personal image before colleagues, which might also have contributed to better personal organization for presentations. Analysis of responses made it clear that three factors helped respondents learn to well manage presentation time in MRCG. These factors are the past experience of own presentation, observation of other’s presentations and fixed given time. One respondent described it as

“By observing other participant presentation next presenter can easily manage presentation timing.”

According to the responses, three factors have made the members of MRCG learning to better use various resources for presentation. (1) Format of MRCG sessions, since members of the forum were situated in three locations (Lahore, Islamabad and Karachi) therefore in each session all the three locations were connected through video conferencing, (2) Ready and free availability of resources and (3) Requirement and encouragement to use audio-video aids to make presentations more effective. Among the three, the first one must have played a most critical role in this regard as maintaining quality of presentation through video conferencing asks for more careful use of resources and extra struggle to be put in.

Multiple presentations by a member, ideas from presentations of peers, urge to present dry research topics in acceptable ways were the factors which have led to the development of creative ways of presentation in members as reported by most of respondents.

All respondents have agreed and confirmed the role of MRCG in improving presentation skills of its members from faculty development perspective. Effective presentation skill has now become a necessary condition for effective faculty in virtual learning environments. Introduction of Skype, TeamViewer and other technologies have now made it very much possible for the teachers and learners to have real time live interaction. This interaction mode certainly demands faculty of virtual environments to develop presentation skills at par with the faculty of conventional learning environments. Keeping this in view MRCG has contributed in this regard.

Only three respondents have responded to this question. Out of three one respondent has disagreed to consider MRCG as the right forum for faculty development while other two have considered MRCG as the right forum. The respondent who disagreed to the point elaborated it as

“In my opinion this is not the way for faculty skill development. For faculty skill development those activities should be pursue which are above the level of faculty and help in teaching students. They should do something regarding teaching software’s, how to publish your paper, how to draft your paper etc.”

Responses of the previous question indirectly support the point that MRCG is a right forum for Faculty development.

C. Subject Knowledge

It has been identified from the analysis of responses that MRCG has enhanced the subject knowledge of its members in three ways. First way was the preparation process everyone had to undergo for his presentation; second way was listening to other presentations on a weekly basis, and third was the discussion during the session that followed every presentation. The first way also enhanced the habit of improving subject knowledge through self-discovery.
On this point—how subject related learning at MRCG was transformed into student’s learning—the respondents had mixed opinions. Some have mentioned that it influenced the mentoring practices of faculty, but others have pointed out any such transformation only in the future. From the content analysis of responses it can comfortably be stated that subject related learning of faculty has only indirect bearing on their practices of mentoring their students. Logically speaking when faculty is exposed to such forums their acquired knowledge does get transferred to their students.

It is quite evident from the responses that the members do get ideas and encouragement from the activities of MRCG for developing course related activities such as GDBs/Assignments/Quizzes. Responses to this question should be considered in addition to the previous question. One respondent narrated this as

“The presentation at MRCG helped to share new ideas that I applied on while making assignment and GDBs.”

All respondents, except respondent 9, have informed that joining of MRCG has developed and improved their reading and searching habit. Raised subject knowledge has been considered the natural result of improved reading habit by most of the respondents.

Only five respondents have responded to this question. Low response on this question might be because of its being connected with previous questions in which respondents had already highlighted the advantages of the forum with reference to enhancement of their subject knowledge. Among given responses most of the respondents have confirmed the advantages of the forum without any disadvantage. Logically arguing such forums generally do not result into any disadvantage and the same has been confirmed by the responses.

D. Research Orientation

Almost all respondents have confirmed that MRCG has not only met their research needs but has also positively affected their work life in shaping their aptitude for research. One of the respondents has mentioned that critique during MRCG sessions has helped him refine his research topic. One respondent informed it as

“It helps a lot because in MRCG we try to remove error or give suggestions of a presenter’s presentation. For example I presented an article there, members suggested me some changes and after proper implementation of that changes my article has been published.”

Analysis showed that respondents have not categorically explained the “how” part of the question but they have overwhelmingly confirmed the role of MRCG in help shaping goals for learning and professional development. This response also confirmed the achievement of one of the objectives of MRCG that was about making its members to think of personal and professional development.

Content analysis of responses again confirmed that reading of research papers and discussion during sessions helped refine the research topic and other components of research project under consideration. In the words of a respondent,

“Discussion helps in this regard and we come to know what this particular research is about and why it is conducted.”

Responses were not very clear on the asked aspect but on the surface it seemed that the activities of MRCG were leading members in the desired dimension. One respondent statement can give idea on this; he explained it as

“The session is scheduled well before its actual presentation and all its members are bound to present on their given time slots. Every presenter has to send an email to all the group members regarding the basic topic and theme of his/her presentation. Such activities have increased the sense of responsibility in all its members to deliver well on time.”
Interestingly respondents have once again mentioned that this was the discussion on the presented topic and feedback received from members—especially senior members—resulted into the conceptual clarity of different aspects of the research topics. Help from other members has been mentioned as key in this regard. It seemed from the responses that most of the respondents could not get the spirit of the question.

Discussion & Conclusion

Main objectives of the study are to explore efficacy of MRCG as capacity building forum for faculty in the areas of presentation skills, subject knowledge and research orientation. On the basis of the results in first section it can be argued that members of MRCG were clear about the objectives of the forum and their own objectives to join the forum. Clarity of the participants of an activity about its objectives can be taken as the first indicator of being effective and efficient. From the results it seems true for MRCG as well.

Second section of the Interview Schedule was to explore the efficacy of MRCG in the area of helping its members developing presentation skills. Results of all the eight questions in this section clearly show that MRCG has proved to be efficient and effective in developing presentation skills in its members. Results have shown that those who were not comfortable at all in presenting things publicly developed the required confidence and those were to polish their skills managed to achieve the milestone.

The findings made new contribution towards the theory that in virtual teaching environment not only the technology but also the faculty development forums can create substantial impact on teaching practices of the faculty. This finding differs from Salmon’s (2011), who argued that the advancement of technology is proved to be a entrenched method of development of knowledge and skills among the teachers which contemplate substantial impact on their teaching practices. In order to measure the substantial impact, members were evaluated through their semester activities that they have to perform again and again throughout the semesters, and these activities are development of student’s assignment, development of exam questions and replying subject related queries of the students. It was found that members of MRCG improved their write up and they have become more critical towards developing student’s assignment and exam questions. It was also noticed that members of MRCG have started taking interest to write research papers in order to strengthen their research skills. Their participation in local research conferences has also increased.

Third section was to seek insight on the aspect of members of MRCG enhancing subject knowledge in result of activities organized through the forum, in order to strengthen their tutoring skills. This finding supports the viewpoint of Beetham & Sharpe (2013) who explained that the adequate subject knowledge and effective presentation skills are the core ingredients that glorify the tutoring.

Results have shown that members have managed to enhance their subject knowledge in result of the activities of MRCG, as every member was not only to present but also to attend the presentations of other members and take part in discussions. These factors resulted into the enhanced subject knowledge of the members. The forum also developed and strengthened the reading habit of its members, which further contributed to the enhancement of subject knowledge. Forum has not only enhanced the subject knowledge but has also enabled its members to better mentor their students. The forum has served as a source of ideas for faculty members to develop sessional activities for students. This also confirms the efficacy of MRCG in the area of subject knowledge enhancement.

Fourth section was aimed at noticing the role of MRCG in providing orientation on research and its related tools and techniques to its members. Finding of the study as contained in data analysis obviously communicate that MRCG has provided both research orientation and orientation on
research to its members. When MRCG started it had two types of members; those who had no background in research and those who had primary knowledge and exposure on it. MRCG has provided basics to the former and refinement to the latter. This can also be extracted from results that on this front MRCG is successful but not as it is on the front of developing presentation skills and enhancing subject knowledge.

Another major contribution of the study is to avoid high cost of faculty development programs. In a developing country context, it is very difficult for universities to allocate huge budget for the faculty development programs. This finding supports the argument of Elliott, Rhoades, Jackson & Mandernach (2015): that limited funding is available for faculty development initiatives. This finding also gives new dimension to the view point of Meyer (2014) who argued that institutional budget for faculty development is declining due to the limited state funding.

Conclusively it can be remarked that the study has explored and shown that MRCG as a capacity building forum has proved to be efficient, effective and useful. It can also be theorized that in virtual environments where faculty members lack the learning opportunities and exposure available in conventional environments, such forum like MRCG can prove to be very effective in the capacity building of the faculty. As an argument such forums can serve as a useful starter in the area of faculty development.

Mostly in virtual teaching environment teachers are more active on learning management systems (LMS) rather than standing in a traditional classroom to deliver the lectures. However, teachers in the university of context use Skype/Adobe Connect applications to have few live sessions with the students in order to solve their assignment related queries and overview of the important lectures. These live sessions are designed to facilitate the students by using modern technology, and provide them a bit sense of traditional learning environment in which they feel interactive with their teachers. Teaching in 21st century has become big challenge for traditional and novice teachers. Traditional teachers are still unfamiliar with the latest use of modern technology in developing countries. Such capacity building forums are one gateway for them to acquire the latest teaching skills by creating such forums in their educational institutions. Moreover, such forums are very cost-effective for those educational institutions that are eager to provide professional development trainings to their teacher on regular basis. Faculty requires continuous professional development in virtual teaching environment by keeping in view rapid technological disruption in education, which has brought traditional teacher-centered instruction to learner-centered instruction. There is a need to develop new forums for faculty development in virtual teaching environment.

Implications and Future research
Finding of this research highlights the importance of capacity building forms in virtual teaching environment where teachers seldom get chance to interact with their students face-to-face. As the extent of online courses keeps on expanding, so does the requirement for capacity building forums. The growing body of examination on this point reflects institutional difficulties in recognizing effective measures to provide continuous professional development to the faculty in virtual teaching environment. The needs of staff instructing exclusively online changes significantly from their face-to-face equivalents; universities should come up with new strategies to develop cost-effective forums where faculty can be trained on a regular basis. On a strategic level, the top management of educational institutions can frame the faculty development strategies by establishing different capacity building forums in each department of their respective university/institute.

Despite the contribution to the body of knowledge of capacity building forums in Online/Distance learning university, this research has suggestions for future research. Future research is needed to
discourse the limitations of the current study. A primary limitation includes the small sample size of the members of MRCG, which make this study difficult to generalize; with a large sample, a quantitative study can be conducted to explore the efficacy of capacity building forums for faculty of Distance Education/Online University. Second, further research is thus needed to gain a greater understanding of the accumulated role of different faculty development forums in a single online/Distance learning university. Third, future research is needed to explore the research contribution of members of capacity building forums in terms of publishing their research papers and winning research grants—local & international. In addition, future research should compare the research inputs of the faculty members who are not involved in any faculty development forums in virtual teaching environment.

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Building Capacity for Open and Distance Learning (ODL) in West Africa Sub-region: The Pivotal Role of RETRIDAL

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Abstract

The paper posits the Regional Training and Research Institute for Distance and Open Learning (RETRIDAL) as an institution established for the purpose of enhancing Open and Distance Learning in the West African sub-region. The institute has pursued this mandate with unparalleled vigour since its establishment in 2003—a partnership of the Commonwealth of Learning and the National Open University of Nigeria. It is the opinion of this paper that enhancing the Open and Distance Learning mode of education in the West African sub-region will require building capacity. Consequently, RETRIDAL has championed this cause through workshops and training sessions as well as commissioning research studies in Nigeria and other West African countries. The objective is to produce suitably qualified manpower that is able to utilise ODL to mitigate the exploding demand for access to education in the sub-region. The paper also foresees a future of ODL and RETRIDAL for West Africa, as many universities are keying into the distance education paradigm.

Keywords: Capacity Building; Access to Education; Distance Education; Open Education; Educational Demand

Introduction

Open and Distance Learning (ODL) as a mode of delivering tertiary education is relatively new in the West African sub-region. Its purpose is to increase access to tertiary education in a situation worsened by an increasing population, limited places at conventional ‘brick and mortar’ universities coupled with a stagnant socio-economic climate (Gulati, 2008). The premise behind ODL is simple: teachers and students are in different places for all or most of the time that teaching and learning occurs with interaction dependent on the available communication medium (Moore & Kearsley, 2011). However, to realize the benefits, there is a need to increase the capacity of the stakeholders involved.

It is against this backdrop that the Regional Training and Research Institute for Distance and Open Learning (RETRIDAL) was established in 2003. A partnership between the Commonwealth of Learning (COL) and the National Open University of Nigeria (NOUN), RETRIDAL is mandated to develop capacity for the providers of Open and Distance Learning in the West African sub-region, and anywhere in Africa when the need arises.

It is pertinent to draw attention to the main thrust of this study. It is the desire of the authors to:

- Establish the need for the introduction of the ODL system in the West African sub-region.
- Establish the need for capacity building for ODL.
- Take a swipe at the world education demand outlook, which will include sub-Saharan Africa in which the West African sub-region is prominent.
- Examine the role of RETRIDAL in building capacity for ODL in West Africa.
- Suggest future partnership for greater capacity building for ODL intervention and innovations.
Definition of terms and concepts

ODL – What’s in the name?

It is pertinent to acquaint readers with a definition of Open and Distance Learning. Terms that are commonly used to describe Open and Distance Learning include: correspondence education, home study, independent study, external study, continuing education, distance teaching, self-instruction, adult education, technology-based or mediated education, learner-centred, open learning, e-learning, online education. Whilst these terms describe aspects of Open and Distance Learning, they do not provide an encompassing definition of what it entails. The South African Institute for Distance Education (SAIDE) (2002) describes Distance Education as a mode of education delivery that involves independent learning at a distance through the means of self-study text and non-contiguous communication. They also describe Open Learning to include the notions of both openness and flexibility whereby students have personal autonomy over their studies and access restrictions have been removed. There are five identifiable elements of distance education, as listed by Keegan (1996) including:

- The separation of teacher and learner,
- The influence of educational organisation in planning and preparation of learning materials and provision of student support,
- The use of technical media to unite the teacher and learner and to provide educational content,
- The provision of two-way communication so that the student may benefit from or even initiate dialogue, and
- The individuality of the teaching/learning process with the possibility of occasional meetings for both didactic and socialisation purposes.

The philosophy of Open and Distance Learning emphasises giving learners choices about their medium or media of instruction—either print, online, television (audio-visual) video--; place of study—either home, workplace, or on-campus--; pace of study—either structured or unstructured--; support mechanisms—either tutors-on-demand, audio conferencing or computer assisted learning-- as well as self-determined entry and exit points.

Similarly, Open Learning is a system of education that does not operate through conventional means of education that places restriction in its operation. Open learning is characterised by the absence of restrictions on admission, attendance to classes, candidature on examinations, period of time to be devoted to coursework, number of examinations given and taken in a year, subject combinations for a particular degree, mode of didactic communication and tasks (Tanglang, 2013).

Closely tied to the issue of openness is the cardinal issue of accessibility. The promoters of Open and Distance Learning are committed to making training and education accessible to all persons without discrimination on the basis of age, location, disability, etc. These persons may be those who cannot attend regular classes due to personal situations, political displacements and the less privileged.

Also germane to the centrality of accessibility is flexibility as a feature of Open and Distance Learning. This refers to the times and places of instructional delivery that suits the learners. The learners reserve the choice of studying subjects, courses and programmes in an order and manner appropriate to their needs. COL (2000) suggests that flexibility should also be manifested in admission requirements and restructuring programme to meet specific needs of learners such as specialised training for professionals and material delivery, work assessments and tutor interactions.
Open and Distance Learning delivery has also achieved some modicum of learner centeredness, enabling learners to pursue their studies in a way that is appropriate for their circumstances, learning goals and styles. For educational institutions, this means providing good quality learning materials in an appropriate, accessible media as well as giving support to ensure that learners have a good chance of successful completion of their programme (O'Rourke, 2003). Also central to the success of any Open and Distance Learning System are the support services. This means providing administrative and academic support that enhances student success. This is done by:

- Providing information about the educational institutions’ admission and registration processes,
- Maintenance of academic records,
- Providing systems that enable learners to investigate courses and programmes that meet their needs,
- Providing tutoring and assessment during the course,
- Providing guidance and counselling to learners on future courses or path of study.

This foray into what Open and Distance Learning means, and the highlights of its characteristics, is meant to guide us into what the outlook is like and help to grasp the need for capacity building for ODL. The reason is that ODL needs an enormous array of staff as its tasks are also enormous—different categories of staff ranging from academic staff to administrative, script writers, graphic designers, editors, etc. (Sherry, 1995). In most cases, the demands on these categories of staff are significantly different from what obtains in the conventional system; hence the need for capacity building.

What is capacity, capacity building?

Over the years, various organisations have been able to define Capacity within the context of their activities. The United Nations Development Programme (UNDP) defines capacity as “the ability of individuals, institutions, and societies to perform functions, solve problems, and set and achieve objectives in a sustainable manner” (UNDP, 2008). This definition comes from years of experience in carrying out development work in various countries. The World Health Organisation defines it as “the ability to perform defined functions effectively, efficiently and sustainably and so that the functions contribute to the mission, policies and strategic objectives of the team, organisation and the health system” (Milen, 2001). The European Commission defines it as “an attribute of people, individual organisations, and group or organisations; shaped by, adapting to and reacting to external factors and actors” (European Commission, 2011). The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines capacity for the education sector “as a process through which stakeholders in the delivery of education develop, maintain and apply various capacities to achieve their targets” (UNESCO, 2013).

Furthermore, Morgan (1998) gives a more expansive definition as the abilities, skills, understandings, attitudes, values, relationships, behaviours, motivations, resources and conditions that enable individuals, organizations, networks/sectors and broader social systems to carry out functions and achieve their development objectives over time. Although this definition is broad, it allows for the labelling as ‘capacity’ any skill, proficiency or talent needed to actualise a job successfully; and extends it to the capital, assets or properties including any system of governance necessary to manage these skills and resources.

A common theme running through these definitions is that capacity is an intrinsic quality possessed by people, organisations and systems. Bringing it to the context of ODL, this definition can be streamlined down to specific tasks. These include capacities such as: the capacity to fix objectives, the capacity to draw up comprehensive strategies and plans and implement them, the capacity to
create and sustain a climate of change. This allows the evaluation of capacity as either strong, efficient, weak, lacking or even dysfunctional (Faccini & Salzano, 2011).

In light of these definitions, Capacity Building can be said to be concerned with how to improve the capacity of people, organizations and systems to effectively achieve their set objectives (Faccini & Salzano, 2011; OECD, 2006; Wing, 2004). Faccini and Salzano (2011) argue that it is not only a case of addressing deficiencies or a lack of capacity. It is often more complex in that capacity more often than not exists, but is used ineffectively. This could be the case where a teacher from a traditional educational system is co-opted into an ODL system without additional training. He/she knows the subject matter (i.e. has capacity) but might not be able to present it effectively using the communication medium chosen for ODL delivery.

Additionally, Bolger (2000) states the objective of Capacity Building as:

- To enhance, or more effectively utilise skills, abilities and resources
- To strengthen understandings and relationships
- To address issues of values, attitudes, motivations and conditions in order to support sustainable development.

We can surmise from these authors that Capacity Building is any process that results in the improved efficiency and effectiveness of any organisation; where lagging or weak capacities reach their optimum level of efficiency. This increase in the strengthened capacity and effectiveness leads to full-functioning institutions, improved education systems and sub-sectors as well as better coordination and smoother channels for delivering and providing a quality education for each learner.

**Scope of Capacity Building**

A closer examination of the definitions given above, along with the work of the UNESCO (2013), reveals that capacity can be viewed as residing in three levels, each separate in function but interconnected in operation (Faccini & Salzano, 2011; UNESCO, 2013). These levels are the individual level, the organisational level and the institutional level. A fourth level could be added, which is the socio-economic, political and cultural context within which all three levels operate (see figure 1).

- **Individual capacities**: This level includes individuals’ technical (knowledge, competencies), functional (know-how, values, experience) and leadership (personal attitudes, psychology, motivations) skills as well as the ability to adapt to change. Each person is endowed with a mix of capacities acquired through formal training and/or experience that allow them to function either at home, at work or in society at large.

- **Organisational capacities**: This level is a collective manifestation of individual capacities under a guiding framework that allow for connections to achieve goals beyond individual capacities. It includes the practices, roles, mandate, decision-making structures, divisions of labour, methods of management and means of functioning; use of resources—intellectual, material economic and technological (UNDP, 2008).

- **Institutional capacities**: This is the encompassing level (sometimes called the enabling environment) within which individual and organisational capacities function. This is where overarching strategic planning occurs to determine policies, procedures, norms, standards, power structures, systems, environment, etc. (UNDP, 2008). This level can be considered the most important, as capacity building exercises targeted at this level trickle down to the others.

However, the objective of any capacity building exercise is to arrive at a synergy between all levels to effectively perform their goals.
Capacities Needed for Functional ODL Systems

In ODL systems, there is normally a separation of the student and teacher. This necessitates a paradigm shift in the mentality of ODL providers from that of conventional brick-and-mortar universities. Also, the delivery of educational content via ODL systems requires a pedagogical change in the way lectures are presented and assimilated by students. This introduces significant differences in the way students approach and interact with the material as well as with other students (Moore & Kearsley, 2011).

Manpower for functional ODL systems requires capacities that are unique to their operations and differ in content from the conventional universities (Trinidade, Carmo & Bidarra, 2000). These include:

- Setting specification of programme objectives and target population,
- Programme design and curriculum development,
- Content authoring,
- Instructional Design,
- Production of learning materials,
- Selection and enrolment of students,
- Distribution of informational and learning materials,
- Tutoring and student support,
- Assessment and certification,
- General and special monitoring.

ODL: Responding to Exploding demand for Higher Education

An attempt is made here to answer the questions: Why ODL at all? Also, why building capacity for ODL is important? The answer to those questions would be glaring when we look at the World Higher Education Demand Outlook, particularly those from Sub-Saharan Africa. Figure 2 shows a disquieting picture of global demand for higher education. Kanwar (2013) reports that the 150 million
students in tertiary education in year 2007 represent a 53% increase over year 2000. This number rises to 165 million in 2012 and is projected to reach 263 million in 2025. She asserts that to accommodate this number there would be a need to build four universities with a capacity for 30,000 students every single week.

The global outlook is not different from that of Sub-Saharan Africa, where the West African sub region is the focus of this study. Figure 3 shows a breakdown according to regions. According to UNESCO (2010), enrolment in tertiary education grew faster in Sub-Saharan Africa than in any other region over the last four decades. While there were fewer than 200,000 tertiary education students enrolled in the region in 1970, this number soared to over 4.5 million in 2008. The report also indicated that the Gross Enrolment Ratio (GER) for tertiary education grew at an average rate of 8.6% each year between 1970 and 2008 compared to the global ratio of 4.6% over the same period.
However, there is one sad aspect of this rapid growth: only 6% of the tertiary education age cohort was enrolled in tertiary institutions in 2008. This is despite the rapid expansion over the past several decades. Tertiary education systems in Sub-Saharan Africa are still not equipped to absorb the growing demand that has resulted from broader access to secondary education.

For instance, UNESCO (2010) also reported that in 1999, the region’s (Sub-Saharan Africa) GER for upper secondary school level was 19%; which was nearly five times as high as the ratio for tertiary education (4%). In 2008, the tertiary GER was 6%, compared to 27% for upper secondary education. The large gaps between the two ratios—GER for upper secondary and tertiary education—indicate that there will be many students completing upper secondary education who are eligible for higher education but will not have access to it.

This explosive demand globally and in Sub-Saharan Africa is what ODL aims to overcome, by providing access to a large number of the population who may not have access to a classroom in order to acquire an education of their choice. This has given rise to a range of new types of tertiary education providers—private, cross border, online and distance education institutions.

Thus, ODL has come to represent an intervening model to help provide access to higher education in West Africa, with the National Open University as its flagship in the region. There are also some universities which are dual mode, running both the conventional and ODL mode of educational delivery. This necessitates the building of staff capacities across the West African sub region.

**Regional Training and Research Institute for Distance and Open Learning (RETRIDAL)**

RETRIDAL—Regional Training and Research Institute for Distance and Open Learning—was established in August 2013 in response to the developmental needs of manpower for Open and Distance Learning delivery system in West Africa. RETRIDAL was established under a collaborative
agreement between the Commonwealth of Learning (COL) and the National Open University of Nigeria (NOUN), where it is located. NOUN is the only single-mode distance learning university in the West African sub-region.

RETRIDAL is tasked with providing training services and opportunities to emerging ODL institutions; building a regional network of ODL trainers and researchers; engaging in and supporting systematic research activities in ODL within Nigeria and across West Africa; as well as networking with other similar institutions globally.

RETRIDAL, as an academic institute, came with a vision and mission. The mission of the founding partners for the institute is to make RETRIDAL a globally acclaimed one-stop solution for ODL training, development and research needs in the West African sub-region. Its mission statement is:

To build a regional network of expertise in the West African sub-region that is highly proficient in the delivery of training, development and practice-based research in ODL.

To achieve this, RETRIDAL's workshops/capacity building exercises are organised with topics selected in line with the listed capacities needed to run functional ODL systems (see previous section on Capacities Needed for Functional ODL Systems). They follow a train-the-trainer model with face-to-face instruction used. Participants are given workshop materials to enable them train others in their institution. The duration of the workshops/capacity building exercises ranges from single day workshops to a whole week (table 1).

Participants are either nominated by the director of each invited institution or selected according to criteria developed to target certain profiles (e.g. young academics). Workshops with an organisational/institutional focus have participants whom are mostly senior faculty and administrative staff with the authority to implement policy changes. While those workshops focused on content development or instructional technologies (individual capacities) have mainly academics as participants.

| Scope                    | No. of Workshops | Title [Location]                          | Date    | Type of Workshop / No. of Participants |
|-------------------------|-----------------|------------------------------------------|---------|----------------------------------------|
| Assessment and Certification | 3               | National Workshop on Online Assessment and Evaluation In ODL [Lagos – Nigeria] | May-14  | Local 27  |
|                         |                 | National Workshop on Strategic Policy and Management of Assessment [Lagos – Nigeria] | Oct-14  | National 28 |
|                         |                 | Sub-Regional Workshop on Strategic Policy and Management of Assessment in ODL for Cameroon, Ghana, the Gambia, Sierra Leone, Nigeria [Lagos – Nigeria] | May-08  | Regional 32 |

Table 1: Breakdown of some workshops organised by RETRIDAL
| Scope                                  | No. of Workshops | Title [Location]                                                                 | Date   | Type of Workshop / No. of Participants |
|---------------------------------------|------------------|------------------------------------------------------------------------------------|--------|----------------------------------------|
| Capacity Building                      | 5                | Regional Leadership Training Workshop for Female Academics and Staff in Higher Education Institutions in West Africa [Cape Coast – Ghana] | Nov-15 | 25                                     |
|                                       |                  | Regional Leadership Training Workshop for Female Academics and Staff in Higher Education Institutions in West Africa [Lagos – Nigeria] | May-12 |                                        |
|                                       |                  | Regional Leadership Training Workshop for Female Academics in West Africa [Lagos – Nigeria] | May-11 |                                        |
|                                       |                  | Regional Training Workshop on Leadership Development in ODL and Dual Mode Higher Institutions [Lagos – Nigeria] | Sep-15 | 24                                     |
|                                       |                  | Workshop on New Trends in Teacher Education and Professional Development [Abuja – Nigeria] | Jul-10 | 25                                     |
| Content Authoring                      | 4                | National Workshop on Course Material Development for ODL Programmes for Dual Mode Higher Institutions in Nigeria [Ibadan – Nigeria] | Mar-12 | 30                                     |
|                                       |                  | Regional Workshop on Course Material Development for ODL Programmes [Lagos – Nigeria] | Jan-13 | 65                                     |
|                                       |                  | Workshop on Course Writing and Logistics in Distance Education [Buea – Cameroon] | Mar-05 |                                        |
|                                       |                  | Workshop on Course Writing in Distance Education [Buea – Cameroon] | Aug-06 | 49                                     |
| Distribution of information and learning materials | 3                | National Workshop on OER Popularization and Adoption in Higher Education Institutions in Nigeria [Lagos – Nigeria] | Jun-16 | 15                                     |
|                                       |                  | One Day Workshop on Copyright Law and Regulations [Lagos – Nigeria] | Oct-05 | 40                                     |
|                                       |                  | One-day Sensitization workshop on the Mounting PGDDE for NOUN staff [Lagos – Nigeria] | Jan-12 |                                        |
| Scope                      | No. of Workshops | Title [Location]                                                                                                      | Date   | Local | National | Regional |
|----------------------------|------------------|----------------------------------------------------------------------------------------------------------------------|--------|-------|----------|----------|
| General and Special Monitoring | 6                | COL – RETRIDAL Workshop on Quality Assurance in Higher Education for the Gambia [Banjul – Gambia]                     | Apr-09 | 33    |          |          |
|                            |                  | International Conference on Accreditation, Quality Assurance and Recognition of Qualification in Africa [Nairobi – Kenya] | Feb-06 |       |          |          |
|                            |                  | National Workshop Quality Assurance Mechanism in Single and Dual Mode Higher Education Institutions in Nigeria [Lagos – Nigeria] | Mar-13 | 23    |          |          |
|                            |                  | Regional Training Workshop on “Quality Assurance Mechanism for ODL Programmes” [Accra – Ghana]                      | Mar-15 |       | 32       |          |
|                            |                  | RETRIDAL – COL Workshop on Quality Assurance in ODL [Winneba – Ghana]                                              | Feb-07 |       | 23       |          |
|                            |                  | Validation Workshop on Quality Assurance Framework for Higher Education in the Gambia [Banjul – Gambia]            | Apr-12 |       |          |          |
| Instructional Design      | 13               | Capacity Building Workshop in Flexible and Blended Approaches to Skills Development for TVET Institutional Heads [Lagos – Nigeria] | Sep-10 | 23    |          |          |
|                            |                  | COL – RETRIDAL Workshop on e-content Development for e-learning Project Implementation for the Open University of Tanzania [Bagamoyo – Tanzania] | Nov-08 |       |          |          |
|                            |                  | E-learning Initiatives in Sierra Leone Higher Education Institutions [Freetown – Sierra Leone]                     | Jul-11 |       | 35       |          |
|                            |                  | E-learning workshop in Ghana [Accra – Ghana]                                                                      | May-11 |       |          |          |
|                            |                  | Instructional Design for Distance Education [Lagos – Nigeria]                                                      | May-05 |       | 40       |          |
|                            |                  | Multimedia Workshop on Video and Audio scripting for ODL [Lagos – Nigeria]                                        | Jan-05 |       |          | 47       |
|                            |                  | National Workshop on Developing e-tutoring skills in ODL [Abuja – Nigeria]                                       | Sep-13 |       | 32       |          |
|                            |                  | National Workshop on Instructional System Design, Content Development and Evaluation for ODL [Abuja – Nigeria]   | May-15 |       |          | 16       |
|                            |                  | Regional Workshop on e-learning in Open and Distance Learning system [Lagos – Nigeria]                          | Aug-05 |       |          | 54       |
|                            |                  | RETRIDAL – COL sub-Regional Workshop on e-learning strategy and Implementation Models [Yaoundé – Cameroon]      | Sep-07 |       |          | 20       |
| Scope                        | No. of Workshops | Title [Location]                                                                 | Date    | Type of Workshop / No. of Participants |
|------------------------------|------------------|---------------------------------------------------------------------------------|---------|----------------------------------------|
| Overview of ODL System       | 7                | Train-the-Trainers Workshop on Instructional Design and Instructional Multi-media Design [Lagos – Nigeria] | Jun-06  | Local * 18 National Regional          |
|                              |                  | Workshop on Instructional System Design Development and Evaluation for Open and Distance Learning [Lagos – Nigeria] | Jul-10  | 52                                     |
|                              |                  | Workshop on Wiki-educator for staff of NOUN for Online Content Development [Lagos – Nigeria] | Aug-11  |                                        |
| Research Methods             | 7                | Dual Mode Induction for Katsina State University [Katsina – Nigeria]            | Mar-09  | 32                                     |
|                              |                  | Induction Workshop for Kaduna Campus and Abuja Office Staff [Lagos – Nigeria] | Jan-06  | 57                                     |
|                              |                  | Induction Workshop for New Staff of NOUN [Lagos – Nigeria]                     | May-13  |                                        |
|                              |                  | Induction Workshop for NOUN Governing Council Members [Lagos – Nigeria]        | Nov-05  |                                        |
|                              |                  | Induction Workshop for NOUN Senior Staff [Lagos – Nigeria]                     | Jan-05  | 159                                    |
|                              |                  | Orientation/Induction workshop for new staff of NOUN [Lagos – Nigeria]         | Nov-14  | 52                                     |
|                              |                  | Special Induction for RETRIDAL Advisory Board Members [Lagos – Nigeria]        | May-06  |                                        |
|                              |                  | National Workshop on “ODL Research Methods and Tools” [Lagos – Nigeria]        | Dec-14  | 25                                     |
|                              |                  | Regional Workshop on Developing and Writing Fundable Research Proposals [Accra – Ghana] | Mar-14  | 25                                     |
|                              |                  | Regional Workshop on Research Methodologies in ODL for Academic Staff of Higher Institutions in West Africa [Winneba – Ghana] | Nov-11  |                                        |
|                              |                  | Regional Workshop on Research Methodology in ODL [Lagos – Nigeria]             | May-05  | 58                                     |
|                              |                  | Regional Workshop on Research Methods and Tools in ODL [Accra – Ghana]         | Apr-13  | 32                                     |
|                              |                  | Research Development in the Gambia [Banjul – Gambia]                           | Sep-11  |                                        |
|                              |                  | Training Workshop ODL Research Methods & Tools for Academic Staff of NOUN [Lagos – Nigeria] | Jul-15  | 132                                    |
### Specification of ODL Programme Objectives

| Scope | No. of Workshops | Title [Location] | Date       | Type of Workshop / No. of Participants |
|-------|------------------|-----------------|------------|----------------------------------------|
|       |                  |                 |            | Local * National Regional               |
|       |                  |                 |            |                                        |
|       |                  | First Sub-Regional Stakeholders Meeting [Lagos – Nigeria] | May-04     |                                        |
|       |                  | Regional Workshop on Enhancing ODL Delivery through Capacity Building in Higher Institutions in West Africa [Lagos – Nigeria] | Nov-13 | 21                                        |
|       |                  | RETRIDAL – COL National Colloquium on Effective Open and Distance Learning Dual Mode Delivery System [Lagos – Nigeria] | Jun-07 | 77                                        |
|       |                  | National Workshop on Tutoring and Management of Feedback in ODL [Abuja – Nigeria] | Feb-12 | 80                                        |
|       |                  | RETRIDAL – COL Workshop on Effective Learner Support Systems in Open and Distance Learning [Lagos – Nigeria] | Jun-07 | 24                                        |

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**Note:** *Local workshops are restricted to a single institution

Workshops organised outside the West African sub region are at the request of the host institution. Workshops in the same category are often repeated for different categories of participants. Participants are expected to replicate the training in their own institutions with monitoring and mentoring from RETRIDAL. The impact of this is to be evaluated in a later study. All workshops are evaluated using oral interviews and questionnaires to determine their efficacy and tweak future workshops. Workshops are at no cost to the participants.

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RETRIDAL has also sponsored researches through the Commonwealth of Learning, which are focused on aspects of Open and Distance Learning. These include:

1. Students’ perception of Learner support services in the National Open University of Nigeria.
2. Assessment of competency-based learning elements in study material developed by NOUN.
3. An exploratory study of Quality Assurance Practices in Single and Dual mode Distance Learning Institutions in Nigeria.
4. Cognitive Awareness and Self-regulated Learning Situations: An Explorative Study.
5. Computer-based Learning in Open and Distance Learning Institutions in Nigeria: Implications for Online Counselling.
6. Psychosocial Stressor at Work as Determinants of Job Satisfaction among Student Counsellors in National Open University of Nigeria.

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**RETRIDAL and ODL’s Future in West Africa**

From the foregoing, RETRIDAL is undoubtedly the epicentre of ODL capacity building in the West African sub-region. All indices point to the pivotal role of the ODL systems as the panacea for mass education in Nigeria and in West Africa. Amini and Ndunagu (2014) painted a graphic picture of the
usefulness of the ODL system in meeting the Education for All (EFA) developmental goals in Nigeria and in Africa. However, this requires building the capacity of relevant manpower to effectively manage the ODL systems in order to achieve these important goals.

The question is how much impact RETRIDAL will make in the region given its efforts and what the effects of RETRIDAL’s capacity building initiatives will be. It can be argued that the activities of RETRIDAL in West Africa are leading higher education institutions to properly utilise the concept and practice of Open and Distance Learning. Some universities in Nigeria are in their various stages of going dual mode:

1. Lagos State University, Ojo, Lagos
2. University of Port Harcourt
3. Federal University of Technology, Minna
4. Ahmadu Bello University, Zaria
5. University of Ilorin
6. University of Nigeria, Nsukka
7. University of Benin, Benin City
8. Osun State University, Osogbo
9. Enugu State University of Science & Tech
10. Ladoke Akintola University of Technology, Ogbomoso
11. Babcock University, Ilishan Remo, Ogun State

The Workshop on Tutoring and Management of Feedback in ODL held at Abuja, Nigeria on February 2012 was especially encouraging for Universities like Port Harcourt and Modibbo Adama, who have set up a Directorate for Distance and e-Learning in their respective institutions as a direct result of the training.

RETRIDAL has enhanced the true meaning and practice of the ODL system, which is vastly different from the practice of part-time programmes in most universities in Nigeria. Outside the shores of Nigeria, the University of Ghana, Legon, the University of Cape Coast, Ghana, have indicated interest in streamlining their ODL system to conform to international best practices. The Gambia Distance Learning draft policy was midwifed by COL through RETRIDAL. It may not be easy to assess the success of the implementation of that policy as Gambia has pulled out of the Commonwealth. All these are evidences of RETRIDAL’s effort at capacity building for ODL in the Region.

The future indeed is bright for ODL fruition in the sub-region. With the National Open University of Nigeria graduating students in large numbers every year, there is a surge in students demand for admission. That means more hands are needed to handle various aspects of ODL administration and faculty delivery. Therein lies the central role of RETRIDAL – an institution for training and research in Open and Distance Learning.

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Teaching Project Management on-line: lessons learned from MOOCs

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Abstract
Creating a course for teaching project management online in a full online distance-learning environment was a challenge. Working with adult learners from different continents that want to complete a Master degree was an additional challenge. This paper describes how different MOOCs were used to learn about teaching -(meta) e-learning. MOOCs provide diverse opportunities for teachers to learn and innovate in e-learning. From the analysis of 5 MOOCs in the broad field of project management we took important lessons on how to structure contents, how to prepare complex assignments and, the most important lesson of all, how to help students to learn. This paper describes our journey of learning from MOOCs how to be better online teachers.

Keywords: Problem based learning; e-learning; MOOCs; student-centered learning

Introduction to the challenge
Universidade NOVA de Lisboa has a fully online Master Degree on managing e-Learning Systems. Most students are adult learners, coming from different parts of the world, mostly from Portuguese speaking countries. In the 2015 edition, the programme was re-organized and a new teaching team was assigned to the course “Education Projects Management”. The new teaching team, the authors of this paper, was given complete autonomy to restructure the course around the following Learning Outcomes (LOs):

- The student will be able to identify and understand basic concepts and structure of project management in the educational context;
- The student will be able to apply tools and techniques to develop an educational project, from idea generation to finalization;
- The student will be able to understand the specificities of project management in the context of e-learning;
- The student will be able to identify, group and organize information structures hierarchically, as well as to develop communication objects developed to disseminate information;
- The student will get to know alternative approaches to project management, in particular design thinking.

Project management is a useful transferable skill that learners can apply to their learning activities, their profession and their personal life. Managing projects can be a very exciting and stimulating job. However, learning about project management can be exactly the opposite: too technical and bland. Students in this programme have different backgrounds and goals for the future. What they have in common is that they are adult learners, and even though they consider project management as a useful skill and an important tool, it is not their main interest.

In this context, the challenge we faced was mostly related with motivation: how do we teach project management online, in an international context, in a way that is engaging and rewarding to the learners and to the teachers? Some of the more specific questions we were facing were:
What is the best approach to teach a fully online course in project management?
What is the right balance between theory, knowledge and practical work?
How to make learning interesting and engaging but not overwhelming to the students?
How to support students so that they don’t fall behind or drop the course?

From the interpretation of the online learning continuum (Guàrdia, Maina, & Sangrà, 2013), in the far right end we can find MOOCs (Massive Open Online Courses), classified as fully online distributed learning, with complex and integrated use of ICT. Even though our goal was not to build a MOOC, we wanted to build a fully online course that uses technology in an integrated way, to deliver learning opportunities and to support students in their learning journey. For these reasons, we went to look for answers to our questions in existing courses, mainly in MOOCs.

This paper focuses on the lessons learned from analyzing different MOOCs in the area of project management. We consider this as being an innovative practice and perspective. MOOCs can be a tool for “Massive Learning”, not only for students that want to learn about a topic but also for teachers and trainers that want to learn about how to develop and deliver online learning. We can say it is a type of meta-(e)Learning, as we are learning about e-learning through e-learning in practice.

**Initial research and adopted pedagogical approach**

With the challenge described above, we aimed at finding a student-centered approach to teaching project management that was useful and meaningful to each student and took advantage of their experiences. Most of our students are adult learners and we wanted to take advantage of their different backgrounds to build an enriching experience for all.

Given the nature of the course, we decided to adopt a problem based-learning approach (PBL) that allowed students to learn about project management, while doing a project—learning by doing. As described by Barrows and Tamblyn (1980), PBL is the ideal approach when you want student-centered individualized learning that promotes both the acquisition of knowledge related with the problem and the development and application of specific skills. This facilitates the integration of knowledge and skills that students use to solving that problem. Another important aspect was that the projects should be realistic and relevant for the students, instead of being chosen by the teachers. This was, in our opinion a crucial factor to get students engaged with the work and be able to reuse the process when trying to solve new problems. The four goals of PBL as described by Barrows (1986) and adapted by Biggs (2007), are:

- G1: Structuring knowledge for use in working contexts
- G2: Developing effective reasoning processes
- G3: Developing self-directed learning skills
- G4: Increased motivation for learning
- G5: Developing group skills, working with colleagues.

These goals are aligned with our idea for the course. We consider project management a set of transferable skills that students should be able to take to professional lives and apply them in different situations (G1). Project management is based on a structured process of making decisions and acting accordingly, *i.e.* effective reasoning (G2). Our view for the course was that students should learn-by-doing, taking hold of their learning, deciding every aspect of the project (G3). Motivation was the most challenging aspect of learning about project management. Using a PBL approach, with a strong a relevant practical component was the solution for this problem (G4). Finally, being a full online course with an international cohort of students, developing collaboration skills and networking is a desirable goal (G5).
PBL provided us with the theoretical framework and pedagogical approach. But we needed to
define the practical approach and tools for developing the course. We adopted the 7Cs of Learning
Design (Conole, 2014) as an instrument to guide us in the design and development of the course.
The framework consists of seven stages:

1. Conceptualize
2. Capture
3. Create
4. Communicate
5. Collaborate
6. Consider
7. Consolidate

The first stage, conceptualize, was in part addressed above. We described the background, the
target audience, the LOs and the pedagogical approach. Still, we needed to go deeper in the
conceptualize stage.

Our strategy was to research what was being done in e-learning in terms of project management.
As stated above, in the online learning continuum (Guàrdia et al., 2013) MOOCs are at the far end,
representing distance learning solutions fully online, highly dependent on ICT. These three features
were the same as our course. Given the proliferation of MOOCs in the last few years, their openness,
availability and diversity it was a logical decision to use them as a source for inspiration about
teaching project management online but, most of all, MOOCs represent an opportunity for learning empirically about e-learning strategies, the “(meta)e-learning”. This option was reinforced by
literature. Guàrdia et al. (2013) have identified ten design principles for MOOCs from the learner perspective:

1. Competence based approach
2. Learner empowerment
3. Learning plan and clear orientations
4. Collaborative learning
5. Social networking
6. Peer assistance
7. Quality criteria for knowledge creation and generation
8. Interest groups
9. Assessment and peer feedback
10. Media-technology-enhanced learning

These ten principles are aligned with our vision for the course, focusing on student-centred learning,
networking, collaboration, competence based learning and students as producers of knowledge.
So, for the conceptualize stage of the 7Cs, authors researched courses in the field of project
management in the main MOOC providers: Coursera and EdX.

The first step was to analyse courses addressing project management. We selected three courses:
“Project Management: The Basics for Success” by University of California in Coursera (University
of California, n.d.); “Introducción a la Gestión de Proyectos” by UPValencia in EdX (UPValenciac, 2015); “Introduction to Project Management” by AdelaideX in EdX (AdelaideX, 2016). These courses
followed a similar structure both in terms of contents and teaching/learning activities:

- Structured units for each component of project management
- Videos with lectures
- Support documents
- Quizzes for knowledge check
These courses are clearly xMOOCs, MOOCs with a teacher and content-centered approach (Conole, 2015; Guàrdia et al., 2013; Lugton, 2012). They focused on providing knowledge about each stage of project management. There was no alignment with the PBL model that we were looking for, nor with the 10 design principles for MOOCs listed above. Still, these MOOCs were useful in terms of providing an overview on contents in project management: idea, planning, risk analysis and evaluation.

Still, we wanted to have an approach that was more engaging for the learners and teachers. During our search, we came in contact with Design Thinking. Design thinking, as defined by Tim Brown from IDEO (2016) is “a human-centered approach to innovation that draws from the designer’s toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success”. It provides a creative and human-centered way to address challenges, problems or projects. IDEO has published a toolkit with a specific approach for using design thinking in education (IDEO, 2012). There was a clear alignment between our vision for the course and the design thinking approach: the focus on the challenge; use of technology; people-centered; collaboration. We went back to the MOOC providers and analyzed two MOOCs in the field of design thinking. The two courses analyzed were cMOOCs, MOOCs with a focus on the student and building networks of collaboration (Conole, 2015; Lugton, 2012):

- Design Thinking for Innovation, by University of Virginia (Coursera)
- Product Design: The Delft Design Approach (EdX)

The first MOOC is a very interesting course in terms of the way the lessons are structured:

- Modules are built around questions
- Video(s) introducing the module with general contents and concepts
- Video(s) with case-studies related with the module content, including interviews with professionals in the field
- Video(s) focusing on one specific approach or tool of the design-thinking framework

Introducing the content in general terms gives the student the global perspective. Then, providing the “real-world” perspective of the same module, with concrete experiences narrated with people involved in the case. Finally, going back to the theory but focusing on practical tools or instruments that the students can use in different contexts.

In terms of assessment, this MOOC only has one assignment: an individual reflection by the student, assessed by peers. Even though the assessment is open, the MOOC provides several support tools to help students in completing the assignment and peer reviewing:

- Clear instructions about what is expected from each role
- Assessment rubric with instructions for applying and scoring
- Example of the completed assignment
- Peer-review practice quiz

In terms of collaboration, the course includes different fora and study groups where students interact with each other and with mentors. Summarizing, the main lessons learned from this MOOC were as follows:

- Structuring the course around questions
- Using short videos with different perspectives of the same content/issue
- Providing useful tools that students can take away with them to apply in other contexts
- Robust guidance for completing the course
- Networking and collaboration opportunities
“Product Design: The Delft Design Approach” (TU Delft Online Learning, 2015), provides important insights in terms of structuring the course, interacting with students and problem-based assessment. The general course framework, the way the lessons are structured, how the assignments are introduced, all of these contribute to helping students engage with the course materials and activities. The course has 7 modules with a similar structure.

- Introduction video that reviews the work of the previous module and introduces the new work
- Two or more short lectures in video
- Quizzes to control the learning of the module
- Exercises with clear and complete description of what the student is expected to do
- Templates for the exercises to guide the student
- Benchmark videos that document “model” students completing the exercises, so the student can compare their work
- Example of completed exercises
- Videos with experts related with the module
- Videos with reflections about the assignments

This MOOC has a strong social and collaborative component. Students use the discussion fora to publish and review their work and their colleagues’ work. The course uses social networks for helping creating a community.

The main lesson retrieved from this MOOC is the importance of supporting and guiding students in online distance learning. The MOOC includes several strategies with this sole purpose. Lectures were very short videos, with no more than 7 minutes. These small chunks of information make it easy for the student to keep attentive. Following every lecture, there was a quiz, so that the student could check their learning. Another interesting strategy was having two “model” students that had go through the course and complete every task. These students are always present through videos and they interact with the camera in a very informal way to create empathy with the learner. The delivery of the assignments is also student-centered. Every assignment includes very clear and complete instructions of the tasks the student has to accomplish. Well-structured templates are provided to facilitate and guide the students. They can watch the “model” students going through the whole process of completing the assignment. Experts provide insights about the topic of the week and give real world context about the work that is being done. Every week, the teaching team prepares a video with reflections about some of the issues raised in the weekly forum. Another interesting aspect is that weekly assignments build on the assignment of the previous week. Using this strategy, at the end of the course, students have a complete project implemented step-by-step and did not feel overwhelmed by a big task or demotivated by completing small erratic tasks.

All these strategies represent a great amount of work and a huge effort on planning and producing resources. But it provides a structured support to the student that is a crucial aspect in MOOCs and in other distance learning contexts.

Table 1 summarizes the analysis of the five MOOCs in the framework the 10 design principles listed above (Guàrdia et al., 2013), using “y” for compliance and “n” for non-compliance.
Table 1: Analysis of MOOCs using the 10 design principles by Guàrdia et al. (2013)

|                          | MOOC U.California Coursera | MOOC UPValencia EdX | MOOC AdelaideX EdX | MOOC UVirgínia Coursera | MOOC TUDelft EdX |
|--------------------------|-----------------------------|---------------------|--------------------|--------------------------|------------------|
| Competence based approach| n                           | n                   | n                  | y                        | y                |
| Learner empowerment      | n                           | n                   | n                  | y                        | y                |
| Learning plan and clear orientations | y                        | y                   | y                  | y                        | y                |
| Collaborative learning   | n                           | n                   | n                  | y                        | y                |
| Social networking        | n                           | n                   | n                  | n                        | y                |
| Peer assistance          | n                           | n                   | n                  | y                        | y                |
| Quality criteria for knowledge creation and generation | n                        | n                   | n                  | y                        | y                |
| Interest groups          | n                           | n                   | n                  | y                        | y                |
| Assessment and peer feedback | n                         | n                   | n                  | y                        | y                |
| Media-technology-enhanced learning | y                         | y                   | y                  | y                        | y                |

From table 1 it is clear that the two last MOOCs analyzed have a stronger and more solid design. They provided the most valuable lessons to the authors.

**Implementing the lessons learned**

After the conceptualization stage of the 7Cs of Learning Design, we proceeded to the next: capture, create, communicate and collaborate. These consist in defining the practical approach to the course.

The first step was to define the content of the course (capture and create). We decided to have weekly modules, each built around one question related with project management. We were trying to make students understand, right from the start, the relevance of what they were learning:

1. Where to start? (Idea)
2. Who cares about my project? (Stakeholders)
3. What has to be done and when? (Planning and scheduling)
4. Who will do what? (Project team)
5. What types of education resources should I include? (Content development)
6. How users access contents? (Information architecture)
7. How much will it cost? (Budget)
8. What problems should I expect? (Risk analysis)
9. Did it go well? (Evaluation)
10. Can I do it better next time? (Improvement plan)

In terms of general structure of the course, we wanted to provide as much help to the students as possible, to keep them interested, motivated and avoiding getting overwhelmed by the course. We decided that every module should have the same structure and follow the same weekly calendar. We wanted students to know, from start, what to expect from us and what was going to be expected from them. In terms of structure, every module had the following components:
Introduction video, reviewing the previous week and introducing the new week.

Short lecture videos

Quiz about the module

Additional readings

Assignment:
- Explanatory video
- Written instructions
- Template
- Completed example

Another important issue was the balance between the theoretical and practical components. We wanted students to feel that what they were learning was relevant to them. Working with adult learners, relevance is an important issue (Newman & Peile, 2002). Also, we wanted students to contribute with their experiences and making the course more enriching to all. Assignments are a great opportunity to achieve this. The strategy adopted was to have a small weekly assignment, linked to the theme of the module. In the first week they worked on the idea using a mind-mapping tool. On the second week, they identified stakeholders, defined priorities and analyzed their needs. The same strategy was used for the following weeks. At the end of the course students completed a full project, decided by them in every aspect, according to their ideas and interests. At the end, students had two weeks to review the project and present it in a single integrated document. As the assignments were aligned with course content, this final step was important to integrate the new knowledge (Consider and Consolidate).

A final issue of the course was the final exam that was compulsory for every course of the Master. As our course has a strong practical component, we decided to follow the same line and do a case-study analysis focusing in critical aspects of project management. There was an intentional alignment between the exam and the weekly modules and assignments to increase the consistency of the course (Anderson, Krathwohl, & Bloom, 2001).

Collaborate and Communicate were the “Cs” where there was less investment. It is intended to improve these two missing Cs in the next edition.

Conclusion

Designing a e-learning course from scratch is an opportunity to innovate and learn. MOOCs are learning tools for learners to acquire knowledge and competences in different areas. But MOOCs create opportunities to “learn by example” how to teach in innovative ways, to (meta)e-learn. We have available courses from universities around the world, with different views, different strategies with different teams. It is a wonderful opportunity to learn about learning, teaching, assessing, motivating and engaging students.

In the course “Education Projects Management” we invested in analyzing these five MOOCs and it was an important step that helped us to define the strategy for the course. As a result, students were engaged and motivated and only two students of a total of twenty-two did not complete the course (one of them never logged on). All the others completed the 14 assignments on time, as requested. Feedback from students was very positive and the results of the final exam were coherent with their performance during the semester.

The main lesson learned from MOOCs was the importance of having a well-structured guidance system that facilitates and supports learning. Making the learning process easy for the students does not mean lowering the standard. It means putting the student at the center, creating a supportive and transparent learning environment where students know, at all times, what is expected from them.
them and what to expect from us. It is not an easy task and it requires thorough planning, thinking ahead and a lot of work. We were not able to implement every detail of our strategy but next year we will do better and the year after that one, we will do even better. Learning about teaching is a never-ending process.

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Book review of Minds Online: Teaching effectively with technology

Minds Online: Teaching effectively with technology, Michelle Miller, Cambridge, MA: Harvard University Press, 2014, 296 pages, ISBN: 978-0674368-24-8.

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As online learning continues to flourish, educators and institutions frequently question how to leverage emerging technologies in a way that effectively enhances the learning process for students. In Minds Online, Miller (2014) suggests that we already have an answer to this question—we just need to know where to look. Reflecting on basic fundamentals found in cognitive psychology, the author advocates a provocative approach: We need to align our teaching with the way the mind works. To show how this alignment is possible, Miller first combs through decades of psychology research, disentangling complex strands of knowledge to present a clearly defined overview of what we already know about the mind. She then puts this knowledge into practice, outlining and demonstrating practical strategies that can easily be incorporated into any online classroom to help enhance the learning process.

One of the best features of this book is its accessibility. Even though the discussion largely focuses on dense studies in psychology, Miller takes the time to clarify obscure details as well as dispel common myths about technology's impact on the mind and education. For instance, although Nicholas Carr’s bestseller, The Shallows, raises serious concerns over how technology may be rewiring our brains, Miller cautions us to avoid misinterpreting this idea. “Technically speaking,” she explains, “computing experience does alter our brains at a neural level, but so does just about anything else that we remember” (p. 45). For this reason, educators should not feel worried or threatened by technology’s role in education. Rather, they should embrace emerging technologies and test out innovative ways they can “amplify and expand the repertoire of techniques” (p. xii) within their own classroom. With this reassuring tone, Miller declares technology to be a powerful tool for education, as long as used effectively.

In Minds Online, Miller attempts to illustrate the underlying connections between teaching and cognitive psychology mainly through the analysis of three processes: attention, memory, and thinking. The author first explores the components’ relevance in psychology and then more clearly identifies how and why each is a significant and unique factor within the online classroom. Take attention and memory, for example, which is essentially our ability to focus on and then reproduce information.

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Miller points out that when we make simple changes, like eliminating in-class lectures commonly found in face-to-face courses, it “lets us redirect student time into the active, focused effort that makes material stick” (p. 106). Similarly, she notes how the online classroom is ideal for fostering higher levels of thinking, in terms of creativity, formal reasoning, decision-making, and problem solving. She explains that in virtual classes, as compared to on-site face-to-face environments, “it’s more feasible to offer multiple practice opportunities—case studies, argument analyses, and many more variations” (p. 135) which supports “intellectual habits like critical thinking” (p. 136). Although overly simplified, it’s this continual blending of psychological theory with educational application that helps Miller to demonstrate how minds learn differently within online environments.

Time and again, Miller reiterates the notion that designers and instructors need to recognize and exercise their power to continually manipulate the online environment in unique and memorable ways to capture student attention and foster deeper levels of thinking. In fact, in the final chapter of Minds Online, Miller attempts to put this reasoning into practice by showcasing a syllabus and information for a cognitively optimized psychology course. Though the author does provide snapshots of recommendations for enhancing student motivation—“assess early and often” (p. 214)—attention—“ask students to respond” (p. 217)—and thinking—“use varied, realistic scenarios for reasoning” (p. 219), while also outlining potential assignments like creative thinking wikis, MiniQuest assignments, and discussion tasks, most of the information and advice is already rather commonplace within virtual classrooms. However, it might prove valuable for instructors completely new to online teaching, or those planning to convert an on-site course into an online course.

Minds Online provides a very thorough yet readable account of what it means to both teach and learn online. Not only does Miller reveal many of the underlying connections between cognitive psychology and online education, she also reaffirms many of the ways in which technology has been and might continue to be used to both enhance and optimize the virtual classroom.

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Book review of Developing Adaptive and Personalized Learning Environments

Developing Adaptive and Personalized Learning Environments, Kinshuk, New York, NY: Routledge, 2016, 1st Ed. 182 Pages, ISBN: 978-1-138-01306-3.

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Introduction
Technology continues to offer expanding opportunities for learners to gain knowledge in any environment, with all manner of devices. With the growth of open learning environments, online learning, ubiquitous computing, and learning analytics, adaptive and personalized learning environments have the potential to optimize learning and collaboration. This promise comes with a complex set of challenges, and Kinshuk has written a thorough and well-structured book to walk instructional designers and instructors through many of the key factors to be considered.

Structure
The book comprises four sections (a) an overview, (b) theoretical underpinnings of adaptive and personalized environments, (c) considerations for implementation, and (d) methods for evaluating and optimizing learning environments, with a look at directions for future research. Several key features make this useful both as a possible textbook, and as a reference manual for practitioners: reflection activities, tests for understanding, references for further reading, and links to useful resources. The structure provides a logical progression from foundations to theory to implementation and evaluation.

Part One
The first chapter defines adaptation and personalization, the different levels of each that can be applied, and the benefits and limitations of adaptation and personalization. Chapter 2 outlines the concepts of adaptivity and personalization in the context of lifelong learning. In Chapter 3, Kinshuk defines context as referring to the physical environment, the mode of communication, the discipline of the content being learned, and the interaction between the learner and their device.

Part Two
Part Two highlights the theories that form the basis for adaptive and personalized learning environments, such as cognitive theory, learning styles, and the ways in which a learning environment can be structured to respond to the needs of the learner, based on a range of feedback.
In Chapter 4, there is discussion of cognitive theory, and some of the key characteristics that affect a student's capabilities and learning style. Kinshuk describes how a learning environment can gather data to create a cognitive trait model for each student, and use that information to make decisions about how and when to present a student with certain content. Chapter 5 deals with the ways in which a learning environment can present content. Examples include the decision to present text, audio, images, or video, based on the needs of any given scenario.

The next two chapters deal with the different types of adaptation that can be applied to exploratory learning and mobile or ubiquitous learning. Students must be given the freedom to choose their own learning path and the format of the content that they wish to receive. However, in a completely open virtual environment, the sheer number of choices may be overwhelming. An effective learning environment will constrain the number of choices available. In mobile and ubiquitous environments, there are a number of ways in which a system can personalize the learning process. Ubiquitous computing offers the opportunity for students to have authentic learning experiences based on their location. Specific location-based lessons can be created and validated by instructors anywhere in the world, and students can be alerted to learning opportunities when they are nearby.

Part 3

The third section of the book focuses on implementation and practical considerations. Chapter 8 describes a model for implementing adaptive and personalized learning environments. In this section, Kinshuk outlines several principles that should be considered when implementing a system. A key concept here is that the system should empower the student to learn in the absence of an instructor, and the learning must be available at different levels, depending on the needs of the student. Chapter 9 deals with cognitive skills acquisition, using a method called cognitive apprenticeship, as well as the potential effectiveness of simulated environments. Chapter 10 deals with the concept of reusability in adaptive learning environments. Kinshuk describes the need for content repositories and the clear need for standardization, and at present, there are multiple formats and styles for packaging content.

Part 4

In Part 4, the book discusses various methods of validating learning environments, and looks to the future of adaptive and personalized learning. Chapter 11 outlines the evaluation principles that can be applied to both internal and external evaluation of adaptive and personalized learning environments. The evaluation process is presented as two essential questions: how does the environment impact student learning, and is the desired effect achieved?

Chapter 12 describes the potential for adaptive and personalized learning environments in the future. As the power of mobile devices and the connectivity of wireless networks continues to expand, opportunities for authentic, context-based learning can be created. Advances in sensor technology will lead to further adaptation and personalization, as biophysical cues can trigger the system to adjust the pace or complexity of the content to match the student's cognitive load. Kinshuk concludes with a description of a smart learning environment, an ecosystem of data, content, devices, and interaction among students and instructors.

Summary

As technology and access continue to improve, and if adaptive and personalized learning systems gain wider adoption in a variety of learning contexts, there will be a need for guidelines to build effective environments. The explosive growth of online and blended education increases the
importance of systems that can assist students in the absence of a human instructor, and those same systems create value for instructors who face increased need for differentiated instruction online. Personalization and adaptation are critical to the future of distance and blended learning, as well as the emerging applications of mobile and ubiquitous learning. Kinshuk has provided a concise explanation of the key theories behind adaptive and personalized learning systems. He has also given many practical examples and recommendations for evaluating learning environments. Finally, he looks to the future, and considers the potential of mobile and ubiquitous computing, combined with the personalization and optimization that will be made possible by data mining and learning analytics.

The book is structured in a logical progression of concepts, from the underlying theory, to implementation, to validation and future directions. Kinshuk presents the relevant theories and design considerations in a manner that make it accessible to educators, instructional designers, and programmers alike. This is not a step-by-step guide to building a personalized learning environment. Rather, the book provides a theoretical and practical framework for how an adaptive and personalized learning environment could be conceptualized, designed, and evaluated. The many learning activities and reflection questions would make this book suitable as a textbook. The well-designed structure and practical examples also make this a useful manual for the practitioner interested in personalized and adaptive environments. For anyone interested in adaptive and personalized learning environments, this book will serve as a valuable foundation and reference. There is a growing body of evidence that personalization and adaptation will be at the core of many educational technology developments in the immediate future. This book provides a comprehensive look at the concepts, challenges, and opportunities that are presented by personalized, adaptive learning environments.
List of reviewers 2016 (volume 8)

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