

The Role of Open Access and Open Educational Resources: A Distance Learning Perspective

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Abstract: The paper explores the role of Open Access (in licensing, publishing and sharing research data) and Open Educational Resources within Distance Education, with a focus on the context of the University of London International Programmes. We report on a case study where data were gathered from librarians and programme directors relating to existing practice around Open Access; the major constraints in using Open Educational Resources and the main resource implications, when adopting Open Educational Resources, were also investigated. Our aim was to (a) raise awareness and understanding of what is possible to achieve in higher education by embracing the Open Access movement (b) identify next steps and actions that could be taken to improve institutional use of Open Access materials, including Open Educational Resources, (c) examine the implications of such actions for Open Distance Learning and generally the higher education sector. Our investigation highlighted some opportunities and the findings resulted into some clear recommendations that emerged both for practitioners and for students in this area. There seems to be a clear synergy between the different but related movements of Open access and OERs as both have to address issues of ease of access, quality and visibility in order to become accepted in higher education.

Keywords: Open access, open educational resources, open education, open and distance learning, open access publishing and licensing, digital scholarship

1. Introducing Open Access and our investigation

The movement of Open Access is attempting to reach a global audience of students and staff on campus and in open and distance learning environments. Open Access is free, immediate, permanent online access to the full text of research articles and data for anyone, worldwide. There are also intellectual property rights and equity issues that are particularly relevant to the context of Open and Distance Learning, where access to resources related to research articles and data is frequently problematic for students and staff.

The paper will report on a case study where data were gathered from librarians (including information specialists) and the University of London International Programmes (UoLIP) programme directors relating to existing practice around Open Access and Open Educational Resources (OERs). The University of London International Academy collaborates with a number of Colleges and Institutes of the University of London to offer flexible and distance learning programmes worldwide. These are delivered through the University of London International Programmes. Our investigation explored (a) the use of Open Access materials, (b) OERs and awareness of Creative Commons licences, (c) perceptions of quality and usefulness of open licensed materials, and (d) collaborative schemes for drawing together on Open Access repositories across institutions. We also investigated what were considered to be the major constraints in using OERs and the main resource implications, when adopting OERs.

The purpose of our investigation was to understand how open licensed approaches are used within the Colleges of the University of London that contribute to the University of London International Programmes and explore any policies that are being applied. The objective was to acquire an understanding of the current situation; in addition, the intention was to share and discuss the results and recommendations at the follow-up workshop that took place two months after the dissemination of the survey and our data collection. This was a necessary component of our methodological approach, as we hoped that this would also lead to some interesting recommendations on how the International Programmes and the sector could benefit from and engage with the Open Access movement.

2. The Open Access spectrum

In Open Access digital artefacts are freely accessed, with no financial costs to the person that accesses them; in addition an area, which is of great interest, is how resources that are freely accessed can also be reused, with or without modification. This usually includes the conditions under which reuse and modification could be legitimate. Creative Commons (2014) is the major influential licensing framework that has attempted to regulate access and reuse. Table 1 provides a synoptic view of the established areas of Open Access (Table 1):

OPEN ACCESS
'Green' open publishing repositories
'Gold' open publishing repositories
Open Data
Open Educational Resources
Open Development
Open Licensing

Table 1: The Open Access spectrum

- 'Green' open publishing repositories, which, for the most part, contain summary data about publications rather than full text or final drafts of publications, which their authors have posted before submitting the text to a journal. The elliptical information in summaries and the inclusion of drafts rather than the definitive final version that is published in the journal can be seen as limitations and are increasingly making the combination of green repositories and subscription publishing an unsatisfactory compromise to the Open Access movement.
- 'Gold' open publishing repositories, in which publication costs are paid before publication, allowing the publisher to permit wider distribution without damaging loss of revenue (Swan, 2010; Swan and Houghton, 2012). But the use of term 'open publishing' can be misleading, because it has been used to embrace rather different approaches. In some cases, 'gold' means up-front payment for limited distribution rights, i.e. a paper may be distributed but not reused in any way, including text or data mining, without further charges.
- Open Data – this is a broad area that allows reuse, revising, remixing and redistributing of data. These data can be freely used, reused and redistributed by anyone – subject only, at most, to the requirement to respect an intellectual property sharing license, i.e. ideally to attribute and share alike. As Rushby (2013) points out data sharing is a natural extension of Open Access, rather than an optional 'add-on'.
- Open Educational Resources are teaching, learning or research materials that are in the public domain or released with an intellectual property license that allows for free use, adaptation, and distribution. (UNESCO, 2009). They are freely available online for everyone to use or reuse, whether you are an instructor, student or self-learner. Examples of OERs include: full programmes, programme modules, curricula, materials from teaching sessions in different formats, assessment resources: assignments from quizzes to exam papers to e-assessment, lab and classroom activities, pedagogical academic development materials, games and simulations, and many more resources, contained in digital media collections around the world (JISC, 2013).
- Open Development is about making information and data freely available and searchable, encouraging feedback, information sharing, and accountability (Smith, and Reilly, 2014). The World Bank is one of the organisations that have launched such open development initiatives.
- Open Licensing, where the most influential body is Creative Commons, a non-profit organization that enables the sharing and use of creativity and knowledge through free legal tools. Creative Commons Licensing (ibid.) offers a range of licenses to regulate sharing - i.e. a Creative Commons attribution licence (CC-BY) is now the de facto standard for Open Access licensing (free to copy, distribute, display, perform, make derivative works, and make commercial use, however an overall common rule is that the original author must be given credit). Others like UNESCO have adopted an Open Access policy, requiring that their publications be licensed under the Creative Commons Attribution ShareAlike license. This BY-SA license means that users who make adaptations of content released under it must share their resulting creations under the same license (State of Creative Commons report, 2014).

There are a growing number of examples of these forms of Open Access. In the following section we discuss a few that illustrate approaches and initiatives.

3. Examples of Open Access

Many institutional libraries are now building digital repositories to develop capacity to make Open Access research available in this way. Initiatives are emerging to create consortia to run federated repositories with capabilities for supporting discovery of content from across repositories by use of powerful search tools.

The Institute of Development Studies is one of many institutions that now make Open Access materials available through an institutional repository Open Docs (2014), based upon an open sources repository application, the DSpace platform (DSpace, 2015). The concept of knowledge hubs that provide access to open data sets is also emerging strongly, with examples such as the FAO (Food and Agriculture Organisation of the United Nations) which supports the Coherence in Information for Agricultural Research for Development network (CIARD, 2014), a movement dedicated to Open Access knowledge related to a particular discipline, agriculture. The Institute of Development Studies is launching the Open Knowledge Hub (2015), which makes Open Access content related to development research widely available, and encourages contribution, use and innovative reuse by interested partners.

These examples are indicative of a growing range of initiatives that are likely over time to transform the knowledge sharing landscape and the way research is created and made available and accessible. This transformation is also likely to have a big effect on how knowledge can be reused, for example in the design of Open and Distance Learning materials, and in the way students can access resources.

4. Open Access Funding

Open Access publishing funding models work on the assumption that in 'gold' standard published the author must pay to cover the loss of journal subscription fees. These are referred to as the Author Processing Costs (APC) and can have a harmful effect on Open Access publishing; consequently recent public funding related initiatives have attempted to address this issue.

Incentivising Open Access publishing has resulted in major policy changes and recommendations in the UK for public funding to cover APCs, but in exchange for a requirement to publish public funded research and knowledge creation. The UK Finch report (Finch, 2012) produced a commitment for £30 million per annum to be allocated to supporting Open Access publishing, and the research Councils UK (RCUK) and the European Union are also now funding APC costs. RCUK is doing this by providing block grants to the Higher Education Funding Council for England (HEFCE, 2014) institutions to cover APCs for gold standard Open Access publications. However, according to the Study of Open Access Publishing (Dallmeier-Tiessen et al, 2011), when researchers publish in fee-based open access journals, the fees are paid by funders (59%) or by universities (24%).

Such newly introduced requirements to publish as Open Access conflict with some of the ways in which researchers are currently incentivised, recognised and rewarded. Both their intellectual property rights and desire to publish in the 'top' journals are affected, so compliance is an issue. Organisations like the Wellcome trust charity foundation (2015) responds to this by withholding 10% of the grant fees it provides if the author does not comply, and the Department for International Development (2015) policy requires that researchers must comply within six months of finishing their work. It has also recently become a requirement under the Research Evaluation Framework (REF) in the UK that certain forms of publications for academics entered in the REF must be Open Access (HEFCE, 2014).

5. Open Access and the Emergent Metrics in Scholarship

Open Access brings changes to which some researchers are resistant and others question whether the APC model that underpins Open Access publishing is another form of exploitation, which may make it relatively harder for authors in developing countries or non-established authors to publish their materials. A related issue surrounds use of the 'ISI Impact factor', i.e. the most commonly used metric for impact, a measure reflecting the average number of citations to recent articles published in a particular journal publication, which

is the prevalent measure used to rate the quality of research, which however gives far greater recognition to articles published in peer reviewed journals as opposed for example to academic work published on repositories. In addition, this is seen as fundamentally working against recognition and incentivisation of researchers that are not based in linguistically and culturally dominant countries and new forms of publishing (Gray et al 2013). Many are now advocating for alternative forms of metrics that relate substantively to use and the value of published research, irrespective of the form of publication (e.g. Altmetric, 2014).

Altmetric collects article level metrics and the online conversations around research on behalf of publishers, institutions and funders, combining a selection of online indicators (both scholarly and non-scholarly) to give a measurement of digital impact and reach. It does this by tracking, collecting and measuring large amounts of data collected from all the places where stakeholders, e.g. scientists, patient advocates, journalists, nurses, engineers and members of the public talk about science online - for example, blogs, Twitter, Facebook, Google+, message boards and mainstream newspapers and magazines.

Overall, technology has an impact on practices such as tenure, publishing and open courses and is transforming academic practice (Weller, 2011). Another area of Open Access that has the potential to change academic practice in the light of the influence of emerging new technologies is OERs.

6. Open Educational Resources: benefits and disadvantages

There are perceived advantages and disadvantages in the use of OERs (D'Antoni, 2007; Lane 2010; Hatzipanagos, 2012; 2013). They are seen to be displaced from proprietary 'silos', i.e. the institutional Virtual Learning Environments, hence breaking the authorisation barriers that these impose and they are also copyright 'free', as contributions to collective knowledge. However, they most often come against recent improvements in creation of technology enhanced learning content, as they can be didactic in nature, the reason being that interaction is frequently non-existent or poorly scripted in OER learning design. They are also often elliptical shells to fill in with context and meaning. Context and wrap around activities are missing as interactive aspects and their learning design are separated from content and are both implicit rather than explicit (ibid.).

Our previous research on engagement with OERs (Hatzipanagos, 2013) identified some trends in use and perceptions of their value:

- There is a preference for 'useful' (utilitarian), specific (contextualised) and practical (of an obvious purpose) OERs'.
- The "context often is missing" criticism is prominent, which seems to instigate a preference for reusable/ready to use rather than repurposable/useable subject to customisation OERs.
- The main perceived potential benefit of OERs is "improved learning" and less "saving on academic time to develop appropriate material/content".

To get a better understanding about these areas, especially in the context of Open and Distance Learning, we conducted a case study. A case study strategy appeared to be the appropriate method to employ, by enabling action and events to be set within context by examining one selected setting (Yin 2003).

7. Methodology

Our investigation comprised:

- An online survey (of a quantitative and qualitative nature), which was distributed to the UOLIP. We addressed a broad target audience of librarians (inc. Information Specialists) and programme managers/course leaders. The two versions of the survey (one for librarians and one for programme leaders) were broadly similar and were adapted to the nature of the participants' work and the context in which they operated.
- A workshop/focus group during the Research in Distance Education (RIDE) 2013 conference, where we invited the participants of the original survey and other experts in the field to discuss

the outcomes and offer recommendations on how the International Programmes and the sector could benefit from and engage with the Open Access movement.

The survey yielded twenty-one returns; of these, twelve came from librarians and nine came from Programme Managers/Course leaders. The questionnaire responses were analysed and quantitative and qualitative data collected from the questionnaires were analysed to determine common issues, which were considered as fundamental by the respondents. The purpose of the focus group (with 30 participants) was two-fold. Firstly we aimed to present key findings of the analysis to the participants to gauge their perspectives in a relatively unstructured fashion. Secondly, we aimed to expand on key issues emerging from the data analysis through semi-structured questions reprising some of the themes that emerged from the survey data analysis.

8. Our Findings: Open Access

8.1 Institutional policies and Open Access repositories

46% of the participants in this study indicated that their institutions were in the process of developing a collection of recommended Open Access materials while while 54% responded that their institutional libraries had no policies related to Open Access subscriptions. For those institutions that had an in-house open licensed digital repository (73% of the respondents indicated that such a digital repository existed in their institution), librarians were asked how they were promoting these Open Access collections.

8.2 Marketing and creating awareness

Responses indicated that there were local marketing initiatives that created awareness of these Open Access collections. They included dissemination and creating awareness routes using social media, email and RSS (Rich Site Summary) feeds, mailing lists, blogs and creating awareness via face-to-face endeavours, i.e. presence at conferences, and through workshops, faculty committees and departmental meetings. The respondents also mentioned some other promotion methods, namely via informal academic networks inside the institution and working closely with IT services and departmental administrators.

8.3 Open Access journals

Respondents were also asked whether their institutions produced any Open Access journals. The responses were again mixed with a 46% indicating that they produced and promoted open journals. These were often made available through the library by creating a catalogue record and links to full next, or were added to the institutional repositories or on open journal system platforms and archived in repositories; as an example, the ePrints (2014) repository was mentioned.

8.4 Training and support

Another important dissemination and awareness avenue was via staff and student development activities, including training in information skills, in 'how to publish' and in 'how to create' sets of online resources and guides that would signpost Open Access initiatives.

An area of inquiry was whether libraries provided training or support to staff and/or students on how to find open licensed materials and assess their quality. A low percentage of 27% responded that their libraries provided support for both staff and students. Training and support on how to produce open licensed materials seemed to be staff rather than student oriented with only 18% of the respondents indicating that their institutions provided training or support for students through the library on how to produce open licensed materials.

Respondents of the survey were also asked about modes, channels and devices of delivery of their Open Access materials. 46% responded that they had plans to make Open Access materials available via mobile technologies and tablets.

In addition, programme directors were asked about their opinion on quality and usefulness of open licensed materials. Overall they were positive about the existence of "many good resources", however they also referred to the challenges of evaluating the quality of such resources before adoption. Representative

comments of this type highlighted a commitment to the Open Access movement, whereas any apprehensions had less to do with infrastructure in place and more with the evaluation of the quality of these materials:

"All books should be available online. I am a strong supporter of Google's scanning program."

"Massive Open Online Courses (MOOCs) and open journals (are) generally of very high standard in my experience".

"Variable (quality). Until there is a way of screening /rating that is robust, difficult to recommend."

"I think that it is useful to use open licensed materials where possible but aware of them being carefully used in context."

When asked whether a collaborative scheme for drawing together an Open Access repository across the colleges involved in the UoLIP would be useful, the responses were positive (73%) but cautious, highlighting the complex logistics for such an endeavour.

Overall, there was an optimistic attitude about the future of open access, when participants were asked how significant Open Access materials were likely to become in the next 5-10 years. Respondents agreed that Open Access publishing would become part of the default. As someone commented "... there will be increasing pressure to make research findings available". The reasons that were given were financial ("shrinking budgets"), and pressure ("growing awareness of Open Access & research council funders' mandates on Open Access, growth although unevenly across disciplines"). There were significant implications for student learning because "if academics are changing their practice, so too must students be prepared to learn in this new research environment". Arguments were supported by statistics on current Open Access uptake and projections on increase. As someone commented: "I believe that Open Access content will grow both in importance and size. At the moment stats show that 10-15% of articles are published with 'gold' Open Access, I believe that number will reach the 40-50% in the next 10 years". This was linked, according to someone else, to a "political shift in having more scholarly research publically available".

9. Findings: Open Educational Resources

9.1 Opportunities

Both librarians and programme directors were asked in the survey questions about OERs. A relatively sizeable percentage (64%) did not make use of Open Access materials (i.e. Open Access journals, and other digital resources including OERs) in their practice. They were also not familiar with the different types of Creative Commons licences.

Respondents saw advantages in OER use. They thought that the almost 'self-nurturing' nature OERs might require "less effort to maintain than institutional resources". They also saw another long-term benefit that of investing in OER development that could yield gains in the future. As someone commented: "like most 'e' advancements, the development of OER e-assessment materials is time and resource intensive in the short term, but should result in cost/time savings in the medium/long term."

There was also a reputational benefit both for the institution and staff involved. Comments of this type were:

"(Can) raise the profile for the institution/materials authors/instructional designer".

"As a marketing device, enhancing the institution's reputation for quality educational materials".

However, the "volatile", almost "touch and go" (attributes they used to describe OERs) ever changing nature of the key OER repositories made them question whether they represented a reliable source of teaching materials. As someone also commented: "...the world of OER is not static enough to make it meaningful other than a snapshot of that day..."

The overlap between institutional endeavours in a particular discipline was for others an advantage for such a collaborative initiative. A respondent commented: "I expect there may be some overlap between subject

materials of interest to our students and students of computational courses provided by and (other institutions of the University of London)".

9.2 Constraints

The survey and discussions in the workshop investigated the constraints and barriers in using OERs. A key constraint according to the respondents of the survey was a limited understanding of their value. They also alluded to a cultural resistance whose facets were – a “new thing”, “not developed here”, “can we trust it?” etc.

However, the main, often repeated perceived barrier in discussions was a lack of staff development to familiarise academics with the nature and opportunities of OERs and time to search and explore repositories of OERs for suitable learning and teaching resources.

This seemed to echo similar investigations (UKOER/SCORE, 2014), where lack of digital literacies does feature highly as a barrier too, although follow-up interviews that were carried out suggested that finding/evaluating quality OER is a time issue not a skill issue and likewise many staff avoid releasing OER due to the time involved in making them sufficiently polished (a reputational concern) and fully compliant (a legal concern).

10. Discussion: The emergent landscape in Open Access and OER use in UOLIP

Our findings indicated that there seemed to be clear advantages of Open Access for open and distance learning environments that included:

1. Many students (inc. in developing countries) becoming more digitally literate, and libraries ‘serving’ effectively people who are not physically present;
2. Promoting digital resource access, availability and usage;
3. Gaining more feedback and engagement with learners, who can collaborate on ongoing development of ideas and resources;
4. Establishing and recognising new ways to measure impact;
5. Supporting more effective exploration of resources and data (where purchase is not needed);
6. Enabling data mining by allowing simultaneous access to articles/digital resources.

Regarding Open Access, there seemed to be a momentum to recognise, support and reward Open Access initiatives and systems. This could be done by:

- 1) Librarians, IT departments, programme leaders and researchers working closely together as there are some non-obvious linkages between digital repositories, standards, and quality of resources that need to be explored further;
- 2) Building awareness of students, and making resources available as Open Access, including associated data sets for Open and Distance Learning students to work on.
- 3) Authoring open licensed Open and Distance Learning materials with references to open licensed research.

Regarding OERs, based on the survey responses and workshop discussions, ‘searchability’ and ‘discoverability’ of OERs seemed to be an overall issue and programme directors referred to a limited number of OERs in certain disciplines; however the data we collected did not provide sufficient information on the relationship between disciplinary and OERs, which seemed to represent a rather complex landscape.

Finally, another dominant trait in the responses was that practitioners were commonly not familiar with OERs and Open Access initiatives; therefore there should be a strong academic development aspect in any engagement activity.

11. Conclusion: the Open Access debate and this Investigation

The Open Access agenda itself has instigated some important global debates, as it is changing the model of access, including associated business models, for research and education. Whilst promoting free access and affecting the forms in which knowledge is made available, it is also impacting the incentives surrounding knowledge creation. In this regard we should not immediately assume that by its very nature, Open Access wholly responds to values that promote access to public funded knowledge as a human right.

There seems to be a current debate and on-going initiatives about reaching a global audience in higher education; this affects staff (academics, teaching practitioners and librarians) that are directly or indirectly linked to learning and teaching. It also seems to affect increasingly both in the context of global education on and off campus and Open and Distance Learning students. Other current initiatives are helping to create awareness of Open Access issues, e.g. Massive Open Online Courses (MOOCs) have become a driver for many higher education institutions. Many institutions have responded to the MOOCs call, embracing some of the principles of the Open Access and Open Educational Resources movement, at least the ones that help to institute policies and regulate practice in this context.

Our investigation explored the use of Open Access materials in a specific open and distance learning context, that of the University of London International Programmes, where there is an increasing awareness amongst librarians and programme directors about opportunities and challenges. The intention to commit is there in combination with optimistic 'aphorisms' about the inevitability of doing so in the future; however there are no systematic institutional or cross-institutional approaches in embracing Open Access or other collaborative schemes to draw together repositories across institutions. There is relatively limited awareness of OERs and associated licensing especially among academics and tutors combined with perceptions of benefits and some fair apprehensions about resource implications and related quality assurance, when adopting OERs. In addition, 'searchability' and 'discoverability' of resources and promotion and awareness is considered an important prerequisite for success both for Open Access and OERs.

Our investigation highlighted some opportunities that resulted into some clear recommendations that emerged from our data both for practitioners, learning support staff and for students in this area. There also seems to be a synergy between Open access and OERs, not only because of their unquestionable status as 'facilitators' of immediate, permanent online access to the full text of research articles and data for anyone and shared learning and teaching digital resources, webwide; more significantly they both have to address issues of ease of access (inc. cost and an accepted place within the publishing spectrum), quality and visibility in order to become accepted in higher education.

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