

Open Access and Online Teaching Materials for Digital Humanities

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1 Introduction

Education for all has taken on a new meaning in the digital age. A cultural change is taking place in universities, with academics using the internet to share their research (Open Access) and teaching and learning resources (OER: Open Educational Resources) online, for free. This spirit of collaborative working is on the increase, and potentially opens up higher education to a mass global market, giving students and teachers greater access and flexibility at little cost.

The appeal of the open agenda is summed up rather succinctly by the Public Library of Science, saying: 'Open access stands for unrestricted access and unrestricted reuse. Paying for access to content makes sense in the world of print publishing, where providing content to each new reader requires the production of an additional copy, but online it makes much less sense to charge for content when it is possible to provide access to all readers anywhere in the world' (www.plos.org/about/open-access).¹ With OER, similar principles apply: academics create, share and allow their teaching resources not only to be re-used but also to be amended, improved and transformed. It is the philosophy of OER and the way in which the internet has radically changed access to information that has led to the development and success of projects such as MIT's OpenCourseware (<http://ocw.mit.edu>), which makes virtually all MIT course materials available online for free, or corporate platforms such as iTunesU (www.apple.com/education/itunes-U) or YouTube EDU (www.youtube.com/education) that distribute educational content via social media channels. In the UK, the Open University has had great success with their OpenLearn programme (<http://openlearn.open.ac.uk>), and HEFCE is funding a large and internationally regarded UKOER programme, led by JISC and the Higher Education Academy (2009–2012), that involves more than 70 UK HE and FE institutions as well as publishers, companies, charities, and other stakeholders outside of academia, and at the time of writing has just entered its third phase (www.jisc.ac.uk/oer, www.heacademy.ac.uk/oer).

The term *Open Educational Resources* (OER) was first introduced at a UNESCO conference in 2000 and promoted in the context of providing free access to educational resources on a global scale. At the heart of the OER movement lies 'the simple and powerful idea that the world's knowledge is a public good and that technology in general and the World Wide Web in particular provide an extraordinary opportunity for everyone to share, use, and reuse that knowledge.' (Smith, Casserly 2008: 10). While, on first sight, it may seem a counter-intuitive for academics or institutions to

¹ Quoted after 'Exploring Open Access in Higher Education', *Guardian Higher Education Network*, 28/10/2011, www.guardian.co.uk/higher-education-network/blog/2011/oct/25/open-access-higher-education.

make their teaching resources available openly, there is plenty of evidence for the reputational and economic benefits to be gained from this step. By allowing students to preview high-quality learning and teaching resources via OpenLearn, the Open University for example gained 'at least 4,400 people by April 2008 (growing to over 7,000 by November 2008)' in the first two years of the programmes existence, proven by their simultaneous enrolment in the free OpenLearn and the OU's regular courses, and continuing at an accelerating rate (McAndrew et al. 2009: 9).

The potential of OER is also realised by governments all over the world, even in times of public scarcity. In January 2011, the US government announced a new federal education fund, making available \$2 billion to create OER resources, with a view to achieving the goal of having the highest proportion of college graduates in the world by 2020 (<http://creativecommons.org/weblog/entry/26100>). It also looks as though the benefits of Open Access (OA) in HE could go beyond teaching and research. In October 2011, JISC published a report that showed that the private sector also benefits from open access in higher education. The report, commissioned by the UK Open Access Implementation Group, suggests that 'for at least two-thirds of these businesses, OA has the great benefit of saving organisations time in searching for published material through non-OA sources' (Parsons, Willis, Holland 2011).

But beyond all arguments along these economic lines, the true rationale of Openness is one of reclaiming original academic practice and collaboration. Rather than reinventing the wheel, lecturers can potentially take a 'pick and mix' approach to the resources – reusing or remoulding course reading lists, essay questions, lecture notes, slides or seminar discussion topics for their own purposes, and focus on providing a great learning experience to their students. Students can use OER to study autonomously or to amend their learning in class. Consequently, the move towards openness extends beyond resources and includes increasingly also Open Educational Practices, or just Open Education.²

As the Humanities in general and the Digital Humanities in particular are becoming more and more collaborative, the nature of modern research practice makes it clear that future humanities scholars need to be trained in the collaborative process and to understand the importance of critical reflection. In this chapter we will argue that this is necessary for those who stay in the academy but it must be remembered that this is equally true for the success of students whose future careers will be in business and commerce. No longer can a single person, whether in the academy or in business, have all the skills necessary to succeed in a digital project. They now need to work with other practitioners and have the necessary abilities do just that. These skills must be taught alongside traditional writing and communication ones; many of these are in fact new communication skills and it is successful communication that leads to successful collaboration.³ These are the type of abilities that are taught in Digital Humanities programmes.

² In this context we should mention the Open Educational Resources University (OERu), a virtual collaboration of like-minded institutions committed to creating flexible pathways for OER learners to gain formal academic credit. It does not confer degrees, but works in partnership with accredited HE institutions who provide assessment on a fee-for-service basis, http://wikieducator.org/OER_university and www.tonybates.ca/2011/10/05/introducing-the-oeru-and-some-questions/.

³ For a full and detailed discussion on this see: Terras (2010).

2 The global OER movement

The global OER movement can trace its origins back to the Massachusetts Institute of Technology's announcement in 2001 that it would make all its teaching material available in a repository as OpenCourseWare (OCW), freely available to the public with an initial fifty courses developed by their faculty (MIT OCW, 2011, *Our History*). The term OER itself was introduced by a UNESCO conference in the following year, originally in the context of Higher Education in developing countries. By 2005, OCW had expanded into a Consortium of hundreds of universities and organisations, with many funded by the William and Flora Hewlett Foundation (MIT OCW, 2011, *About MIT OCW*). In 2009, MIT's OCW site had over one million visits per month, and today boasts '122 million visits by 87 million unique visitors from virtually every country' (MITOPENCOURSEWARE Dashboard Report, 2009). The Open University with its OpenLearn repository was the first British university to join the OCW Consortium. What is pertinent here is that within the first two years of the release of their content, the Open University saw a positive impact on their enrolment figures with a definite and discernible link between OpenLearn and registrations (see above, McAndrew et al. 2009, 9). Direct links to an increase in student enrolment and parallel funding by the Hewlett Foundation helped to make OpenLearn a sustainable long-term project.

However, despite these high figures, OERs still continue to be relatively unused in most education programmes (Andrade et al. 2011, 8). It is also difficult to determine whether this lack of uptake is due to a general lack of awareness of OERs, especially at more traditional HE institutions, an unwillingness to use other people's material for teaching, or that by releasing the material and making it freely available, there is in some way a loss of ownership. To address some of these issues, in 2009 the UK's Joint Information Systems Committee (JISC) and the Higher Education Academy (HEA) supported a UK initiative to encourage the incorporation of OERs into all government-sponsored education programmes. The initial programme was broken down into two phases. The pilot phase ran from 2009–2010 and focused on demonstrating the 'sustainability of long-term open resources release' (JISC, 2010, *Open educational resources programme – phase 1*). It resulted in the publication of a comprehensive synthesis and evaluation report (www.caledonianacademy.net/spaces/oer/) and an accessible and practical OER infokit (<http://bit.ly/oerinfokit>). The stability achieved by long-term OER release would allow educators to make OER inclusion a normal part of their curriculum preparation and development.⁴

The second phase ran from 2010–2011 with the following objectives (JISC, 2011, *Open educational resources programme – phase 2*):

- a. To extend the range of materials openly available,
- b. To document the benefits offered by OER to those involved in the learning process,
- c. To enhance the discoverability and use of OER materials.

⁴ For full details about this see: HE Academy Pilot Phase, 'Open Educational Resources Programme – Pilot Phase', *The Higher Education Academy*, 27 June 2011, www.heacademy.ac.uk/resources/detail/oer/OER_pilot_phase.

OERs created during both phases were to be added to the JISC-funded repository Jorum, originally called JorumOpen, which has been designated to become the UK's national OER repository (www.jorum.ac.uk). There are other relevant repositories as well, in the context of the Humanities we would like to point out Humbox (www.humbox.ac.uk) and the related Languagebox (www.languagebox.ac.uk). But in line with the general OER idea, OERs are more commonly distributed via regular social networks and cloud services like YouTube, SlideShare or Flickr, discoverable without accessing centralised repositories, by regular internet searches, RSS feeds, or OER-specialised search engines like Xpert (www.nottingham.ac.uk/xpert).

This chapter makes use of the experiences that the authors gathered in the preparation and delivery of two UKOER projects: Open Learning Environment for Early Modern Low Countries History (OLE Dutch history www.ucl.ac.uk/alternative-languages/OER/) and OER Digital Humanities (DHOER <http://ucl.ac.uk/dhoer>), in the pilot phase and phase 2 respectively.

3 Communities of Practice and Learning communities

Despite the seemingly obvious benefits of OERs, producing resources and releasing them as OERs is not enough. It is necessary for us to develop communities of both practice and learning. What is needed are new approaches and new ways of thinking and this, it is important to remember, is a consideration not only for the students but also the educators. The use of re-usable learning objects and materials along with the ongoing practice of developing new ones to contribute to the wealth of such resources needs to become part of the training of teachers at all levels. In all UK HE institutions probationary teachers and lecturers are required to attend and participate in training. This is where the creation, release, use and re-use of teaching materials can be instilled in up and coming educators. When these methodologies become more commonplace in the teaching of educators and the development of their research practice, they will become commonplace in the arsenal of teaching tools employed by course tutors. This then creates the 'knock-on' effect where the more they are used the more they will become used.⁵

Re-using and sharing the teaching material of departmental colleagues is often standard academic practice, as is adapting and updating them; the difference here is that OERs are externally sourced and then, if adapted and updated, put back into the wider community and not kept just within the department. If these initiatives are to become self-sustaining, the routine updating of content (downloading, updating and re-uploading modified OERs) needs to become part of the educators' workflow. In the UK we have a flourishing community, evidenced by the growth of a major annual conference (OER10 in Cambridge; OER11 in Manchester; OER12 held together with the global OpenCourseware Consortium's conference OCWC12, again in Cambridge), and what is needed is

⁵ The OMAC strand of UKOER2 (Open Materials for Accredited Courses) specifically tried to enable the release of high quality open educational resources designed to support Academy accredited programmes or schemes of professional development that meet the UK Professional Standards Framework (UK PSF): www.jisc.ac.uk/whatwedo/programmes/elearning/oer2/OMAC.aspx. DHOER collaborated closely with one of the OMAC projects, CPD4HE www.ucl.ac.uk/calt/cpd4he/. The OMAC strand is continued in UKOER phase 3.

that we develop a culture of collaboration and participation; to create and sustain what the Dearing Report one and a half decades ago envisaged to be ‘a learning society’.⁶

This move to openness and collaborative working has a wider importance. More mechanisms for getting people to work together are needed for students as well as practitioners. Because of the modular system, for many students study has become an individual rather than community-based activity. Although, as we know, the humanities and particularly the digital humanities are highly collaborative, our students often risk becoming trained as solitary learners, running the risk of them losing the collaborative skills they may already have, skills which are valuable both in the academy and the workplace and that are at the heart of the majority of digital humanities research projects. In the UK school system students are encouraged to work together in groups and produce collaborative work. When they come to University, they are warned about the dangers of plagiarism and are reminded constantly that the work they submit must be their own. This lean to solitary study becomes especially noticeable as students start to progress in the academy as graduate students to their PhD and beyond; there is a tendency for research students to become more and more isolated as they progress towards greater specialism. Although the focus on individual output is necessary for academic examination a tension exists between the goals of advanced study and the collaborative skills that are needed in the job market and indeed the type of collaborative research projects undertaken by digital humanists.

4 The way forward

In the UK a third phase in the JISC & HEA OER Programme has started in September 2011 and is focussing on ‘Embedding and Sustaining Change’ (HEA/JISC, 2011, Grant Funding 10/11 – Call for Projects):

Based on the findings of the first two phases of work, we now conceptualise open educational resources as a component of a wider field of ‘open academic practice’, encompassing the many ways in which higher education is engaging and sharing with wider online culture.

£2.8 million will be spread over four funding threads from October 2011 to October 2012 with the overall aim of achieving OER self-sustainability by:

1. The creation of a Postgraduate Certificate in OER development,
2. A continuation of the release of Open Materials for Accredited Courses (OMAC),
3. Embedding OER Practice in institutions and focusing on ‘whole institutional change’,
4. Specific themes identified in Phases I and II for the growth of OER:
 - a. Collaborating with institutions beyond higher education,
 - b. Exploring publishing models for OER,
 - c. Addressing identified sector challenges,

⁶ ‘a society in which people in all walks of life recognise the need to continue in education and training throughout their working lives and who see learning as enhancing the quality of life throughout all its stages.’ National Committee of Inquiry into Higher Education (UK) (1997) Report Chapter 1.10.

d. Enhancing the student experience.

JISC and the Academy noted that no one-size-fits-all programme exists for the development and sustainability of OERs. One additional aspect which perhaps could be pressed further to support this would be the promotion of OERs to the general public. We would argue that this, together with building a community of practice around the use and re-generation of OERs, is key to the long-term sustainability of the project.

4.1 Benefits to universities of OERs

In a survey of 570 higher education/adult education stakeholders taken by the Open Education Quality Initiative, over 80% of responders agreed that the use of OER improved education and that their use ‘... lead to pedagogical changes and increases [in] the participation of learners in educational scenarios’ (Andrade et al. 2011, 57). As universities face many challenges in order to compete for students and funding, they demand proof that OERs can improve their competitive edge amongst their peers (Organisation for Economic Co-operation and Development, 2007, 18). By creating a space where educators display their learning objects through OERs, universities offer prospective students and financial benefactors a window into their classrooms, demonstrating the university’s value and culture.⁷

The next step is to change the academic culture and to encourage open educational practices which requires much more than technological changes (Andrade et al. 2011, 12). It will require an understanding of the challenges facing the educational community today and how OERs can help them achieve their goals in learning.

This extends far beyond the confines of the UK or US education systems. Another challenge is providing access to OERs in the developing world, areas of poor and, often expensive internet connectivity.⁸ Making OERs accessible, free, and online does not necessarily make them available to the people who would most benefit from using them. Although OERs, once released online, are open to the world, they are only open to the ‘well connected’ world which is expansive, but not universal. Elsewhere what is often needed is not materials that look good on the latest smart phone or iPad but ones that display effectively on low-cost mobile phones and incorporate simple, widely used technologies.

4.2 Sustaining OERs

⁷ iTunesU does so to an extent, but without the benefits of easy reusability and repurposability. It is a rather one-directional form of OER, very useful and popular indeed, but also stopping short of the full potential of OER.

⁸ See. e.g. ‘OER Africa: Building African education through Openness’, www.oerafrica.org. Also, in 2010 a UNESCO Chair in Open Educational Resources was established at the Open University in the Netherlands with the task to offer evidence and guidance to governments and other institutions for the exploration, introduction, implementation and exploitation of Open Educational Resources (OER) at all education levels and sectors and in a variety of societies, at the institutional, national and regional levels, in line with the United Nations Millennium Development Goals.

One persistent challenge for institutions that champion OERs, like for all net-based projects, is finding funding for the future sustainability of their initiatives. Independent funding sources from governments and private grants have stretched into the billions of pounds and dollars (U.S. Department of Labor 2011); MIT and the OCW Consortium have benefited from the William and Flora Hewlett Foundation (OCW Consortium 2011). The UK government's JISC and HEA initiatives have enabled universities around the country to create OER repositories such as those at Southampton and Leeds (JISC 2010). The United States government established a grant worth \$2 billion dollars over the next four years (U.S. Department of Labor 2011) which will establish a central repository for community college generated learning material (see the introduction to this chapter). However, all this investment in the creation of resources will be wasted if a relatively small amount is not set aside for sustaining and maintaining them. If institutions want to sustain their OER programmes, they will need to incorporate the production and use of open learning objects into their current business models, standard operating procedures and academic culture. Further, if re-use and re-purposing of these resources is to be encouraged then they must be released in a format that allows repurposing and editing, importantly, without the need for expensive proprietary software. The most widespread practice with text- or graphic-based OERs is to release them as PDFs as those represent a ubiquitous, user-friendly, open-in-your-browser format. However, their flattened form hardly encourage re-editing: that would generally require the laborious task of re-writing the content which defeats the purpose of having a re-purposable resource. For sustainability and to encourage re-use OERs should, as they are in DHOER (see the case study in this chapter), be released in an open, future-proof, XML-based format like the Open Document Format (ODT, ODS, ODP etc) or imilar. Users can re-edit these in commonly used Office suites like MS Office (version 2007 SP2 or later) if they wish but importantly they are able to also make use of freely downloadable Open Source alternatives such as OpenOffice (www.openoffice.org), LibreOffice (www.libreoffice.org) or a variety of freely available ODT converters for other proprietary word-processing packages. In addition, and to aid the less technically proficient, documentation about how and this can be done and which tools may be used should also always be included and attached directly to the OER along with licencing details and adequate metadata to ensure that the resource is found.

5 Case Study: OER and Distance Education in a Lesser Taught Language Community (OER Low Countries history: www.ucl.ac.uk/dutch/OER)

Our first case study is about a lesser taught language subject community, Dutch Studies. In the UK and the Anglophone world in general, Dutch is undoubtedly a minority subject,⁹ despite being the language of two neighbouring countries who also belong to the largest trading partners of Britain. What is more, even if it does not sound like it to unfamiliar ears, Dutch is the modern language most closely related to English, making it very easy to learn for native speakers of English.¹⁰ All

⁹ As opposed to large parts of Central and Eastern Europe where Dutch is a major subject in Higher Education.

¹⁰ One could argue that Frisian, spoken in the Dutch province of Friesland, would be even closer to English than Dutch.

these facts, one might think, would make it an attractive subject to study but student numbers in the UK traditionally have been modest and if anything they have fallen in recent years. The general decline in interest in modern languages is affecting all modern language programmes in the UK (Worton 2009) but is especially serious for the less-widely taught languages such as Dutch.

While Dutch Studies is implicitly recognised by HEFCE as a 'strategically important and vulnerable subject' (as part of Modern Foreign Languages, www.hefce.ac.uk/aboutus/sis), provision of Dutch exists only at four UK Higher Education institutions: University College London (UCL) and the universities of Sheffield, Cambridge, and Nottingham. Confronted with diminishing resources and threats of discontinuation of language programmes the four Dutch departments or sections of Schools of Modern Languages decided to cooperate and bundle their resources and expertise to overcome the crisis. This was facilitated by the development of modern information and communication technologies.

In 2001 they formed the *VirtualDutch* consortium, with UCL Dutch acting as the lead institution.¹¹ The main aims of this inter-institutional collaborative teaching programme were to create shared electronic resources for teaching and learning, and to develop ICT-supported forms of inter-institutional collaboration. Initial funding was provided by the University Council of Modern Languages (UCML), which drew on HEFCE funding to support collaborative learning and teaching initiatives (2001–2004). Ongoing project-based funds are also provided by the Nederlandse Taalunie ('Dutch Language Union', the joint Flemish-Dutch equivalent of the British Council). Additional funding has come from UCL's Executive Sub-Committee on Innovations in Teaching Learning and Assessment (ESCILTA); the University of Sheffield's Centre for Inquiry-based Learning in the Arts and Social Sciences (CILASS); the Royal Netherlands Embassy in London; the University of London's Centre for Distance Education; and the joint SOAS/UCL Centre of Excellence in Teaching and Learning 'Languages of Wider World' (CETL-LWW) (2004–2010).

Of course external, strategic considerations were only *one* factor behind the development of *VirtualDutch*. By sharing resources and expertise amongst the participating institutions, the initiative has also brought more breadth and depth to the curriculum. Using learning technologies as a main strategy to achieve this was a deliberate choice. *VirtualDutch* was partly born out of the belief that today's communication technology can no longer be ignored in an academic curriculum. As Hermans (2002) writes, the programme 'is a determined attempt to exploit these new possibilities and provide our students with a forward-looking and vigorous learning environment in the process'. Students benefit from the encounter with a wide range of learning environments, from classroom contact to multimedia language instruction in a Virtual Learning Environment and web-based autonomous learning with the self-study-packs. They also feel part of a larger Dutch studies community in the UK, especially when they collaborate in joint teaching projects.

A wide range of Open Educational Resources has been developed since the start of the programme (2001), including self-access reading skills courses, learner's grammars, online reference works and some thirty multimedia study packs for autonomous learning, covering

¹¹ Initially called *Virtual Department of Dutch*. From 2001–2004 the University of Hull also took part; Nottingham joined the initiative in 2007.

various aspects of Dutch and Flemish language, literature, history and society. These resources cater for various levels of linguistic competence ranging from topics such as individual Dutch or Flemish authors such as Multatuli or Louis Couperus, over Dutch linguistics, the Flemish movement in Belgium, to the sociolinguistic situation of Brussels and the multicultural society in the Netherlands today.

These resources are openly available on the *VirtualDutch* teaching and learning portal that was launched in 2007, and is currently in redevelopment, with a view to providing better access for end-users (i.e. learners and teachers of Dutch) to the various individual learning resources and to integrating them within a seamless environment. The portal also provides access to external resources such as the relevant quality-controlled web resources of the *Intute Arts and Humanities Subject Gateway*¹² and a directory of RSS feeds, audio and video podcasts from Dutch and Belgian newspapers, broadcasting stations and educational institutions. All resources are accessible by an advanced meta-search engine, and also include two bibliographical databases on Dutch literature in English translation and on Studies in English on Dutch history and literature, geared at native English-speaking learners of Dutch *ab initio*. The domain name of the portal site (*dutch.ac.uk*) has been chosen in deliberate analogy to e.g. the *Institute for Historical Research's* address *history.ac.uk*, with a view to becoming *the* portal for Dutch Studies as an academic subject in the UK.

There is plenty of evidence of excellence for *VirtualDutch*. All individual subprojects have been tested and evaluated. The *VirtualDutch* programme as a whole has been monitored by two external evaluators, one appointed by UCML, the other by the *Dutch Language Union*. Student response is fully documented and has been overwhelmingly positive. A pedagogic evaluation of the electronic study packs was carried out in 2003 with the support of UCL's *Executive Sub-Committee for Innovation in Learning, Teaching and Assessment* (ESCILTA) (van Rossum 2004: 163) and *VirtualDutch* was cited as an innovative collaborative teaching project in the HEFCE Annual Review 2002/03, *Realising a Vision of Higher Education* (September 2003).¹³

Thus, in a way *VirtualDutch* has been releasing OERs and developing forms of collaboratively creating OERs since 2001 without using the term and being aware of the larger worldwide Open Educational Resources movement that started at around the same time. As against the backdrop of the rapid development of community-oriented Web 2.0 services, some of the earlier resources of *VirtualDutch* had become outdated technologically; the idea behind taking part in the UKOER pilot phase was to build on the *VirtualDutch* experience and re-release a cluster of resources around a specific topic in a case study, drawing on the support and expertise of the JISC and HE Academy communities. As the writer of these lines is a historian and a cluster of *VirtualDutch* OERs on early modern history (16th/17th century) existed, the choice of topic was an obvious one, an Open Learning Environment for Early Modern Low Countries history, and the individual strand seemed to be the most appropriate, although the *VirtualDutch* community of practice would possibly also have lent itself for a project in the subject strand of the programme.

¹² Although *Intute* closed in July 2011 the resource is still accessible www.intute.ac.uk.

¹³ See e.g. HEFCE Annual Review 2002/03, *Realising a Vision of Higher Education* (September 2003) www.hefce.ac.uk/pubs/hefce/2003/annrev/default.htm.

Also, while *VirtualDutch* is well known and respected within the international Dutch Studies community (Hammond et al. 2009), it was not necessarily very visible and discoverable beyond this specialist subject community. Part of the rationale for taking part in the UKOER programme was also to embed the initiative into the wider OER community and to create resources that would appeal to a wider audience, including prospective students with a general interest in languages who may not be aware of the possibility of studying Dutch at a UK university, possibly in combination with other languages or subjects.

The first major resource release was a Timeline of Anglo-Dutch exchanges from ancient times to the 19th century, based on a manuscript by Jaap Harskamp, former curator of the Dutch and Flemish collections at the British Library, in which he had compiled and annotated a comprehensive list of over 800 events relating to Anglo-Dutch relations throughout the centuries, drawing on a huge variety of sources. The manuscript that he very generously made available to the project was turned into an interactive multimedia Web 2.0 timeline on Anglo-Dutch relations using MIT's Web 2.0 *Simile* technology (<http://simile.mit.edu>). The 16th and 17th century, the Dutch revolt and the subsequent Golden Age of the Netherlands, are also traditionally the area of Dutch history which attract most interest in the Anglophone world. Consequently, a special focus of the OER was put on relations between the Low Countries and the Anglophone world, also making it relevant for all learners with an interest in this European neighbour region of the UK, whose early modern history was closely intertwined with that of Britain, e.g. for students of British or European history and the historically interested public.

The timeline has attracted lots of attention and public comments from the UKOER community, e.g.: "One of the reasons I love the OER Programme is that it turns up stuff like this. The VirtualDutch timeline of Anglo-Dutch relations. It's built using MIT's Simile software and it's packed full of utterly fascinating detail. Amongst more familiar historical events it includes such gems as the following: [...]. Brilliant! Of course this has completely derailed any 'real' work I was going to do this afternoon."¹⁴ or "Inspired by the VirtualDutch timeline, I wondered how easy it would be to create something similar with all JISC e-learning projects that I could get linked data for. It worked, and I learned some home truths about scalability and the web architecture in the process. As Lorna pointed out, UCL's *VirtualDutch* timeline is a wonderful example of using time to explore a dataset [...]."¹⁵

As the scope of the project has been extended, a great number of VirtualDutch resources have been re-worked as OER, licenced under suitable Creative Commons licences, allowing for re-use and re-purposing the material worldwide, under acknowledgement of authorship, and deposited on Jorum, Humbox and Languagebox, including 'Try Dutch!', a Dutch language taster, 'Amsterdam Represented', a taster in Dutch Cultural Studies, and a study pack on Dutch poetry. To quote from feedback from the e-learning advisor of the former LLAS Subject Centre Languages, Literature and Area Studies in Southampton: 'Just to reiterate the info I gave you when we met: your 'Taster of Dutch' material on Language Box was singled out by colleagues at a recent meeting as the perfect

¹⁴ Lorna Campbell (JISC CETIS) on her blog on 26 Feb 2010.

¹⁵ Wilbert Kraan (JISC CETIS) on his work blog on 12/03/10.

example of an 'open resource' both in content and concept [...] so we look forward to getting more!

The project, which also had an exploratory character, also gave some scope for investigation into how best to balance integrity and granularity of resources to be released. We moved away from the idea of producing one single transferable learning package, an integrated Open Learning Environment, because it would go against the principle of making the resources easily reusable and repurposeable. Rather a series of OERs has been released as individual learning objects and been made available via the project's website, Jorum, HumBox and cloud channels such as Slideshare.

Technologically the project used existing software, mainly Moodle (<http://moodle.org>), Educommons, a content management system designed to support OpenCourseWare projects, (<http://educommons.com>) and MIT's SIMILE package (Semantic Interoperability of Metadata and Information in unLike Environments, <http://simile.mit.edu>), all of which are Open Source, and existing cloud computing services like SlideShare (www.slideshare.net), and Xtimelines a web service that allows creating and exploring Simile timelines online (www.xtimeline.com)¹⁶. It was entirely based on open and transferable standards such as SCORM (Sharable Content Object Reference Model) and IMS Content Packaging, an international standard for metadata to describe education related resources' which can be delivered by a variety of platforms and Virtual Learning Environments. No new technical developments were planned as part of the project.

In conclusion, this project has had benefits for all its stakeholders. A substantial amount of Open Educational Resources in the 'strategically important and vulnerable' subject area Dutch Studies have been released, directly benefitting staff and students of Dutch at UCL and the VirtualDutch partner institutions. They are also open for re-use and re-purposing worldwide within and outside of the Dutch Studies communities. Apart from Dutch departments in the UK and other English-speaking countries, the material will be highly relevant for students of British or European history, both in the UK and abroad. Uptake of the OERs created in this community is tracked with the help of web statistics and feedback questionnaires, vital to determine their use amongst various user groups. Something similar goes for the public with an interest in Dutch history or Anglo-Dutch relations, which, as we know from information collected by the education section of the Royal Netherlands Embassy, is especially high in East Anglia and Kent. There is also substantial interest in relations between the Dutch- and English-speaking worlds in the United States, especially on the East coast where the large New Netherland project traces the Dutch colonial history of the area.

Synergy effects existed between OER Dutch and the OER projects of the Subject Centre for Languages, Linguistics and Area Studies (LLAS), and a series of resources has been deposited into Humbox and Languagebox, relevant for both area studies and lesser-taught languages. Being embedded into the VirtualDutch community of practice, resources continue to be added to the infrastructure built after the project's lifespan and the project outputs were also used as key resources in a postgraduate degree programme Dutch Cultural Studies by distance learning at UCL and Sheffield.

¹⁶ Xtimelines: a website that allow you to create and explore timelines www.xtimeline.com

6 Case Study 2: OER and Digital Humanities (DHOER: www.ucl.ac.uk/dhoer)

DHOER (Digital Humanities Open Educational Resources) is a UKOER Phase II (www.jisc.ac.uk/oer) 'release' strand project set up to create and release a comprehensive range of introductory materials on approaches, topics and methods in the Digital Humanities. These resources are based on modules taught at the UCL Centre for Digital Humanities and are released under non-restrictive licencing in several open formats.¹⁷ As well as supporting the digital humanities, these resources are intended to benefit many cognate disciplines, including the whole spectrum of the arts and humanities, cultural heritage, information studies, library studies, computer science and engineering. The project has also been involved in awareness-raising of OER by presenting at workshops, conferences and organising several UKOER programme- and institution wide events.

Turning these teaching and learning resources into OERs published on the Internet and making them freely available for anyone, has created an important teaching and learning resource for the emerging and strategically important subject area of Digital Humanities. These resources draw on the expertise of the UCL Centre for Digital Humanities (www.ucl.ac.uk/dh) and the Department of Information Studies (www.ucl.ac.uk/dis/) as well as being informed by the experience of previously creating and releasing OERs, and the changes that this process brings about for learning and teaching, gained by the earlier pilot phase project *VirtualDutch* (case study 1 in this chapter).

The original plan was to create a single large Open Educational Resource, integrating the materials within the Open Source Virtual Learning Environment (VLE) Moodle. However, as the UKOER programme progressed, issues of re-usability and re-purposability became more prominent and, as with *VirtualDutch*, the issue of granularity versus the integrity of OERs emerged. The focus of the whole programme shifted towards the creation of smaller units of learning objects and it became necessary to break down the larger resources into meaningful individual learning objects, in a way that they could easily be redistributed and repurposed. Striking the balance between granularity and integrity was one of the challenges encountered in the project. In addition to this problem of granularity, Moodle, while being Open Source and a proven platform for the delivery of OERs,¹⁸ lacks full support for exporting resources in SCORM and IMS Content Packaging format. Licencing information is written into the cover page of the resources where possible and included in the associated metadata which follows the Dublin Core¹⁹ and includes information on level, learning context and original intended audience.

The teaching materials used for DHOER come from existing modules taught within the Department of Information studies. These had, as is usual in academic departments, been developed, updated and added to over several iterations by successive module tutors. This is usual practice and in fact no different from the OER model except that now the DHOER resources would be available for use

¹⁷ The DHOER resources are all released under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported licence (CC BY-NC-SA 3.0: <http://creativecommons.org/licenses/by-nc-sa/3.0>)

¹⁸ Not least the Open University's OpenLearn materials which are presented via a heavily customised version of Moodle: <http://openlearn.open.ac.uk>

¹⁹ The Dublin Core refers to a set of terms or elements defined by the Dublin Core Metadata Initiative and used to describe resources to categorise them in various ways and particularly to aid their discovery: <http://dublincore.org/>.

outside of the department, faculty and institution. All tutors contacted were agreeable to having their content included provided they were acknowledged and the resources released under suitable licencing (see above). Wider discussion did, however, throw up some anxieties. Academic publications are traditionally subject to peer review and rigorous editorial control prior to publication; facts and citations are checked, typographical and other errors picked up along the way. They are then the result of a long process starting with authoring and ending with the proof reading before online or print publication. This does not happen with OERs which do not have the benefit of 'many eyes' and editorial review before release. Consequently some concerns were raised about work going out under the name of the author with errors uncorrected and the possible repercussions on their credibility. This however points to one of the strengths of the OER process that when licencing for re-use you are giving permission for the content to be adapted and re-published; errors and omissions can be corrected and re-uploaded by a user with the original author still acknowledged.

One of the modules chosen had many guest speakers who had all previously made their presentations (suitably adapted by removing any copyrighted material they did not own the rights to) available for the module students via the institutional intranet. Without exception all the speakers that were invited agreed to have their material included after a check to make sure that they did in fact 'own' the content and again provided they would be credited under an appropriate licence. More than one had already attached a Creative Commons licence before giving access to our students. An interesting comment from one guest speaker was that they were quite happy to have their presentation included provided that if it was re-edited they should be acknowledged but that it should be made clear who was making those changes and that it was not the original author. Here perhaps the anxiety was that errors might be introduced at a later stage and that they would incorrectly be attributed to the original author of the resource.

As well as authorship and acknowledgement, the issue of copyright can be particularly problematic and needs a little comment here on how it relates to DHOER. Being aware of some of the issues from the experience of *VirtualDutch* and the JISC startup briefing, the project hosted a Before You Start: OER, IPR and Licensing Workshop (www.ucl.ac.uk/dhoer/news/IPR_workshop) to address any potential problems from the outset. The workshop was led by two members of the OER IPR Support Project (www.web2rights.com/OERIPSupport) specifically to help identify and manage Intellectual Property Rights issues and to advise about the appropriate Creative Commons licences. It appears from this that the largest single problem regarding copyright for OERs (and online teaching in general) occurs when dealing with legacy material with no clear provenance attached. With the exception of the presentations from guest speakers, all the DHOER source materials were created in-house. The text had been authored and edited by the module tutors and included in the project with their agreement. As part of the project workflow, all personal data and details were removed and the images checked for possible copyright infringement. Any images where the rights ownership could not be confirmed were removed and where possible replaced with a free usable one from Wikimedia Commons (<http://commons.wikimedia.org>). All guest speakers were asked to confirm that they held the rights to materials in their presentation and confirm that they agreed to our release plan. Very few images had to be removed; again this generally occurred because the speakers were unsure of the source.

Individual objects were released in PDF-format, in line with widespread practice of other OER projects, as it is such a ubiquitous and user-friendly format, simply opening in the browser, that can be handled by almost every platform and end user, including those not comfortable with technology. However, as PDF is not open at all and, strictly speaking, contravenes the idea of Openness and repurposability inherent in OER, each collection of resources comes bundled by module with the original source files in Open Document Format to facilitate the reuse, editing and the extending of the original material (see above on sustaining OERs). Instructions, including how to download Open Source office suites, are provided in the information and directions for use that come with each resource.

Similarly, each resource comes with EPUB and DAISYReader formatted versions all generated from the original OpenDocument. The EPUB files can be easily uploaded into various e-reader and portable devices, including Android-based ones, Apple iBooks (iPod/iPad), Amazon Kindle, etc. with the added benefit of including page and section navigation. The DAISYReader formatted files allow the visually impaired to listen to the textual content of a resource via Daisy 3 compliant applications which also allow for voice enabled navigation (www.daisy.org).

The individual OERs can be used separately, in any order (they do not necessarily follow a fixed sequence), or put together as a complete module. They can be accessed individually in any of the above formats or downloaded as a compressed archive (using e.g. the Open Source 7-Zip application www.7-zip.org) with a link to the Open Source 7-Zip tool along with instructions for use and extraction of the zipped files is also included.

All the resources have been deposited into Humbox (www.humbox.ac.uk) and from there the metadata and URI (Uniform Resource Identifier) links to the objects are automatically harvested into the 'national' OER repository Jorum (www.jorum.ac.uk) as well as being listed in OER directories such as Xpert (www.nottingham.ac.uk/xpert) and OER Commons (www.oercommons.org). The collections are linked to via the HumBox URIs so that a single version exists but is accessible in several different ways (again to aid accessibility and discovery).

Continuing the ground work set down by its predecessor, *VirtualDutch*, DHOER also continues to promote the idea of Open Educational Resources on an national and institutional level, and advocated the introduction of a faculty- or institution-wide policy on OERs, which would complement UCL's advanced Open Access policy for research outputs.²⁰ In a first step a new top-level website OER@UCL has been created (www.ucl.ac.uk/oer), in collaboration with the CPD4HE project at the UCL Centre for Advancement of Learning and Teaching, in a first step pulling together information from all four OER projects with UCL-involvement.

The MA/MSc programme in Digital Humanities has just accepted its first cohort of students in the teaching session 2011/12 where the project outputs are being tested with a user group of these students, tutors and practitioners. It is also hoped that by allowing students to access high-quality teaching and learning resources prior to applying for a degree programme, the project will benefit

²⁰ UCL in June 2009 adopted a far-reaching and progressive Open Access policy, mandating the deposit of all research outputs into its institutional OA repository *Discovery*. It did so as one of the first and most prestigious universities in the UK and, according to the Times Higher, only 35th university in the world, 'UCL embraces open access with institution-wide mandate', THE 04/06/11, www.timeshighereducation.co.uk/story.asp?storycode=406832.

not only the home institution in terms of (home and overseas) recruitment and academic reputation, but will also be instrumental in consolidating UCL's and indeed the UK's role as one of the leading research centres of culture in this field. The inherent paradox here, is of course, why students should pay fees to attend courses when they can get the basic materials online. However, the university experience is far more than just a collection of assembled teaching materials. There is the wider package of being part of an enlightened and enquiring community, engaging in thought provoking discussion, the sharing of ideas, being challenged by new ones thrown into the mix by the tutor, and importantly the accreditation. The evidence of the increased enrolment numbers at the Open University (see above) clearly points to this without considering the added bonus of the increased social interaction enjoyed on a campus based programme. In addition, the US governments funding of OERs is specifically aimed at increasing the number of college graduates (see the introduction to this chapter).

Apart from digital humanities, information studies and computing departments in the UK and other English-speaking countries, the OERs released by DHOER will be relevant for students of any arts and humanities subject, both in the UK and abroad. In terms of platforms, file formats and standards this leads us to look at the growing use of mobile, e-book reader and tablet devices among the intended primary and secondary learner audiences for these resources, and to release OERs in various EPUB formats. An important issue when considering usability is that designers of teaching materials should be aware that they are producing materials that should be optimised for the lowest reasonably employable technology rather than the highest and should not assume that their users will necessarily have access to the same resources that they do. For example, the mobile phone is widely used for mobile education in Southern Africa, and there considered to be the 'Southern African computer' (Foko, 2009), as well as in rural India and China.²¹ In reality, it is not necessary to look that far as there are many areas of the UK that lack adequate broadband connectivity and infrastructure. Here also, even those from low socio-economic background with no access to the internet still have access to mobile phones. 'It is not technologies with inherent pedagogical qualities that triumph in distance education but technologies which are generally available to citizens' (Keegan, 2008).

Putting together these resources will support teaching and the development of the teaching curricula more widely than the DH community. On the whole, DHOER, moving beyond its original aims and purposes, has contributed considerably to the advancement of the OER idea and helped to start a movement to bring about the cultural change that the UKOER programme envisages. UCL adopted a very progressive Open Access policy for research outputs back in 2009 (www.ucl.ac.uk/media/library/OpenAccess) and this move to Open Access for research outputs has created a dynamic that over time can be expected to be extended to Open Educational Resources, as the next logical and hopefully obvious step.

7 Conclusion

²¹ For more discussion on the use of mobile learning see the University of London, Centre for Distance Education <http://cdelondon.wordpress.com>.

These two case studies raise further questions as all projects do and stimulate the need for further research. One major issue is the lack of context for an individual OER. The MIT OpenCourseWare delivers complete modules pre-packaged, off the shelf, and ready to go. However the user of Jorum or HumBox is generally looking for a task, exercise, or learning object to complement a class or lecture, something to aid the students' understanding. Firstly then the resource needs to be found: it must have adequate and relevant metadata attached, rich enough to fully describe the content but at the same time the metadata needs to be sufficiently focused to prevent the user being overwhelmed with irrelevant results. The repositories use keyword searching matched against the tags that the contributors add and the results, like those from popular search engines, generally return far too many irrelevant hits that need to be sifted through. This is time consuming and laborious. Once found, the OER lacks context; where does it fit within a programme, module, teaching session, or task based learning exercise? This information also needs to be included at an object based level: what is the assumed level of the students' competence; what is the learning context; who is the intended audience?

If the teaching that uses the OER is credit based then there will be the need for assessment. This becomes a potential problem area unless the OER package contains sound pedagogical material that is moving towards that assessment. This can of course be compensated for by the course tutor or otherwise incorporated into the evaluation process for that module.

Another consideration is resource discovery. Does the repository open itself to being indexed by Google and other web indexes? If not then how would that impact on the reuse of the resource? Things that are known can be looked for and found but otherwise and without indexing the serendipity of the unexpected Google result (that we are sure we have all now come to welcome) would be lost. In the context of a library and thanks to the DDC (the Dewey Decimal Classification system) when we find the resource we are looking for (here a book) we look at the adjacent shelving for other relevant and pertinent items. OERs are assigned URIs generated by the repository to which they are deposited and for the same to happen in their case would require a similar standard to be developed and applied. Although numeric and seemingly not human-readable, ISBN (International Standard Book Number) have blocks of numbers such that denote language, publisher, format etc. that are quite recognisable to the specialist. Some standard classification (yet to be worked-up) applied to OER URIs would allow not only improved discovery but also the potential for automated thematic grouping of related resources.

Further issues exist around applicability. Should the learning objects be discipline specific or discipline free and have the capacity to be modified depending on the use to which they are put? An example for creating discipline free re-usable learning objects might be the GLO Maker (Generative Learning Object Maker www.glomaker.org) or Xerte (www.nottingham.ac.uk/xerte).²² If the OERs are discipline 'neutral' (such as perhaps for teaching digital literacy skills or citation and referencing), they would need to be made relevant and contextualised for each use but would then have a far wider applicability. There is a trade off here with time and work against the usability aspect.

²² For some general discussion on this with early examples of development and use see: OKELL et al., 'Creating a Generative Learning Object' in Bodard & Mahony eds (2010).

Different cultures have different learning styles, attitudes to change, memory and aesthetic tastes (McLoughlin 1999). This is another consideration and penetrates far more deeply than the need for translation when adapting learning materials for another global area. This is also equally true of areas where English has become the 'lingua franca' as the localisation of content is still needed to compensate for cultural differences particularly in the area of graphics, symbols, layout and other variants.

Once all this is taken care of there still remains the often contentious question of ownership and the continuing relationship between the original author and the re-used and perhaps adapted OER. Under the terms of the licencing attached to the OERs (certainly with most Creative Commons licences applied to the output of the case studies considered here)²³ attribution is one of the conditions and so the original creator should always be acknowledged with their name permanently attached to the resource. If the resource is taken, re-edited, updated, and re-purposed then we would argue that the OER is being improved and having additional value added. It becomes a more useful resource. Moreover, this process is close to a 'rolling peer review' in that any errors or omissions in the original resource should be being picked up and corrected by those reusing and repurposing the OER. This model is nothing new and originates, arguably, from the Open Source movement as in some ways does the Creative Commons. The difference here is that although the source should be acknowledged there is no existing mechanism to prevent multiple variant versions being circulated at the same time. This is aggravated by some producers of OERs uploading copies of their resources on multiple sites (rather than a single source document for each resource and multiple links to that document as do the two case studies) which will increase the likelihood of forked versions.

It would be helpful to include guidelines for re-purposing and perhaps a guide to best practice that could be used as a reference and attached to each resource as well. There is considerable support for licencing and legal issues arising from the creation and re-purposing of OERs from the OER IPR Support Project (www.web2rights.com/OERIPRSupport/) and the team at JISC Legal (www.jisclegal.ac.uk). At the time of writing the best guide to best practice exist in the area of re-editing and re-purposing of OERs (that these authors are aware of) is the OER Infokit, <https://openeducationalresources.pbworks.com>.

Furthermore, although at the start of this chapter we noted the considerable funding that has gone into the creation of OERs and the efforts that now revolve around their sustainability, we do not yet have reliable metrics for the measurement of their use. We can gather download statistics simply enough but, just as we can record the download for journal articles and other academic resources, that is no indication of whether or not they have actually either been read or (in the case of OERs) used as a teaching resource.

The discussion around this whole area of the use and re-use (or not as the case may be) of OERs does have one significant spin-off benefit and that is that it encourages us as educators to talk about and reflect on the teaching process. OERs are (or should be) pedagogically driven and whether they are used or not they have stimulated the discussion on and research into the

²³ Except the most radical and therefore seldomly used CC-Zero license which puts material into the public domain without asking for attribution.

learning process and our pedagogical aims. They have become the agent of change and objects to talk about, giving us the opportunity to reflect on what we do as educators.

We must develop a community around the creation, use and re-use of OERs and include them in the training of new educators: as a result their use should become part of normal, everyday workflow and teaching preparation. Not only do we need to embed digital humanities methodologies, thinking and the resources we take for granted in our teaching but also make them available openly and freely to all. Openness and collaboration are central to the digital humanities philosophy (as these authors understand it) and commitment to both these concepts should, we argue, be central to any digital humanities teaching programme. OERs will then become mainstream rather than peripheral entities. The change in academic attitudes and practice will be slow but we (in this fledgling community) are making a start now.

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