



Open educational resources (OERs)

Explaining open educational resources (OERs) and surrounding issues for senior managers, learning technologists, technical staff and educators interested in releasing OERs to the education community.

About this guide

Published: 9 December 2010

Updated: 17 September 2014

There is no one, standard definition of open educational resources. However, the following broad definition of OERs from **OER Commons** [<http://www.oercommons.org/>] seems to be generally accepted by the community:

'Open educational resources are teaching and learning materials that are freely available online for everyone to use, whether you are an instructor, student or self-learner. Examples of OER include: full courses, course modules, syllabi, lectures, homework assignments, quizzes, lab and classroom activities, pedagogical materials, games, simulations, and many more resources contained in digital media collections from around the world.'

OERs exist within a wider 'open' movement and context, explored below.

The open movement

A range of 'open' philosophies and models have emerged during the 20th Century as a result of several different drivers and motivations – including sharing freely, preventing duplication, avoiding restrictive (copyright) practices, promoting economic efficiencies and improving access to wide groups of stakeholders.

Many of these have been driven by and created by communities that recognise the benefits to themselves, and sometimes to wider groups. Some of these are listed below:

- Open source (relating to business and technology)
- Open source software

- Open source hardware
- Open standards
- Open access (research)
- Open design
- Open knowledge
- Open data
- Open content
- Open courseware
- Open educational resources
- Open educational practice

Several of these 'movements' or 'philosophies' have been significant within the education community both in terms of research and learning and teaching (particularly educational technology). Whilst it is widely expected that sharing and openness would bring benefits to some stakeholders in the educational community, traditional cultures and practices, managerial approaches and processes, and perceived legal complexities have been identified as barriers to sharing both within and across institutions. (**CD LOR** [<http://www.academy.gcal.ac.uk/cd-lor/>] , **TRUST DR** [<http://web.archive.org/web/20100224024528/http://trustdr.ulster.ac.uk/>] , **sharing e-learning content** [<http://ie-repository.jisc.ac.uk/46/1/selc-final-report-3.2.pdf>] , **good Intentions report** [<http://repository.jisc.ac.uk/265/1/goodintentionspublic.pdf>])

Whilst the terms 'open content' and 'open courseware' are sometimes used to mean the wide range of resources to support learning and teaching, one is fairly broad and the other very specific. We have chosen to use the term open educational resources (OER) as this relates to resources that are specifically licensed to be used and re-used in an educational context.

What are educational resources?

Whilst purely informational content has a significant role in learning and teaching, it is helpful to consider learning resources by their levels of granularity and to focus on the degree to which information content is embedded within a learning activity (Littlejohn et al, 2008):

- Digital assets – normally a single file (eg an image, video or audio clip), sometimes called a 'raw media asset'

- Information objects – a structured aggregation of digital assets, designed purely to present information
- Learning objects – an aggregation of one or more digital assets which represents an educationally meaningful stand-alone unit
- Learning activities – tasks involving interactions with information to attain a specific learning outcome
- Learning design – structured sequences of information and activities to promote learning

What are open educational resources?

Stephen Downes' presentation on OERs

The following definitions and examples are taken from a paper prepared by Li Yuan at Jisc CETIS in 2008 concerning the state of open educational resources internationally. This well-received paper can be accessed from the **CETIS website** [<http://blogs.cetis.ac.uk/cetisli/2008/09/01/a-briefing-paper-on-open-educational-resources/>] .

The term open educational resources (OERs) was first introduced at a conference hosted by UNESCO in 2000 and was promoted in the context of providing free access to educational resources on a global scale. As mentioned above, there is no authoritatively accredited definition for the term OER at present, with the OECD preferring, 'digitised materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research' (OECD, 2007).

Stephen Downes presents a useful overview of what open educational resources are in **open education: projects and potential** [<http://www.slideshare.net/Downes/speaking-in-lolcats-what-literacy-means-in-teh-digital-era>] .

Engagement with OER can be light touch. New staff should be encouraged to source open materials when creating new educational materials (from CC resources or other OER), and to fully reference all other assets in their teaching materials. An academic's own digital assets such as images, pod casts and video can be released under a CC licence to web 2.0.

GEES project final report

OER initiatives aspire to provide open access to high-quality education resources on a global scale. From large institution-based or institution-supported initiatives to numerous small-scale activities, the number of OER related programmes and projects has been growing quickly within the past few years.

According to OECD in 2007, there are materials from more than 3000 open access courses (open courseware) currently available from over 300 universities worldwide:

- In the United States resources from thousands of courses have been made available by university-based projects, such as **MIT OpenCourseWare** [<http://ocw.mit.edu/>] and **Rice University's Connexions project** [<http://cnx.rice.edu/>]

- In China, materials from 750 courses have been made available by 222 university members of the **China Open Resources for Education** [<http://web.archive.org/web/20130915173452/http://www.core.org.cn/en/>] (CORE) consortium
- In Japan, resources from more than 400 courses have been made available by the 19 member universities of the **Japanese OCW Consortium** [<http://www.jocw.jp/>]
- In France, 800 educational resources from around 100 teaching units have been made available by the 11 member universities of the **ParisTech OCW project** [<http://graduateschool.paristech.fr/>]
- In Ireland, universities received government funding to build **open access institutional repositories** [<http://web.archive.org/web/20130308013902/http://www.irel-open.ie/>] and to develop a federated harvesting and discovery service via a national portal. It is intended that this collaboration will be expanded to embrace all Irish research institutions
- And in the UK, the Open University has released a range of its distance learning materials via the **OpenLearn project** [<http://openlearn.open.ac.uk/>], and over 80 UKOER projects have released many resources (via **Jorum** [<http://open.jorum.ac.uk/xmlui/>]) which are used to support teaching in institutions and across a range of subject areas

Finding OERs

A number of search engines exist to search open educational resources. These include:

Jorum [<http://www.jorum.ac.uk/>] – “free learning and teaching resources, created and contributed by teaching staff from UK Further and Higher Education Institutions”

OCWFinder [<http://www.ocwfinder.org/>] – “search, recommend, collaborate, remix”

OER Commons [<http://www.oercommons.org/>] – “Find Free-to-Use Teaching and Learning Content from around the World. Organize K-12 Lessons, College Courses, and more.”

Temoa [<http://www.temoa.info/>] – “a knowledge hub that eases a public and multilingual catalogue of Open Educational Resources (OER) which aims to support the education community to find those resources and materials that meet their needs for teaching and learning through a specialized and collaborative search system and social tools.”

University Learning = OCW+OER = Free custom search engine [<http://www.google.com/coop/cse?cx=009190243792682903990%3Ae40rcqv1bbo>]

– a meta-search engine incorporating many different OER repositories (uses Google Custom Search)

XPert [<http://xpert.nottingham.ac.uk/>] – “a Jisc funded rapid innovation project (summer 2009) to explore the potential of delivering and supporting a distributed repository of e-learning resources created and seamlessly published through the open source e-learning development tool called Xerte Online Toolkits. The aim of XPert is to progress the vision of a distributed architecture of e-learning resources for sharing and re-use.”

OER Dynamic Search Engine [<http://edtechpost.wikispaces.com/OER+Dynamic+Search+Engine>] – a wiki page of OER sites with accompanied

search engine (powered by Google Custom Search)

Jisc Digital Media [<http://www.jiscdigitalmedia.ac.uk/crossmedia/advice/finding-video-audio-and-images-online/#creative-commons>] maintain guidance on finding video, audio and images online, including those licensed as Creative Commons.

Stakeholders and benefits

What are the benefits of releasing OER?

Millions of pounds have been invested worldwide into the development of OER and yet the different benefits to the range of stakeholder groups have not always been well articulated or evidenced. Whilst there is increasing evidence of benefits to educational institutions (eg as a showcase) and to learners there is less evidence of the benefits to the people who are expected to go to the effort of releasing their learning resources – the teachers themselves.

The **UKOER programme** [<http://www.jiscinfonet.ac.uk/projects/ukoer/>] (2009-2012) has led to increased engagement of academic staff with OER and has generated some champions of open educational practices.

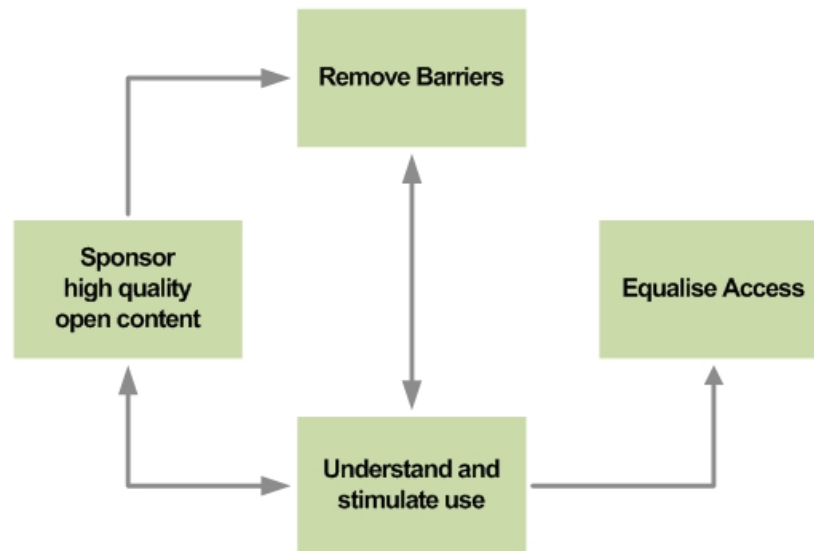
It is worth noting that producers of OER often have a specific primary audience in mind, for example to support a particular course or to help a particular group of educators. Involving the intended audience during the design and release processes has been proven to have an impact on overall engagement and use of that audience, but this may not necessarily benefit wider audiences. Many OER are NOT pedagogically or technically accessible to a global audience.

For a fuller list of potential barriers and enablers, see the **overcoming barriers and finding enablers** [[/guides/open-educational-resources/overcoming-barriers-and-finding-enablers](#)] section.

OER links to several strategic goals, in the UK and worldwide. OER release could also meet strategic needs, especially:

- Engagement with a wider community
- Engagement with employers
- Sustaining vulnerable subjects
- Enhancing marketing and engagement of prospective students worldwide
- Brokering collaborations and partnerships

The following is a visualisation of what the **William and Flora Hewlett Foundation** [<http://www.hewlett.org/>] sees as the methods for equalizing access to educational resources worldwide:



Logic model

©Michael Reschke

CCBY [<http://creativecommons.org/licenses/by/3.0>]

Stakeholders

It is useful to tease out the range of benefits for different groups and to articulate these clearly as external funding sources may become more scarce.

Sustainability of OER release is currently a significant issue for institutions around the globe and evidence of benefits must be clarified if resources are to be made available for continued release. It is also useful to identify which benefits are most relevant to each stakeholder group:

- The global community (affected by cultural, language and political issues)
- The national community (sometimes significant investment by government)
- Educational Institutions (not one homogenous community but several)
- Subject communities (including employers and professional bodies)
- Individuals supporting learning and teaching (teachers, librarians, learning technologists, educational developers)

- Learners (enrolled and global)

Good intentions: improving the evidence base in support of sharing learning materials [<http://ie-repository.jisc.ac.uk/265/>] (Jisc study 2008)

includes a table identifying benefits to different stakeholder groups with links to evidence.

Benefits

A significant contribution of the UKOER programme was in articulating and providing evidence of benefits across a range of educational contexts and for a diverse mix of stakeholders across several sectors:

Learners can benefit from:

- Enhanced quality and flexibility of resources
- Seeing/applying knowledge in a wider context than their course would otherwise allow, eg international dimension
- Freedom of access (e.g. at work/home/on placement) and enhanced opportunities for learning - the Cape Town declaration)
- Support for learner-centred, self-directed, peer-to-peer and social/informal learning approaches
- Skills development (e.g. numeracy) through release of generic OER that can be re-used and re-contextualised in different subject areas
- The opportunity to test out course materials before enrolling – and compare with other similar courses
- Opportunities to be involved in OER initiatives either through contributing towards OER development, testing or evaluation, marketing activities, acting as an ambassador for OER with other learners or staff
- Authentic or 'real-life' learning experiences through OER that link to employer or professional sector activities

The OER originator can benefit from:

- Student/user feedback and open peer review
- Reputational benefits, recognition
- Benefits (efficiency and cultural) of collaborative approaches to teaching/learning
- Opportunities to work across sectors, institutions and subject disciplines

- Increased digital literacies (particularly around IPR)
- Reaching a wider range of learners

Other staff/users can benefit from:

- Availability of quality peer reviewed material to enhance their curriculum
- Collaborative approaches to teaching/learning (CoPs)
- Professional/peer-to-peer learning about the processes of OER release
- Increased dialogue within their organisation or with other peers in the sector and globally
- Preservation and availability of materials for endangered subjects
- Open access to legacy materials

Educational institutions can benefit from:

- Recognition and enhanced reputation
- Wider availability of their academic content and focus on the learning experience (linking to widening participation agenda)
- Increased capacity to support remote students
- Efficiencies in content production (particularly around generic content that can be used across subject areas)
- New partnerships/linkages with other institutions and organisations outside the education sector
- Increased sharing of ideas and practice within the institution, including greater role for support services
- A buffer against the decline of specific subjects or topics (which may not be sustainable at institutional level but can be sustained across several institutions through shared resources)
- Supporting sustainability of legacy materials
- Increased understanding of IPR

- New relationships with students as they become collaborators in OER production, release and use

Other sectors (eg, employers, public bodies, private bodies, 3rd sector)

- Access to repurposable content
- Input to scoping, development and endorsement of OER in their focus area
- New potential partnerships with content providers and other sectors
- Upskilling – increased understanding of IPR, curriculum development and learning technologies
- Understanding of customer needs – (for example, commercial publishers finding out what kinds of OER and learning resources are wanted by teachers and/or learners)

The following case studies provide accessible accounts of benefits from sharing resources openly:

- **HE Academy** [<http://www.heacademy.ac.uk/resources/detail/oer/oer-phase-3-case-studies>]
- **Jisc (Users)** [<http://www.jisc.ac.uk/whatwedo/programmes/elearning/oer2/casestudies.aspx>]
- **Jisc (in impact report)** [<http://www.jisc.ac.uk/whatwedo/programmes/elearning/oer2/oerimpact.aspx>]
- **Jorum** [<http://www.jorum.ac.uk/support/user-stories/>]
- **OER senior management guide** [<https://openeducationalresources.pbworks.com/w/page/45742659/Some%20examples>]
- **OER-CSAP six partner case studies** [<https://csapoer.pbworks.com/Development-activity-3%3APutting-together-case-studies>] (CSAP Project, UKOER)

OER is an international movement, linking innovative people and organisations in a common goal.

- **The OpenCourseWare Consortium** [<http://www.oec consortium.org/>] (OCWC) has more than 200 members, including several of the world's most prestigious universities.
- **OER Africa** [<http://www.oerafrica.org/>] is a very clear and powerful use-case in terms of international sharing and development.

- The **Cape Town declaration on OER** [<http://www.capetowndeclaration.org/read-the-declaration>] is a worldwide initiative with thousands of signatories calling for the removal of barriers to OER which will lead to 'a global revolution in teaching and learning'.

OER myths

A number of myths perpetuate about open educational resources. This section aims to explain and dispel some of them. CETIS have a **resource around OER myths** [<http://blogs.cetis.ac.uk/lmc/2009/05/20/oer-programme-myths/>] for the Jisc/Academy pilot: OER release.

The sharing myth

Jisc has commissioned a number of studies into the 'sharing' of learning and teaching resources (Community Dimensions of Learning Object Repositories **CD LOR** [<http://www.academy.gcal.ac.uk/cd-lor/>] , Trust in Digital Repositories **TRUST DR** [<http://web.archive.org/web/20100402051301/http://trustdr.ulster.ac.uk/>] , **WM-Share** [<http://www.jisc.ac.uk/whatwedo/programmes/edistributed/wmshare.aspx>] , [http://www.hull.ac.uk/esig/repomman/downloads/R-D3-research_survey_data_11.pdf] **RepoMMan**, [http://www.hull.ac.uk/esig/repomman/downloads/R-D3-research_survey_data_11.pdf] **Rights and Rewards survey** [<http://rightsandrewards.lboro.ac.uk/index.php?action=view&id=24&module=resourcesmodule&src=@random43cbae8b0d0ad>] , **Sharing e-learning content** [<http://ie-repository.jisc.ac.uk/46/1/selc-final-report-3.2.pdf>] , **Good Intentions report** [<http://ie-repository.jisc.ac.uk/265/1>]) and also funded a series of projects focussed on 'exchange' of learning resources (**Exchange for Learning Programme (X4L)** [<http://www.jisc.ac.uk/whatwedo/programmes/x4l.aspx>]). These two terms are often used in relation to OERs but it is useful to clarify what we mean by some of these terms in this context.

When we use the word sharing we usually imply an intent – where someone, or some organisation, chooses to share something of value with either a specific audience or more widely. This is different to 'exchanging' where both/all parties want, and agree to, share for some mutual benefit. Whilst often overlooked, the difference between these two actions is significant, particularly in relation to business models and benefits. It could be argued that sharing implies an open model (sharing with all) and exchange a community based model which relies on mutual benefits within a specific community.

Some community models (such as International Virtual Medical School – **IVIMEDS** [<http://www.ivimeds.org/+>]) began with an exchange model between subscribing institutions but have had to adapt the model to recognise that not all partners can contribute equally in terms of content. The value of having a strong community of practice makes membership attractive with the content not always being the primary consideration.

Terms such as reuse and re-purposing may imply an underlying principle of sharing (sometimes enforced as a condition of funding), but people may not necessarily be consciously intending to share. Some take, some give and some do both, for a range of reasons. It can be useful to consider sharing and exchange as processes relating to OER Release (either conscious or not) but it is the intent behind the various initiatives, activities and services that is important to the resulting approaches that individuals, communities or institutions adopt.

Whilst there may be reluctance on the part of teachers to engage with business terminology, (**Sustainability and Revenue Models for Online Academic Resources: an Ithaka report** [http://www.jisc.ac.uk/media/documents/themes/eresources/sca_ithaka_sustainability_report-final.pdf]) thinking about the stakeholders in the OER movement in relation to a producer/consumer model can help people to look at things a little differently.

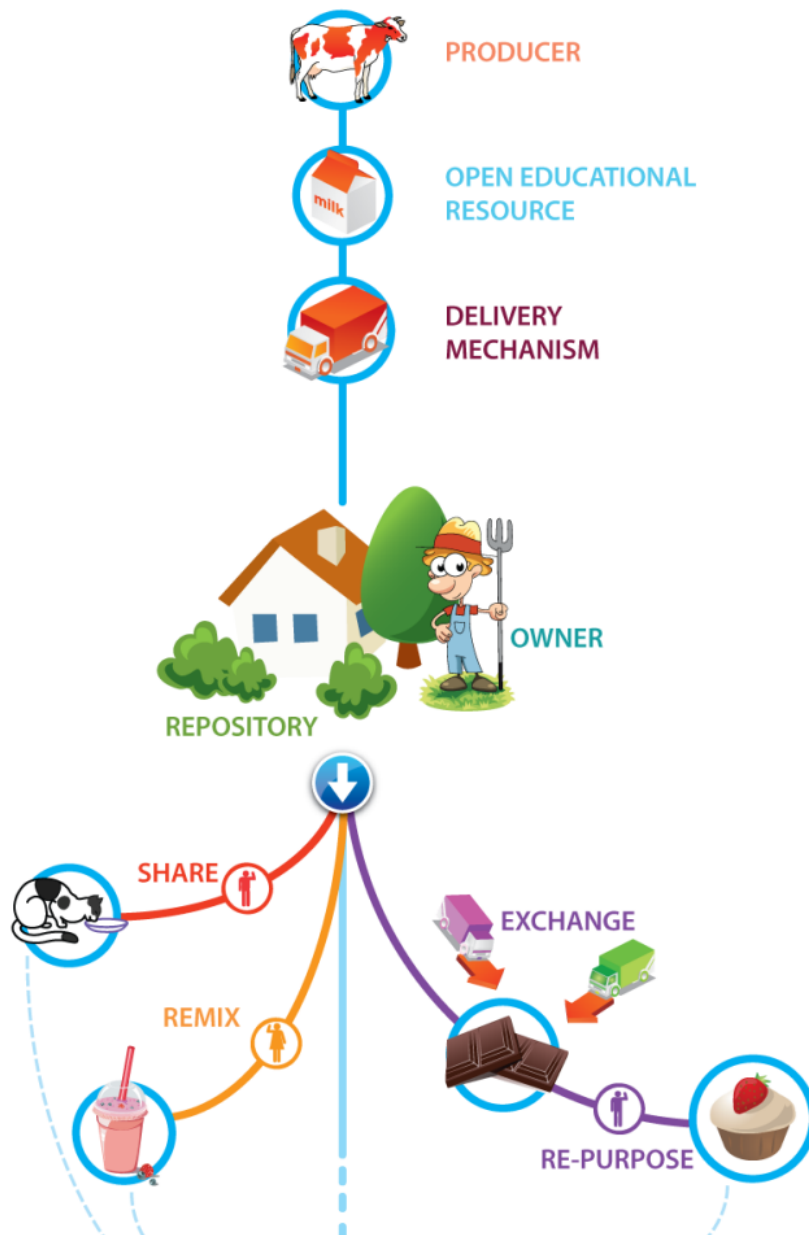
An interesting OER metaphor

This is not intended to compare OERs with commercial products but was developed to illustrate the value in considering the different roles that exist in the production and use/re-use of OERs and to highlight the importance of considering end users (by Lou McGill for **Good Intentions: improving the evidence base in support of sharing learning materials** [<http://www.slideshare.net/loumcgill/good-intentions-improving-the-evidence-base-in-support-of-sharing-learning-materials>] Open Educational Repositories: Share, Improve, Reuse | Edinburgh 25-26 March 2009. Keynote)

This table uses the example of cows milk and attempts to liken these to roles within OER release (third column):

Milk	Role	OERs
Cow	Primary producer/creator	Teacher/author
Calf	Primary consumer	Enrolled student
Farmer	Secondary producer/repurposer	Learning technologist/Course leader
Milk bottlers	Primary supplier	Learning technologist
Shop	Secondary supplier	deposit in institutional repository or open deposit
Human family	Secondary consumer	Teacher within or outside institution
Human family and pets	Sharers and re-users	Enrolled students of that teacher
Person with milk, Person with cocoa powder, Person with sugar - can make chocolate	Exchange and repurposers	other teachers within or outside institution
Chocolate in shop fridge	repository	deposit in different open repositories
Chocolate eaten	re-users/maybe sharing;)	potentially global learners
Chocolate added to cake mixture	further re-purposing	potentially global teachers

One way of visually representing this analogy:



OER visualisation

©Jisc

All rights reserved



OER evaluation

Evidence generated by complex and innovative processes such as OER release is often itself complex, context-specific and difficult to generalise. These kinds of initiative require significant organisational change and may include external partners and stakeholders with very different cultures and practices.

Evaluation, in particular is challenging and ranges from evaluating specific OER for fitness of purpose, changes in staff attitudes, impact on learning and teaching and longer term impact on institutional practices and the wider community.

This page offers some resources to support evaluation activities and also points to what people have already learned through evaluation into this area.

UKOER evaluation

UKOER programme evaluation was supported by the UKOER evaluation and synthesis team. The team, led by Glasgow Caledonian Academy, provided a range of support activities to support individual project evaluation across the three years and developed a framework to support project evaluation and programme synthesis.

Evaluation and synthesis was an iterative, two-way process and included liaison not only with project teams and their evaluators but also with the programme management team, the various support teams, and concurrent OER initiatives.

Engaging projects with the framework was challenging due to short (one year long) project time-frames. The team developed an **evaluation toolkit** [<https://oersynth.pbworks.com/w/page/51320241/EvaluationToolkit>] which provided various visual ways to connect with the framework and offered routes through the programme themes. The toolkit also provided **further resources** [<https://oersynth.pbworks.com/w/page/53008522/ToolkitEvaluationResources>] to support evaluation of both projects and OER development and release.

The team produced a yearly synthesis report highlighting key lessons and emerging themes:

- **Pilot Phase Synthesis and Evaluation Report – 2010**

[<https://oersynth.pbworks.com/w/page/29688444/Pilot%20Phase%20Synthesis%20and%20Evaluation%20Report>]

- **Phase 2 Synthesis and Evaluation Report – 2011**

[<https://oersynth.pbworks.com/w/page/46324015/UKOER%20Phase%202%20final%20report>]

- **Phase 3 Synthesis and Evaluation Report – 2011** [<https://oersynth.pbworks.com/w/page/59707964/ukoer3FinalSynthesisReport>]

These fed into a wider review of HEFCE funded OER initiatives.

UKOER project evaluation documents

- **The BERLiN experience – academic focus group feedback report**

[http://web.archive.org/web/20130422125902/http://unow.nottingham.ac.uk/focus_groups.pdf] : BERLiN Project (University of Nottingham)

- **The BERLiN staff survey report** [<http://tinyurl.com/BERLiNStaffSurvey>] BERLiN Project (University of Nottingham)

- **Open Exeter Project Final evaluation report**

[http://as.exeter.ac.uk/media/level1/academicsserviceswebsite/studentandstaffdevelopment/documents/openexeter/oer_evaluation_report.pdf] – University of Exeter

- **OpenSpires Project Evaluation Framework** [<http://openspires.oucs.ox.ac.uk/report/Appendix7.pdf>] – University of Oxford

- **OTTER Project Evaluation reports** [<http://www2.le.ac.uk/departments/beyond-distance-research-alliance/projects/otter/about-otter-1/external-evaluation>] – University of Leicester

- **Academic advisor evaluation report** [<http://www.box.net/shared/d3xla8vh95>] (Unicycle Project, Leeds Metropolitan University)

- **Evaluation framework mapping** [<http://www.box.net/shared/6j6bpcqdl0>] (Unicycle Project, Leeds Metropolitan University)

- **C-change Project Evaluation Report** (C-change Project, Subject Centre for Geography, Earth & Environmental Sciences (GEES))

- **Baseline and change survey results** [http://www.llas.ac.uk/sites/default/files/humbox/HumBox_data.xlsx] (Humbox Project)

- **SPACE project evaluation materials**

Semi-structured interview guides [<http://webarchive.nationalarchives.gov.uk/20120104213211/http://www.space.fusedworks.com/wp-content/uploads/2011/08/SPACE-Project-briefing-note.pdf>] to identify user needs for curriculum heads

Semi-structured interview guides [<http://webarchive.nationalarchives.gov.uk/20120104213211/http://www.space.fusedworks.com/wp-content/uploads/2011/08/SPACE-Project-briefing-note.pdf>] to identify user needs for learners

Product development workshop evaluation form

[<http://webarchive.nationalarchives.gov.uk/20120104213204/http://www.space.fusedworks.com/wp-content/uploads/2011/08/Product-development-workshop-evaluation-form.pdf>]

Evaluation framework [<http://webarchive.nationalarchives.gov.uk/20120104213208/http://www.space.fusedworks.com/wp-content/uploads/2011/08/Evaluation-framework-questions.pdf>]

Interview questions for pedagogy steering group

[<http://webarchive.nationalarchives.gov.uk/20120104213213/http://www.space.fusedworks.com/wp-content/uploads/2011/08/Pedagogy-steering-group-evaluation-interview-questions.pdf>] and **Interview questions for user group**

[<http://webarchive.nationalarchives.gov.uk/20120104213243/http://www.space.fusedworks.com/wp-content/uploads/2011/08/User-group-evaluation-interview-questions.pdf>] (SPACE Project)

- Evaluation questionnaires

Baseline tutor survey [<http://open.conted.ox.ac.uk/resources/documents/sesame-project-baseline-tutor-survey>]

Pilot tutor survey [<http://open.conted.ox.ac.uk/resources/documents/sesame-project-pilot-tutor-survey>]

Pilot student survey [<http://open.conted.ox.ac.uk/resources/documents/sesame-project-pilot-student-survey>]

Final tutor survey [<http://open.conted.ox.ac.uk/resources/documents/sesame-project-final-tutor-survey>] (SESAME Project)

Management considerations

OER release is as much a business decision as it is a teaching and learning or academic pursuit. The **JISC/HE Academy UK OER programme** [<http://www.jiscinfonet.ac.uk/projects/ukoer/>] (2009-2012) provided funding and support for projects to release OER and to investigate a range of issues affecting educational institutions, individual teachers, learners and organisations from other sectors.

The lessons learned, approaches adopted and barriers overcome by these projects offer models and guidance to support wider release in the UK. A condition of funding was that institutions should reconsider strategy and policy documents affecting the release of open learning materials.

One interesting outcome was that institution-led projects tended towards the conclusion that OER release should be incorporated into existing strategies and policies to signal that OER release and use is an integral part of existing activities, an approach that supports ongoing sustainability and embedding into practice. Most institutions involved in the programme had to reconsider a range of existing strategies to incorporate OER release, including IPR and copyright policies, teaching, learning and assessment strategies, access and widening participation, quality assurance policies, IT strategies and marketing strategies.

However some institutions did choose to develop specific OER policies (either at institutional, faculty or departmental level) which can act as a strong signal to staff of the institutional commitment to open release of learning materials.

'Using SCOOTER as a vehicle to lead cultural changes has begun. The draft **OER@DMU** [mailto:OER@DMU] Policy puts many important considerations in place, and includes 'how to enable staff'.

By aligning the OER policy with DMU Strategic Vision and the University Learning, Teaching and Assessment Strategy, this gives the message that it is OK to proceed, a concern raised in staff feedback: 'Needs encouraging with permissions given via an institutional policy.'

SCOOTER

Work is also being undertaken to embed OER activities in the department's five-year strategic plan and its access and widening participation strategy and, as part of this work, we will develop a departmental OER strategy statement.

Sesame final report

See also the **OER Policy Registry** [https://wiki.creativecommons.org/wiki/OER_Policy_Registry] on the Creative Commons wiki which links to policies of organisations from around the world, including the UK.

OER initiatives can raise interesting questions for institutions around where the responsibility lies within an institution for aspects relating to legal issues, risk management, accessibility and quality of open content. In many institutions this responsibility may be scattered across faculties or departments and might have to be reconsidered if an institution-wide approach is adopted. Essentially OER initiatives are about institutional change and require appropriate approaches and support to help staff adjust to changes in culture that may seem very threatening. Academic practice change was a significant focus across the three year programme.

UKOER projects invested significant energy and resource into engaging and supporting staff to consider OER release and use, with central team support emerging as an important aspect of this work. Reward and recognition (not necessarily financial) was seen as crucial so linking OER to staff development and performance review activities were also seen as important for embedding practice change. Sustainability (and embedding) was addressed in many ways as appropriate to each institutional context and included:

- Development of new staff roles and positions
- Cascading good practice through champions
- Obtaining senior management support
- Linking OER and OEP with staff digital literacy activities
- Linking OER to strategy, policy and existing processes

- Staff development activities
- Establishing and maintaining communities of practice (sometimes across institutions)

'A consideration of the time and cost of OER creation is a useful first step in addressing academic needs and these need to be balanced against the various benefits for different stakeholders.'

The OECD **'Giving knowledge for free' report** [http://www.oecd.org/document/41/0,3343,en_2649_35845581_38659497_1_1_1_1,00.html] (2007) addresses managers of higher education institutions as well as strategists and decision makers on international, national and intermediate level. It provides a comprehensive overview of OER and the challenges it poses for higher education. It examines reasons for individuals and institutions to share resources for free, and looks at copyright issues, sustainability and business models as well as policy implications.

Advice to managers of higher education institutions includes the need to have an information technology strategy which includes the way the institution will manage the opportunities and threats presented by the OER movement, and it suggests strategies to embrace the opportunities which, not surprisingly, focus significantly on supporting staff to adapt to the impending changes.

Further resources

Open University OpenLearn Model Reflections on sustaining Open Educational Resources: an institutional case study (2008)

[<http://web.archive.org/web/20130513052125/http://www.elearningeuropa.info/files/media/n>]

Costs of OER [http://en.wikiversity.org/wiki/Open_educational_resources#Open:_Cost_minimization]

Approaches and models

Whilst it is possible for an individual to quickly make their own materials open by hosting them on the web through their own website or through a community wiki or 'shared space' it is important to consider a range of issues affecting release. Most individuals have some connection to an institution and may need to consider issues such as ownership, licensing and branding of learning materials produced for enrolled students.

Institutions have many issues to consider and really need to take an institution-wide approach involving teams which include strategic managers, departmental managers, central services staff and course teams. Strategy documents, policies and practice will need to be adapted and staff development and training will need to be a central part of any plan to openly release content.

These activities provide an excellent opportunity for institutions to take stock of existing practice, share good examples and improve those that are less effective.

The relationship between OER and Creative Commons has previously been somewhat ambiguous. However, clarification of Creative Commons as an OER supporter rather than competitor was forthcoming early in 2010. See, for example, **this interview with Cathy Casserly on Open Education and Policy** [<http://creativecommons.org/weblog/entry/22255>] .

Business models

'It is clear that business models associated with OER are in their infancy and whether any institution pursues models based on for example Self Learn and the sale of assessment and accreditation; OER as a reputation builder; or OER as a means of enhancing recruitment via 'Showcase' will be highly dependent on any given institutions business strategy. Any local approach to OER will need to be thus aligned.'

OCEP project final report, University of Coventry [http://cuba.coventry.ac.uk/curve/files/2008/10/curve_final_report.doc]

There are a range of different business models that support the creation, management, and release of OER. These models are usually linked to both the original intentions behind such a 'service' and by the funding mechanisms. Business models need to be flexible, to respond to changes that can happen very quickly, and sustainable.

Many existing OER services were established with 'one-off' initial funding and based on an altruistic notion of opening resources worldwide and sustainability has become a significant issue in recent years. Several services have developed strong communities which come together through sharing both practice and resources, which helps to sustain and support continued development of OER.

The **Good Intentions report** [<http://ie-repository.jisc.ac.uk/265/>] examined a range of business models for sharing learning resources (ranging from international, national, institutional, sectoral, subject discipline) and found that many were in transition towards adapting their models towards more openness. This study looked at the business models from three aspects or sub-models:

Financial models

The various financial models could be said to shape the resulting services but are also the element of a business model which needs refining as services go through various stages of maturity. Clearly finance models are closely linked to sustainability of services.

Service models

Crucial to all service models is an understanding of the market. If the service model is about the 'route to market' it stands to reason that we should know the market. Often there may be several tiers to a market - the primary group/community to which the service is closely modelled and also possibly secondary markets (either known at start-up or emerging through queries/use) that the service can serve. This may affect future development and funding models if the new market is prepared to be involved in funding/contributing in some way. One outcome of developing OER for specific markets (or groups of stakeholders) is that resulting resources may not be accessible, either technically or pedagogically, for wider groups to use.

Supplier/consumer models

In relation to sharing learning resources, suppliers and consumers may often be from the same sector, community or group. So we could say that teachers in FE and HE are the group of people who are potentially both supplying or consuming the resources. In reality there are so many different contexts of use, and such variation within this broad group, even within one department of one institution, that it is not easy to develop a generic model. The groups that are contributing may not actually be consuming, consumers may also be suppliers but not necessarily.

All of these sub-models are affected by some overarching issues which include: issues around competition and choice; variety and range of stakeholders; sustainability; adaptability and flexibility of model to change; partnerships and networks.

Funding models

The approaches available from a funding point of view have been identified by **Stephen Downes** [<http://downes.ca/>] as:

- Endowment (charity or large organisation pays for content creation and dissemination)
- Membership (institutions/organisations pay to be part of larger consortium that handles creation and dissemination)
- Donation (public fund cost of creation and dissemination of resources)
- Conversion (resources created and disseminated for free with consumers converted into paying customers)
- Contributor (creator of resources pay for creation and dissemination)
- Sponsorship (cost of content creation and dissemination borne by sponsors in return for advertising space/promotion)
- Institutional (educational institution pays for content creation and dissemination as part of its mission/mandate)
- Government (content creation and dissemination of resources relevant to governmental aims and objectives funded centrally by the state)

Jisc/HE Academy UKOER programme

The **Jisc/HE Academy UKOER programme** [<http://www.jiscinfonet.ac.uk/projects/ukoer/>] aimed to provide funding and support to enable individuals, subject communities and institutions to openly release existing materials and to investigate issues affecting release, use and re-use. The lessons learned, approaches adopted and barriers overcome have been well documented to inform the wider community and offer models and guidance to support wider release in the UK.

Emerging models of release reflected a need for flexibility and sustainability. Institutional release requires strong infrastructure (including technical and hosting solutions, IPR policies, support teams/staff) and significant cultural change (supported by senior management and appropriate staff development) and this has an impact on sustainability. Institutions developed an awareness of the need for branding and quality management to

support marketing and showcasing motivations, which has had a knock-on effect of the lone individual release model. There is room for both high quality institutionally branded OER and individually released smaller chunks of learning materials (such as lecture notes, screencasts, podcasts, Powerpoint presentations).

Within one institution there may be several models of release operating in parallel. The same OER can be released as individual chunks or packaged with other materials and given pedagogical support or context. The availability of a wide range of hosting choices means that OER are not limited to one method of release. This has positive implications for different stakeholder (end user) groups, some of whom may want small assets for quick re-purposing (e.g. other educators) or others who may want to use the resources within the context they were developed (e.g. students on a particular course).

Community models of development and release (often supported by community repositories or hubs like **HumBox** [<http://humbox.ac.uk/>] , **LanguageBox** [<http://languagebox.ac.uk/>]) focus on the strength of expertise within the community and common (or similar) focus or goals. This can result in collaborative development and use of resources, peer evaluation and review and shared practice. This model offers sustainability as long as the community remains active, but also supports the development and accessibility of subject collections. An individual may release OER independently, through a subject community or through an institution – or all three and can be operating across several different models with different procedures and policies.

UKOER projects developed a range of models as appropriate to their stakeholder needs. Those projects that worked with stakeholders outside the education sector had some interesting lessons to learn and had to balance a range of different demands and needs. Interesting examples include those working in the Medicine and Health fields (**ACTOR** [<http://www.webarchive.org.uk/wayback/archive/20120517135212/https://www.medev.ac.uk/ourwork/oer/actor/>] , **PORSHE** [<http://www.webarchive.org.uk/wayback/archive/20120517135125/https://www.medev.ac.uk/ourwork/oer/PORSHE/>] , **PublishOER** [<http://www.webarchive.org.uk/wayback/archive/20120517135114/http://www.medev.ac.uk/ourwork/oer/publishOER/>] **SCOOTER** [http://www.heacademy.ac.uk/projects/detail/oer/OER_REL_DeMontfort] , **HALSOER** [<http://vrolfe00.our.dmu.ac.uk/>]), those working with commercial publishers (**HALSOER** [<http://vrolfe00.our.dmu.ac.uk/>] , **PublishOER** [<http://www.webarchive.org.uk/wayback/archive/20120517135114/http://www.medev.ac.uk/ourwork/oer/publishOER/>] , **Great Writers** [<http://www.jisc.ac.uk/whatwedo/programmes/ukoer3/greatwriters.aspx>] , **ALTO UK** [<http://www.jisc.ac.uk/whatwedo/programmes/ukoer3/altouk.aspx>]) and those working with a mix of public sector, charity and private sector bodies (**CORE-SET** [<http://www.jisc.ac.uk/whatwedo/programmes/ukoer3/coreset.aspx>] , **REACTOR** [<http://www.jisc.ac.uk/whatwedo/programmes/ukoer3/reactor.aspx>] , **PARIS** [<http://www.jisc.ac.uk/whatwedo/programmes/ukoer3/paris.aspx>]).

Quality considerations

Concerns around the quality of OER have been significant in educational institutions deciding whether or not to openly release their teaching and learning materials. Releasing these materials exposes institutions in a new way and individual staff can feel unsure that their materials will compare well with other staff within their institution or their subject discipline.

Quality can be applied in both a technical and pedagogical sense – and both are relevant. Release of OER at an institutional level provides an opportunity for existing quality measures to be reconsidered/evaluated and can also open up useful dialogue across the institution that may not have happened previously.

What does ‘quality’ mean?

It is difficult to specify precisely what ‘quality’ means in the context of OER, where discoverability, accessibility and availability are at least as important as the production values they embody. There is a difference in emphasis with OER release in that third parties are actively encouraged to re-use, re-purpose and remix the resources. This, OER advocates claim, leads to higher standards when a long view is taken.

However, the issue remains that the quality of learning resources is usually determined using the following lenses:

- Accuracy
- Reputation of author/institution
- Standard of technical production
- Accessibility
- Fitness for purpose

‘The quality of the resource – as an OER – should be higher, in that it has been built to a more robust and transferable OER specification.’

Bioscience project final report

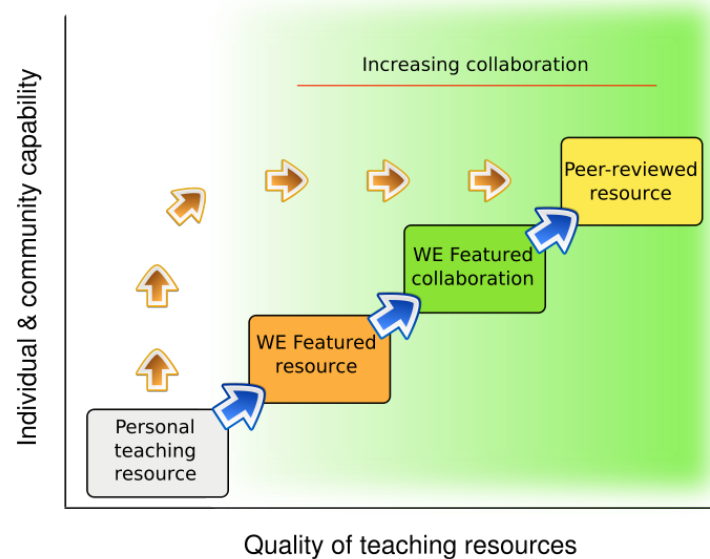
The issue of trust is an important factor in OER, **Wikipedia** [<http://en.wikipedia.org/>] being an obvious example. Whilst it is possible to abuse trust around OER licences, the community aspect and the inherent iterative model would provide some type of safeguard in the long-term. As explained in the cultural considerations section, such aspects need to be considered when considering OER release.

Quality assurance

Where educational resources are produced using other models (particularly within institutional contexts), OER release should be subject to an ongoing quality assurance (QA) process. Given the nature of OER and the community aspect, this QA process should be transparent and fair with input from a variety of stakeholders. Initiatives such as OER Africa **state explicitly**

[<http://web.archive.org/web/20110605064906/http://www.oerafrica.org/healthoer/AfricanHealthOERVisionStatement/tabid/955/Default.aspx>] that it is not the role of any one organization to perform QA on OER. Instead, they indicate that QA will occur as a result of:

1. Self-assessment (individuals and institutions release resources of highest quality possible)
2. Internal QA processes (institutions to QA their own resources before release)
3. Rating systems (community-driven QA through ratings and comments within OER release platform)
4. Individual review (comments and suggestions made by individuals and institutions)



Tiered quality system (NB 'WE' = 'WikiEducator')

©Wayne Mackintosh

CC BY-SA [<http://creativecommons.org/licenses/by-sa/3.0>]

This emergent system of QA is explained by **WikiEducator**

[http://wikieducator.org/WikiEducator:Quality_Assurance_Framework/Contribution_Levels] both verbally and visually:

'In education, quality is more about the process than a product. Most open developments start as a first draft – the expression of an idea. Through repeated iterations and refinements, and collaboration from the [community] the quality of individual projects improve over time.'

The Jisc/HE Academy UKOER programme (2009-2012) provided funding and support to enable individuals, subject communities and institutions to openly release existing materials and to investigate issues around release, use and re-use. Issues of quality featured highly throughout the three year period with increasing recognition that there is room for both high quality, well packaged and costly institutionally branded materials (**Big OER** [http://nogoodreason.typepad.co.uk/no_good_reason/2009/12/the-politics-of-oer.html]) and smaller, lower quality, lower cost chunks (Little OER), with the latter widely accepted as being more amenable to re-purposing.

Quality was a significant feature in early stakeholder engagement activities as individuals expressed concerns about the quality of their own materials and opening their materials up to scrutiny and judgement by peers. One way to allay these fears was to offer 'staged openness', where individuals were given the choice of how open their 'OER' were and who to make them open to initially. Despite fears of staff engaging with OER initially, the notion of open peer and student review of OER featured strongly in both institutional and community released OER and was often incorporated into the OER themselves. This was seen as an important way to ensure quality.

Sustainability

What do we mean by 'sustainability'?

Sustainability in relation to OER is closely linked to the business model or approach that an individual, group or institution adopts to release, manage and support OER. It is not just about sustaining existing OER but about embedding processes and transforming practices to support ongoing OER production and release.

Sustainability is often linked to funding models because many OER initiatives have been seeded with significant amounts of money. Most funding bodies include a requirement to describe ongoing sustainability once project funding has finished. The UK Jisc HE Academy UKOER programme did this and all projects have had to address the issue of ongoing sustainability.

Projects adopted a range of OER release models but most acknowledged the importance of giving content creators/producers a lead role with guidance, training and support from others with more technical or legal knowledge or experience. The resulting cross-institution, cross-subject community and cross-professional dialogue is having a significant impact on sustainability as new networks and knowledge practices emerge.

A meeting was held in May 2010 at Leeds Metropolitan University which focused on sustainability and one outcome is an **Open University Cloud** [<http://cloudworks.ac.uk/>] on **OERs and sustainability: the Leeds Manifesto** [<http://cloudworks.ac.uk/cloud/view/3676/>]. This provides links to a range of presentations on OER and sustainability, a draft manifesto on sustainability and an ongoing discussion which includes people who were not at the meeting.

Factors affecting sustainability – what makes your approach sustainable?

Different approaches could be argued to be more sustainable than others – clearly if project funding supported a post with a central role – such as checking provenance and clearing copyright – this activity will need to be covered if the post disappears when project funding ended. Many institutionally-led UKOER projects made efforts to include a commitment to OER within institutional strategies and policies (a significant factor in ongoing sustainability), staff training (including PGCHE courses), supporting academic champions within faculties/schools, and strong guidance and support mechanisms.

UKOER projects adopted a range of OER release models but most acknowledged the importance of giving content creators/producers a lead role with guidance, training and support from others with more technical or legal knowledge or experience. Projects supported an unusual level of communication across central services and academic schools, as well as across subject and professional communities and with stakeholders outside the sector, and the resulting cross-institution, cross-subject community and cross-professional dialogue is expected to have a significant impact on sustainability as new networks, and knowledge practices emerge.

In order to develop a sustainable model for OER production and use, openSpace's publishing strategy will incorporate OE students and HEI institutions wishing to make use of the specialist Art, Design, Media & Performance OE platform. Creating a community of learners, or social learning space, is an important component for the sustainability of the pilot.

Open source electronics learning tools project final report [http://www.heacademy.ac.uk/ourwork/teachingandlearning/alldisplay?type=projects&newid=oer/OER_IND_York&site=york]

The **Good intentions report** [<http://ie-repository.jisc.ac.uk/265/>] highlighted that the development of Communities of Practice around open learning and teaching materials was highly likely to impact on sustainability through the development of networks of people sharing practice and content. Utilising existing communities or networks is likely to be even more sustainable as the members are likely to have already identified common understandings, languages and cultures.

The pilot programme in 2009 effectively tested out this model, by utilising the HE Academy subject centres. This provided important support mechanisms and infrastructure which was later lost when subject centres were disbanded, which is likely to impact on long term sustainability of both technical systems like repositories and community maintenance and support. Despite this loss some later projects also adopted a community-based model similar lines.

Stakeholders and their impact on sustainability

Effective understanding of the various stakeholder groups, particularly in relation to perceptions around benefits and challenges, has a considerable impact on 'buy-in' or engagement of the groups – and on long term sustainability which relies on input from these groups. This is highly likely to require substantial cultural change – this may be institutional culture, departmental culture or subject community culture.

This requires considerable ongoing effort and commitment, with an emphasis on involving a wide range of staff, providing training and support and encouraging new ways of communicating and working together. Taking advantage of support at a strategic management level can be very useful to obtain 'buy-in' from others within an institution. A good example of this is the BERLiN project at the University of Nottingham who produced a **podcast of vice-chancellor talking about U-Now and open learning at Nottingham** [<http://www.youtube.com/watch?v=E9MBkJr3ba8>] .

Sustainability is only possible when you have engaged enough people in a positive way. Ideally these people need to represent your varied stakeholder groups. Persuading these stakeholders of the benefits of OER will impact on longer term sustainability. The levels of transformational change required by most educational institutions to embed open practice in relation to their learning and teaching materials requires a long term approach as this kind of

change takes considerable time and investment. UKOER projects describe sustainability plans in their final reports.

Learning and teaching considerations

'The Senior Tutor of the School of Biosciences brought to our attention that school's practice of publishing the best undergraduate projects from each year. He was familiar with matters such as copyright and consent and allowed us to use these projects as BERLiN material.

The inclusion of final year student content is an encouraging and exciting development, providing powerful and rewarding promotional opportunities for students and the institution alike.'

BERLiN project, University of Nottingham

[<http://www.webarchive.org.uk/wayback/archive/20101001150715/http://webapps.nottingham.ac.uk/elgg/berlin/files/-1/840/BERLiN+final+report+v1+0.pdf>]

, **Biosciences undergraduate research at Nottingham (BURN)** [<http://unow.nottingham.ac.uk/resources/resource.aspx?hid=f543d342-099d-be89-9fca-5a25f4b6bce2>]

OER are produced to support learning and teaching and may even be created as part of learning and teaching processes. Content created by students during learning activities could potentially form part of OER which raises considerable questions around ownership and attribution. It is anticipated that student created content will be increasingly used to augment OER, and this has been a significant feature of the Jisc/HE Academy UKOER programme.

Whilst it seems obvious to state that OER are fundamentally about learning and teaching, it is interesting to note that many of the people involved in the OER movement come from very different parts of the educational community. Indeed, OER are often used as a marketing tools through such channels as **iTunesU** [<http://www.apple.com/education/itunes-u/>] and the **OpenCourseWare Consortium** [<http://www.ocwconsortium.org/>]. However, much of the impetus comes from those supporting learning and teaching through technology and particularly those involved in the world of online learning and teaching repositories.

A significant driver for the OER movement has been the altruistic notion that educational resources should be available to all. This has been backed by national funders wishing to make their investment relevant to as wide a part of the community as possible. This can lead to tensions between teachers, who often have to respond to wider initiatives and directives, and those responding to funding calls.

Some teachers have led the way and see clear benefits to making their teaching materials open, whilst others fear the burden of the extra work involved and are cautious for a range of reasons. The choice of OER licence can reflect the level of caution of some academic staff releasing their material for the first time. See the Intellectual Property Rights considerations section for more information on licensing.

The UKOER programme identified staff training and support as being key to supporting teachers to openly release their content and has developed some excellent workshop and guidance materials. Projects invested considerable effort into raising awareness and educating a wide range of people as to the benefits of open release to the different stakeholder groups.

Participants in the UKOER programme began to embrace the wider notion of Open Educational Practice (OEP) and saw OER release and use as part of a bigger picture. Practice change has been an important aspect of the programme, and projects have identified a range of barriers and enablers to help individual academic staff to engage and change their own practices.

Open courses, and the rise in interest in this area through the **Massive Open Online Courses**

[<http://www.jisc.ac.uk/events/2012/07/webinarmoooc.aspx>] (MOOC) phenomenon, are bringing a disruptive element to the educational landscape. Opening up existing courses can provide an excellent opportunity to investigate these aspects and transform existing practice. One UKOER project at the University of Coventry (**COMC** [<https://web.archive.org/web/20150927051712/http://openmediaclasses.covmedia.co.uk/>]) adopted such an experimental approach and offers an interesting and successful alternative model to MOOCs. They provided evidence that adopting an open course approach can have both a significant positive impact on the student experience and a transformative impact on how educators perceive their roles.

'Each Open Class is working with a slightly different emphasis, different process of content generation and a distinctive balance of media/platforms; but all students have very actively contributed and participated. This is evidenced within each of the Open Class sites. The staff have also been very highly engaged with these projects. All the sites have a richer range depth and mix of resources than has been the case with conventional modules.'

COMC [<https://web.archive.org/web/20150927051712/http://openmediaclasses.covmedia.co.uk/>] final report

Different educational providers

It is worth noting that different sectors in the educational community have very different organisational cultures and institutional practices, which have had a significant impact on approaches to sharing, using and re-purposing learning resources. Common curricular and assessment practices appear to make it easier to share.

Whilst it would appear that UK primary and secondary schools, with their adherence to a **national curriculum**

[<https://www.gov.uk/government/collections/national-curriculum>], standardised assessment regime and time-poor staff would embrace the notion of OER, this has not generally been the case. Whilst there is very much a culture of sharing both resources and good practice, a deliberate programme of repository creation and OER release has not happened.

Instead, there are numerous, informal, subject-specific communities of practice that provide channels for the dissemination of educational resources.

Phase 3 of the UKOER programme included three projects that worked with schools and these found that focusing on digital literacies proved effective in getting school teachers to embrace the notion of open educational practice (**Digital Futures in Teacher Education (DeFT)**

[<http://www.jisc.ac.uk/whatwedo/programmes/ukoer3/digitalfutures.aspx>], **ORBIT**

[<http://www.jisc.ac.uk/whatwedo/programmes/ukoer3/orbit.aspx>], **HALS OER**

[<http://www.jisc.ac.uk/whatwedo/programmes/ukoer3/halsoer.aspx>])

The UK further education (FE) sector has **national frameworks**

[<http://webarchive.nationalarchives.gov.uk/20100219191403/http://www.dcsf.gov.uk/furthereducation/uploads/documents/6514-FE%20White%20Paper.pdf>] to support **curricula and assessment** [<http://www.scotland.gov.uk/Publications/2004/11/20178/45862>] . This community appears to be more culturally inclined to use publicly funded resource collections such as the **NLN materials** [<http://www.nln.ac.uk/>] , and the FERL website (now incorporated into the **Adult Learning Inspectorate's good practice database** [<http://excellence.qia.org.uk/page.aspx?o=100800>]). The common assessment framework in Scotland contributes towards the fact that Scottish Colleges has recently launched (November 2012) an open community repository **Re:Source** [<http://resource.blogs.scotcol.ac.uk/>] (linked to Jorum) to support open sharing.

By contrast many of the UK Higher Education (HE) Institutions balance the needs of research with teaching and several diverse cultures operate within one organisation. Some subject disciplines have common professional frameworks and staff may have more connection with their subject community than with colleagues from their own organisation.

Several HE institutions have developed **research repositories** [<http://www.jiscinfonet.ac.uk/infokits/repositories/>] in an attempt to manage and preserve their institutional research outputs and some of these are looking to expand these to include learning and teaching materials. The UKOER programme provides some excellent examples of this and lessons learned by these projects provide an interesting contrast between an institutional approach to releasing OER and the issues raised by the subject communities.

Use of OERs

Much of the literature relating to OER focus on OER release practices – how they are developed/created, stored, managed and made available. Issues of funding, sustainability and affordances of the various models are well documented. What is lacking in the literature is clear evidence of how these resources are used, and by who. Many OER/OCW services count the number of downloads but few can identify who is downloading them and how they are being used. This is perhaps quite surprising that so many services release content without a clear understanding of how the consumers will use it. It is not safe to assume that people who produce/release OER are also users of other's OER.

There is a clear need to clarify which groups (learners, registered students, other teachers) are using OER and how (formal, informal, etc.) these resources are being used/re-purposed. One of the key questions for those who aim to release OER is whether to include pedagogic content (such as contextual information about how and when to use the resources) or to allow the user to define/add pedagogic context at the point of use. Finding out how people use different kinds of content, of varying granularity will help to inform these decisions.

Terminology around OER is not universally meaningful or recognisable and we may sometimes be asking people the wrong questions. Where staff report no engagement with OER they often describe using third party materials in their teaching. This demonstrates the 'iceberg of OER use' described in **OER: the value of reuse in education** [<http://www.jisc.ac.uk/media/documents/programmes/elearning/oer/OERTheValueOfReuseInHigherEducation.pdf>] , a study commissioned during phase 2 of the UKOER Programme, which found that most sharing and reuse happens informally and below the surface.

Use and reuse of OER, strictly defined as content that is openly licensed and consciously reused as such, is a small sub-set of the whole. Practice below the surface may actually become harder to research as awareness of open content spreads, because there is a greater awareness that online content may be 'risky' or inappropriate to use.

An interesting comparison for how OER can be used, re-used and remixed is that of cows milk production, illustrated in the OER myths section. The intent is not to equate OER with commercial products but to encourage a consideration of how the different roles within that model mirrors that of people involved in OER production, release and use.

Cultural considerations

'Many staff felt that it would be good to incorporate resource creation into learning and teaching in higher education practice (LTHE - HEA accredited postgraduate programme designed to meet the needs of those new to teaching). This would make OER sustainable in the long term.

The costs of producing OER would then just be a part of training with getting staff to think about copyright and IPR from the very beginning: 'a basic educational need which has now been highlighted as necessary anyway'.

Open Exeter project final report, University of Exeter

[http://as.exeter.ac.uk/media/level1/academicserviceswebsite/studentandstaffdevelopment/documents/openexeter/final_report.pdf]

Cultural issues have been identified as significant in relation to if and how people share learning and teaching resources. Different institutions, sectors and subject communities may all have their own 'established practices' around sharing teaching practice and learning materials. Academics may feel more connected to the culture of their subject discipline or professional community of practice than to the institutional culture.

In HE it could be argued that there is no such thing as an institutional culture as many sub-cultures exist, often related to different institutional roles, with traditions and approaches that can be more persuasive than strategy and policy documents. Some of these traditions or practices can result in slow take up of new approaches or ideas.

The open movement in particular challenges people and groups to change their existing practice, and patchy development is quite likely in large institutions with many sub-cultures. An institution-wide approach to staff development and support can help to address some of these cultural barriers and encourage OER release and use but some institutions may choose to mandate such activities to move forward.

The following studies discuss cultural issues around sharing learning materials in more detail:

- Community dimensions of learning object repositories **CD LOR** [<http://www.academy.gcal.ac.uk/cd-lor/>]
- Trust in digital repositories **TRUST DR** [<http://web.archive.org/web/20100402051301/http://trustdr.ulster.ac.uk/>]

- **Sharing e-learning content** [<http://ie-repository.jisc.ac.uk/46/1/selc-final-report-3.2.pdf>]
- **Jisc's Good Intentions report** [<http://ie-repository.jisc.ac.uk/265/>]

Jisc/HE Academy pilot programme: OER release

The Jisc/HE Academy UKOER programme provided funding and support to enable individuals, subject communities and institutions to openly release existing materials. The lessons learned, approaches adopted and barriers overcome are informing the wider community and offer models and guidance to support wider release in the UK. As anticipated, cultural issues emerged as significant factors affecting both release and use.

UKOER projects invested significant time and resources into engagement activities with staff, highlighting the benefits of releasing and using OER and offering guidance and support to change their own practice. During phase two of the programme the notion of open educational practices (OEP) emerged as a growing area of focus in the UK and wider learning and teaching communities.

The evaluation and synthesis team published a briefing paper which aimed to clarify some of the aspects emerging from the UKOER programme **open practices briefing paper**. [<https://oersynth.pbworks.com/w/file/58444186/Open%20Practices%20briefing%20paper.pdf>] OEP challenge existing cultures of academic institutions and subject areas, while at the same time upholding some values that are very long-established (such as public access to knowledge, transparency of research methods, and open peer review).

'Some institutions and subject areas are embracing the open agenda wholeheartedly while others remain sceptical, for reasons that may be historical or cultural, or may simply reflect the personal views of key players.

It seems likely that the benefits of 'opening up' will accelerate as the volume of available resources grows, and that there may be a tipping point beyond which open access becomes the norm and special processes will have to be applied to keep learning, research and knowledge transfer materials in a closed environment. But we are some way off this yet, and work is still needed to define and communicate the benefits.'

Open practices briefing paper, 2011

There are different cultures of openness at different institutions and in different sectors (see the **open practice across sectors briefing paper** [<https://oersynth.pbworks.com/w/file/58444317/Open%20practice%20across%20sectors%20briefing%20paper.pdf>]) but we can identify some common issues that arise across all the different practices we have described. Addressing these issues in a conscious and strategic fashion is likely to help institutions move towards more open practices in a managed way.

These issues include legal, technical, cultural and staff roles and responsibilities – culture change around OEP is complex but the UKOER programme highlights that engaging with OER can encourage and support culture change (for individuals, communities and institutions) and result in interesting conversations about broader learning and teaching activities, changes in strategy and policy and enhanced learning experiences for students.

OER use and re-use

There is a lack of strong evidence around how open educational resources are used and reused. It is relatively easy to track and measure metrics such as number of downloads of materials, time spent on site and location of visitors, but more challenging to find out if and how they have actually been used.

Comment and rating systems may be used but, again, are not necessarily a guarantee of use.

- **Massachusetts Institute of Technology** [<http://aka-ocw.mit.edu/index.htm>] has a long-standing commitment to releasing OERs under the 'OpenCourseWare' programme. Their 2005 evaluation as to the programme's effectiveness and outcomes is available as an **summary** [http://ocw.mit.edu/ans7870/global/05_Eval_Summary.pdf] [PDF] or **full report** [http://ocw.mit.edu/ans7870/global/05_Prog_Eval_Report_Final.pdf] [PDF]. The 2009 report is currently only available as a **summary** [http://ocw.mit.edu/ans7870/global/09_Eval_Summary.pdf] [PDF].
- Jisc's **re-purposing and re-use of digital university-level content and evaluation (RePRODUCE)** [<http://www.jisc.ac.uk/whatwedo/programmes/elearningcapital/reproduce.aspx>] summarized the findings of 20 projects that aiming "to develop, run and quality assure technology enhanced courses using reused and repurposed learning materials sourced externally to their institution."
- The Open University run an ongoing **Impact evaluation** [<http://projects.kmi.open.ac.uk/itunesu/impact/>] on use of their iTunesU offering.
- The **ORIOLE project** [<http://orioleproject.blogspot.com/>] , based at the Open University has a focus on investigating, understanding and disseminating about use and reuse of digital online resources in learning and teaching.

The Jisc/HE Academy UKOER programme (2009-2012) considered which kinds of OER are relevant to different stakeholder groups and considered issues around granularity, pedagogic context, discoverability, accessibility and re-use.

Phase two offered some interesting insights into OER **requirements and considerations for different subject disciplines** [<https://oersynth.pbworks.com/w/page/47976405/disciplines%20development%20and%20release>] and phase three looked at needs of an interesting range of **different stakeholder groups** [<https://oersynth.pbworks.com/w/page/59764858/phase3ReleasingAndUsingOER>] (including part-time tutors, HE in FE, schools, public sector, NHS, private sector (including commercial publishers).

Practical issues relating to the above can be found in wiki educator's **OER handbook** [http://wikieducator.org/OER_Handbook] .

Phase two of the UKOER programme included two research studies around use:

- **Learner use of online educational resources for learning (LUOER)** [<http://www.google.co.uk/url?>

sa=t&source=web&cd=1&ved=0CBsQFjAA&url=http%3A%2F%2Fwww.jisc.ac.uk%2Fmedia%2Fdocuments%2Fprogrammes%2Felearning%2Foei
c6if3GwNmg&cad=rja] Paul Bacsich, Barry Phillips and Sara Frank Bristow Sept 2011

- **OER impact study: research report**

[<http://www.jisc.ac.uk/media/documents/programmes/elearning/oer/JISCOERImpactStudyResearchReportv1-0.pdf>] . Liz Masterman and Joanna Wild University of Oxford, July 2011

Overcoming barriers and finding enablers

What are the barriers to OER release, use, and re-purposing?

We would emphasise that OER is simply about sharing and that much can be achieved with the technologies already in place, without further investment.

The biggest barriers to sharing are factors not directly related to OER, such as the increasingly commercial nature of education, the workload pressures on teaching staff, the increasing ratio of staff to students, and the lack of professional incentives in the sector for teachers to share their work.

Chemistry.FM final report [http://www.heacademy.ac.uk/ourwork/teachingandlearning/alldisplay?type=projects&newid=oer/OER_IND_Lincoln&site=york]

It is helpful to look at the literature on 'sharing of learning resources' as this has documented many of the barriers experienced by institutions, communities and individuals, and most have highlighted legal and cultural issues in particular (**CD LOR** [<http://www.academy.gcal.ac.uk/cd-lor/>] , **TRUST DR** [<http://web.archive.org/web/20100224024528/http://trustdr.ulster.ac.uk/>] , **sharing e-learning content** [<http://ie-repository.jisc.ac.uk/46/1/selc-final-report-3.2.pdf>] , **good Intentions report**) [<http://ie-repository.jisc.ac.uk/265/>] .

Several point to the notion of 'perceived barriers' – anticipated barriers that are not as real as imagined or that have been lessened by new developments, such as the introduction and wide-scale adoption of **Creative Commons** [<http://creativecommons.org/>] licences, or the increasing publishing choices offered by social software/Web 2.0.

One of the most significant barriers to sharing has been that individuals are not necessarily interested or committed to sharing in the first place. Many of the government funded initiatives have at their heart a perception that sharing would prevent duplication and support efficiencies and cost effectiveness. Whilst this is clearly a laudable and sensible goal, busy teachers may need persuading and supporting to devote time to such activities.

This is linked to understanding and appreciating the benefits to them as individuals, as well as those to the learners, institutions, and wider global community.

It has also been noted that teachers often prefer an element of choice in who they share with so providing options for 'degrees of openness' may encourage more people to make their resources openly available. (**Good Intentions report** [<http://ie-repository.jisc.ac.uk/265/>]). This was discussed in depth in the **OCEP project final report** [http://cuba.coventry.ac.uk/curve/files/2008/10/curve_final_report.doc] from the University of Coventry who adopted a phased release model. This model presented many technical challenges for the project team but responded to the need of staff to open some content only within the University. Other UKOER projects also found this a useful way to get staff engaged with OER and to allay fears around quality.

Barriers/enablers to OER release

It is useful to look at barriers to releasing OER from the point of view of different stakeholders and also to highlight some enablers to help people overcome the barriers or perceived barriers. Linking these to the benefits can also be useful to help people see the value in extending the effort to overcome some of the barriers. This table is not meant to be exhaustive but provides 5 of the most significant barriers for each stakeholder group.

The table is reproduced from one of the **OER synthesis and evaluation team wiki pages** [<https://oersynth.pbworks.com/w/page/29688849/Pilot-Phase-Barriers-and-Enablers>] which implements the same use licence as this guide.

Stakeholder	Barrier	Enabler	Possible benefits
Teachers/academic staff	Not all teaching staff are aware of the benefits of releasing or using OER	Information and support (e.g. from the Jorum Community Bay) Awareness activities - workshops, guidance	Enhanced reputation Improved quality Peer feedback and new contacts
	Time is a significant issue particularly when re-purposing existing materials	Institutional support and acknowledgment of time needed to re-purpose materials Technical support and guidance from central teams	Improved quality and checks re legality of content
	Skills/competencies - a whole range of new skills may be needed (technical and pedagogical).	Training and/or extra support from central teams Information and support from the Jorum Community Bay Incorporating OER release into accredited teacher training	Additional skills and experience for staff Balanced skillsets across institution
	Quality - many staff are concerned about quality in relation to technical issues (eg recording quality) as well as opening their learning materials to outside scrutiny - some are concerned that someone may re-purpose their content to a low standard and will reflect badly on them	Reassurance, training and support for Institutional managers and support teams Staged release - degrees of openness Ensure clear attribution information is available in the licence	Increased quality of learning materials across institution. Enhanced reputation.
	Legal issues - still a significant real and perceived barrier. Existing materials may contain materials that can't be released openly.	Information, training and support. Creative Commons Licences	Increased knowledge. Clarity re attribution and potential use options. Creator can control types of use.
Learning support	Technical challenges - particularly choices around content packaging, branding, version control	Dialogue across the institution and decisions supported by strategic and policy documents Advice and support from JISC CETIS and institutions with existing experience	Clear guidelines across the institution Increased awareness and understanding
	Quality issues - central teams often have to package content on behalf of teaching teams with a range of quality issues (technical and pedagogical)	Institutional commitment to quality	Increased quality of learning materials

		Guidelines for course teams to support production of high quality content	Enhanced reputation
	Metadata and retrieval - assigning appropriate metadata is still a challenging issue although utilising social software/web 2.0 services can help with retrieval.	Staged metadata creation through clear and efficient workflows Tagging	Enhanced retrieval of content for all stakeholders
	Hosting - where to deposit the content which in turn is affected by issues such as version control, branding, etc.	Decisions and guidance on where to deposit Mandating deposit within Institutional repository Mandating deposit within national repositories such as Jorum [http://www.jorum.ac.uk/] Ensuring that items are retrievable from range of sources Use of Web 2.0 facilities to support retrieval - RSS feeds	Clarity for depositors Enhanced retrieval
	Legal issues - trying to package or release content that contains material that can't be released for legal reasons - due to previous licensing restrictions or use of materials not owned by the teacher. Some institutions may have a very 'risk averse' approach.	Clear support and guidance across all faculties and teaching teams Releasing smaller chunks of content that doesn't depend on illegal content	Reduction in amount of illegal material being used in teaching Informed staff Time saving once staff are informed and trained
Management	Understanding the value and benefits of openly releasing their learning and teaching materials when concerned about competitors and ensuring student enrolment figures	Convincing senior managers of the benefits for institutions Getting key senior champions on board Including OER release in strategic and policy decisions and documents	Marketisation opportunities - showcase of courses and high quality content Enhanced reputation Increased enrolments
	Institution wide approach - HE institutions may not have culture or mechanisms to support institution wide dialogue which is needed for OER initiatives	Develop new partnerships within institutions Create mechanisms for cross faculty communication, practice sharing Case studies to share across the institution to illustrate approaches and benefits Mandates	Joined up approaches
	Competition - institutions may find it difficult to consider revealing their course content if it undermines a particular strength	Point to evidence that OER release encourages enrolment and offers	Quality materials showcased

		marketing opportunities Selective release – small amounts of very high quality content	Increased enrolment Higher profile globally
	Managing resources – existing mechanisms for managing learning and teaching materials (such as closed VLE systems) may mean that institutions do not know what they have, or what quality or legal issues may arise if they are made more open	Linking VLEs to institutional repositories Taking an institution-wide approach to support faculties/departments Providing guidelines on deposit, metadata, formats, etc.	Increased visibility of all learning resources (and therefore likely positive impact on quality) Opportunities to share across departments Reduction in duplication for generic materials
	Uneven development due to subject discipline focus and cultures – some departments may be more inclined to openness and some may have been more experimental with new technologies	Developing case studies of good practice to share within institution Developing guidelines that are sensitive to subject discipline differences Utilise support of Academy Subject Centres and other communities of practice/professional bodies Utilise examples from outside the institution Accept that uneven development is likely.	Supporting disciplines as appropriate to need Enables a staged approach and encourages development of champions
Communities of Practice (CoP)	Institutional practices – many teachers are members of an institution which may already have guidelines, policies and restrictions on what and where a teacher can openly release	Sharing good institutional practices with other community members Sharing good community practices with institutions	Encourage good practice
	Legal issues – there may be a perception that legal issues are less of a barrier when sharing within communities	Ensure that community members still follow institutional guidelines, particularly when/if the institution owns the copyright	Less content released that contravenes copyright law
	Ownership – not all teachers own the teaching materials they produce as they may have a contract that gives the institution ownership – this may restrict what teachers can release within communities.	Follow institutional guidelines re quality, legality, branding Obtain institutional agreement re deposit outside the institutional repository	Clarity re ownership
	Community/consortia agreements – the complexities of getting all parties to agree to particular aspects (legal, quality, metadata, branding) can be very time consuming	Lightweight agreements that are not restrictive	Increased participation

		<p>Clear management, support and guidelines</p> <p>Obtain support from some central agency (such as Academy Subject Centres, Professional bodies)</p>	
	<p>Hosting - communities that cross institutional boundaries need some mechanism for bringing the resources together</p>	<p>Community of Practice sharing places (wiki's, forums, social networking sites, Jorum Community Bay)</p> <p>Subject repositories/spaces</p> <p>National repositories such as JorumOpen [http://www.jorum.ac.uk/]</p> <p>Utilising existing CoP mechanisms</p> <p>Institutional repositories with feeds to other portals and services</p>	<p>Community members know where to go for resources</p> <p>Resources supported by focus on practice - information, support and dialogue</p>

Barriers/enablers to OER use, re-use and re-purposing

Stakeholder	Barrier	Enabler	Possible benefits
Learners	Equity re access - not all OER are fully open, not all learners have access to computers, or to the internet	Movement toward fully open resources Ensure materials will be accessible on alternative technologies (mobile)	Genuine access for all
	Knowing what is available - learners who are not guided or supported by a teacher may not know what is available or how to access it.	Making resources discoverable by tools that learners use regularly - search engines Using social software to 'advertise' content (Twitter, Facebook)	Increased use of content
	Support and guidance - learners may need support and guidance to use resources effectively	Provide options to engage with content creator or other content users (peers) - such as discussion forums and opportunities for collaborative learning Include guidance on use within resources	Encourages peer support and interaction Encourages dialogue and enhances learning opportunities
	Quality - not all OER are high quality - poor experiences with low quality materials may deter future use	User reviews can be helpful to encourage others Social software services such asDiigo [http://www.diigo.com/] allow users to highlight content and add notes	Quality resources likely to rise to the top of search engine results
Teachers	Knowing what is available and how to find it	Utilising peer networks and CoPs to find out what is available in their subject area Utilising services which pull resources together either physically or as a catalogue Mandating deposit within national repositories such asJorum [http://www.jorum.ac.uk/]	CoPs and networks support practice and dialogue as well as resources Improved access
	Time - concerns about wasting time looking for content and then adapting for their own purpose	Central support teams to help with repurposing CoP support as above Providing educational context as 'wrappers' to support users of resources Using small chunks or individual items to supplement own materials rather than trying to adapt a large package of materials User reviews which describe how resource has been used by others	Easier retrieval CoP support as above Time invested is valid due to positive results
	Educational context - perception that each context is unique and that it is too difficult to adapt others content	Make generic content open to support several courses (eg introduction to statistics) Allow for context specific aspects to be easily added/taken away	Flexible use of content as appropriate

Technical and data management considerations

There are a number of approaches that may be taken to release OER, the choice of which is most appropriate will depend on individual circumstances, such as the scale of the initiative (eg is it a single individual choosing to release their own resources, an institution or a wider consortium?), the aims of the initiative and the technical resources available.

Storing and dissemination

One of the first considerations is how to store and disseminate the resources themselves. The main points to consider are:

- Whether the primary site for hosting and disseminating the OER should be local and specific to the initiative releasing them, or part of a wider (global, national or subject-based) community.
- Should the OER be disseminated through a formal repository or more informal channels such as blogs, wikis etc., including locally installed software or public social sharing sites.
- Should the resources themselves be hosted in a range of places, or should there be a primary site which provides information to secondary sites (eg in the form of RSS/ATOM feeds, or via metadata harvesting) which can then link back to the OER.
- Whether the system that manages the hosting and dissemination of the OER is separated from the processes of creation and release of OER (eg a remote point of deposit once the resource is finished) or whether integrated systems are used to manage all the processes from creation through to dissemination.
- Whether all the OER will be on a site that is completely open, or whether access restrictions will apply to some resources or some other parts of the site.

Description and metadata

Another consideration is that of resource description and metadata. It is good practice for resources (where possible) to include some text that provides a basic description, for example: a descriptive title, keywords or short abstract so that users can quickly identify the topic of the resource; some details of the creator(s) of the resource (eg the authors names and/or the institution where the resource was created); the date of creation; copyright and licence information etc.

This information can help people trying to select suitable resources, and its presentation within the text of the resource (especially when used as, e.g., the title element of an HTML document) helps to facilitate resource discovery by search engines. Clearly for some resource types (images, sound recordings) this may have to be handled in some other way.

Some systems require similar information about the resource to be recorded in the form of structured metadata so that it can be used for resource management. For example, one of the easiest way to organise a large collection of resources is to 'tag' them with subject key words, or to record author details in a specific format, either at the time of deposit or at a later date.

This simple metadata can then be used by the system to present resources by topic or as a result of a search query so that they may be found quickly and easily. However, metadata creation has to be either done automatically (which can be imprecise) or manually (which can be resource intensive). For further guidance see the **Jisc CETIS pages on OER description** [http://wiki.cetis.ac.uk/OER_Description] .

Consider a repository

One approach to managing OER is to host them in a formal repository system. The Jisc-funded **Good Intentions report** [<http://repository.jisc.ac.uk/265/1/goodintentionspublic.pdf>] contains an overview of UK repositories for teaching and learning and goes into more detail on the types of repositories available for resource dissemination. A **2007 guide to setting up learning object repositories** [http://repository.jisc.ac.uk/106/1/CD-LOR_Structured_Guidelines_v1p0_000.pdf] is available.

The repository may be owned and operated by the institution producing the OER, however some institutions choose to use an existing repository rather than set up their own. The **Jorum** [<http://open.jorum.ac.uk/xmlui/>] UK national open repository provides easy access to resources licensed under **Creative Commons** [<http://creativecommons.org/>] , free to anyone, worldwide. Only members of UK Further and Higher Education Institutions, using the UK Access Management Federation to authenticate, can deposit into Jorum, but anyone is able to search, browse and download the resources.

Social sharing

A complementary method for disseminating OER, which is sometimes used as an alternative to a formal repository, is to release resources through third party social sharing websites such as Flickr, SlideShare, YouTube, Vimeo, iTunesU. This has some advantages in that it uses existing, technologically sophisticated websites with wide user bases and a high profile on web search engines; however there are also risks and dissemination through these channels may not align well with the objectives of some OER release initiatives.

For further information on these see the CETIS pages on **distribution platforms for UKOER resources** [http://wiki.cetis.ac.uk/Distribution_platforms_for_UKOER_resources] .

Distribution across the web

Once the OER are released some consideration should be given to how information about them (and indeed, the resources themselves) may be distributed across the web. This is often done through the use of RSS feeds to aggregate content from a diverse and wide range of individuals, subjects and institutions. RSS feeds can power both audio and video podcasts meaning that individuals can 'subscribe' quickly and easily to content and courses that interest them.

CETIS has a guide to **OER Syndication via RSS** [http://wiki.cetis.ac.uk/OER_Syndication] . Jorum also has guidance on **RSS Registration and Bulk Upload** [<http://www.jorum.ac.uk/rss-for-bulk-upload-into-jorum/>] . **Jisc CETIS have also coordinated work** [http://wiki.cetis.ac.uk/Feed_deposit] which includes the Jorum and many providers of OER looking at how to maximise the potential of feeds for transferring OER and information about them.

Tracking usage

Once a resource is released as an OER there may be a requirement (eg from the funder) to track the use of it and comments made about it. This is less easy than with copy-protected resources since one cannot know where the resource will be hosted by third parties. Work on how to achieve this tracking is at an early stage, however some options are presented in the section on the CETIS wiki on **resource tracking for OERs** [http://wiki.cetis.ac.uk/Resource_Tracking_for_UKOER] .

The Jisc / HE Academy UKOER programme provided funding and support to enable individuals, subject communities and institutions to openly release existing materials. The lessons learned, approaches adopted and barriers overcome offer models and guidance to support wider release in the UK.

An overview of the technical approaches used across the Jisc/HE Academy UKOER programme is available from CETIS in their report **Technology for Open Educational Resources - Into The Wild - Reflections on three years of the UK OER Programmes** [<http://web.archive.org/web/20130422060509/http://www.booki.cc/oer-tech/title-page/>] .

Accessibility considerations

Technical accessibility

Individuals and, in particular, institutions releasing OER need to be aware of relevant accessibility issues, which should be a consideration at the very start of the design process.

Screen readers and other assistive devices can often make alternative resources less necessary – unless, for example, heavy use is made of Adobe Flash – but supplemental material may still be required. This may take the form of a synopsis of a video resource (this being ‘supplemental’ rather than an ‘alternative’ as it does not capture all of the detail of the original material).

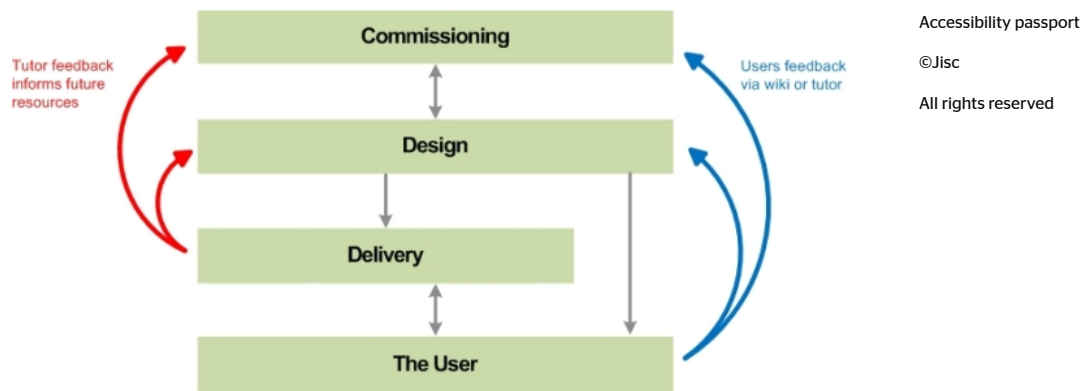
A number of free resources are available for institutions to refer to when developing and releasing materials to ensure that they are as inclusive as possible. Many of the resources also act as a useful reference, enabling the end user to customise existing resources and personalise their own learning experience, these include:

- **Accessibility essentials: the complete series**

[<http://web.archive.org/web/20140905214650/http://www.jisctechdis.ac.uk/techdis/resources/ae>] – four guides designed to provide anyone preparing or using electronic documents with the essential information needed to do so in a more accessible way.

- **Creation of learning content** [<http://web.archive.org/web/20141006140525/http://www.jisctechdis.ac.uk/techdis/resources/createcontent>] – extensive advice and guidance for staff wanting to create effective, engaging and accessible learning materials.
- **Xerte Online Toolkit** [<https://www.nottingham.ac.uk/xerte/toolkits.aspx>] – an Open Source content creation tool that enables non-technical staff to create, publish and share rich, interactive and engaging resources with high levels of accessibility built in.
- **AccessApps** [http://eduapps.org/?page_id=52] – Over 50 free and open source Windows applications that can run from a memory stick to provide independent reading, writing and planning support to all learners accessing materials regardless of where they are.
- **Web2Access** [<http://www.web2access.org.uk/>] – a toolkit designed to assist users and developers in their understanding of an approach to reviewing the accessibility of web-based applications. A useful source for practitioners and developers to check the accessibility and usability of their own resources.

Accessibility passport



The accessibility passport is a way of encouraging people who commission or design learning objects or software to take accessibility into account, and to give them feedback on the effectiveness and inclusivity of their materials. It provides feedback from the user and the deliverer to the commissioners and designers to encourage productive interaction.

The passport is an online document, that is available to everyone. The link to it is carried within the learning object or software. Accessibility passports are created by the online Passport generator with the generator guiding the developer in the production of a passport for his or her application.

Pedagogic accessibility

In addition to technical accessibility OER also need to be pedagogically accessible. This is less of an issue for smaller OER where pedagogical context can be added or made explicit at the point of use or re-use. When OER are developed with a particular audience in mind pedagogical context might be incorporated within the OER or into the presentation of the OER (eg within a clear linear course structure).

This can make OER less accessible to a wider audiences. Presenting OER through different hosting mechanisms can improve accessibility - so OER can be made available through repositories in both smaller chunks or larger packages, or could be offered within a series of structured web pages or even as a part of a course (like in the **Open University Labspace** [<http://labspace.open.ac.uk/>]).

Legal aspects

The creation of open educational resources (OER) requires consideration of a number of legal issues. Paramount amongst these is consideration of Intellectual Property Rights (IPR), and in particular, copyright. Making materials 'open' is to make them available to the public for free in perpetuity (at least to some extent - certain restrictions are still possible).

Whilst this is not an issue where the person releasing the materials is the copyright owner, it is a much more difficult issue where third party materials are included. Other legal issues which may need to be considered include data protection law, liability for inaccuracy or illegal content, and accessibility law. To assess how ready your organisation is to adopt open licensing policies, there is a **wizard** [<http://www.web2rights.com/OERIPRSupport/diagnostics.html>] to help you.

For the purposes of this guidance, 'open' will be taken to mean release under a Creative Commons (CC) licence. However, other 'open' licences are possible (and may be more appropriate, such as in relation to software), as well as a complete waiver of all rights (typically called release to the 'public domain').

Copyright and open educational resources

Copyright is the right to control the copying and dissemination of an original work. Where the person wishing to release the OER is the copyright owner of the entire work, the release of it under a Creative Commons licence is straightforward - simply choose the appropriate CC licence depending on jurisdiction, whether commercial use is to be permitted, and whether derivatives are to be allowed.

Why getting copyright sorted is crucial

If materials are released as an 'open educational resource', and they contain material that is not properly licensed (whether that is text, a graphic, a photograph, video, music or any other copyright work), reuse of that non-licensed material is likely to be copyright infringement by any user of the resource.

If a successful resource is used by a thousand people, if infringing material has to be removed, this will affect all those users (with them having to remove the materials, and having the possibility of action against them for infringement). This will be the case whether or not they know that the resource contained copyright infringing material. It is therefore important that the creator of the OER ensures that it truly is an 'open' resource, by diligently ensuring that a valid licence is applied to the work.

Ownership of copyright

The creator of a copyright work is, in general, the first copyright owner of that work. However, the owner of the work may transfer (the legal term is 'assign') his or her ownership to someone else, and that person will become the owner of the copyright. Only the copyright owner can grant permission (known in law as a 'licence') to others to use the work. Permission granted from someone other than the copyright owner has no validity at all. Although sometimes difficult, an open licence can only be applied validly to another person's work if the actual copyright owner's permission has been given.

There are particular issues in respect to materials created by a member of staff at a college or university, or a student. In relation to staff, legislation states that copyright works created within the course of employment will first belong to the employer, unless there is an agreement to the contrary.

Where material is created within the course of employment, without agreement to the contrary, a member of staff authorised to act on behalf of the institution may decide to release that material under an open licence.

Where there is ambiguity (eg due to uncertainty as to what duties are part of the contract of employment), it might be advised to get the approval of the employee to ensure that the open licence is valid whether it is the member of staff or the institution that is the copyright owner.

With regards to students, there are no special legislative provisions. This means that students will be the owners of their own work, unless they agree to transfer it. Some institutions have provisions in their registration agreement requiring student to transfer copyright in all work submitted to the institution. However, such a requirement is likely to be subject to the Unfair Terms in Consumer Contracts Regulations 1999, and as such, may be struck down if found to be unfair.

Dealing with third party materials

It should be noted that clearing third party materials for release under an open licence can be difficult, particularly in relation to multimedia material such as recorded video (where the soundtrack, performance, screenplay and recording may all have different rights' owners). Where permission is being sought, care should be taken to ensure that the right person is being asked (that they are actually the copyright owner of the third party material in

question), and that they are truly consenting to the release of the material under an open licence (for example, merely asking for permission to 'use' the resources would not be sufficient).

The following are a number of approaches that may be adopted in relation to the third party materials contained within a candidate resource for release under an open licence:

- Accept the burden of clearing the materials for release under an open licence, accepting that some owners might refuse, some might ask for payment for permission, and it may be impossible to track down some owners, or they may not answer your enquiries
- Remove the third party material, and limit the resource to materials where you are the copyright owner, or where the third party materials are already available under a suitable CC licence. This can be extended to third party materials where you know that gaining permission of the copyright owner will not be burdensome (e.g. copyright held by a partner institution, or someone easily identifiable that is likely to support the release of the materials). Where resources have been omitted, it will often be useful to include a placeholder detailing what material has been removed, and any information as to how the eventual user of the OER can get permission to use the removed material him or herself
- Where the decision is to omit third party materials, consideration might be given to replacing them with materials already licensed under an appropriate CC licence, or which are otherwise available. This is likely to depend on the pedagogic reason for inclusion of the work. Substitution will be easier where the inclusion is due to mere embellishment, or to illustrate a general point, rather than to show something specific
- It may be possible to give access to the resource as a whole, but make clear that certain parts of it are not CC-licensed. This may be achieved by a caption or other marker, as long as it is clear to any user that the material in question is not part of the openly licensed resource. It should be noted that the institution giving access to the third party material will still need to have permission to do so, even if they are not giving 'open' reuse access under a CC licence. An approach which might be easier for a user of OER might be to extract the third party material from the body of the resource, and include it in an appendix that is clearly marked as being non-CC-licensed

The issues involved with releasing third party material as part of an OER may seem onerous, tiresome and bureaucratic, but it is a basic tenet of copyright law more or less the world over that you cannot give away another person's property (including intellectual property) without their permission. This is unlikely to change in the near future.

Moral rights

The original creator of a copyright work has the right, if asserted and subject to certain other conditions, to be identified as the creator, and also has the right to object to derogatory treatment of the work. Although these rights may be waived by the creator, they cannot be transferred to anyone else.

Other intellectual property rights

Care must be taken when releasing open educational resources that confidential patent-relevant information is not released prior to a patent application (which may be invalidated as a result). Likewise, consideration should be given as to whether a trademark is being used in a non-authorised way to promote a good or service without permission of the trademark owner. There are further, particular, circumstances where performers' rights, database rights and design rights will also need to be considered, and cleared if necessary.

The above is based upon information from Jisc Legal (April 2010).

Intellectual property considerations

Intellectual Property Rights (IPR) is a generic term that relates to copyright, trademarks, patents and other claims for 'ownership' of a resource – whether registered or unregistered. Issues around ownership, trust, provenance, attribution and risk are all aspects of IPR that can present significant barriers to open sharing or release of learning materials.

Projects from the Jisc/HE Academy UKOER programme have, like many previous projects, grappled with some of these barriers. Many seriously underestimated the amount of time that would be needed to chase provenance of existing resources, clear Copyright and take apart/strip resources where clearance was not possible. Several projects chose not to publish some resources where removal of 'offending' elements negatively affected the pedagogic value.

Copyright knowledge within educational institutions is often scattered across departments and not all institutions have a clearly identifiable person with responsibility for copyright issues in relation to learning and teaching materials. This, coupled with fearful, and often unaware, individuals and risk averse policy makers and lawyers created quite a challenge for many pilot projects and education around these issues became a significant activity.

UKOER projects produced many very useful practical guides, FAQs and workflow documents: **UKOER guides legal aspects**
[<https://openeducationalresources.pbworks.com/w/page/62666727/UKOERGuides%20LegalAspects>]

It is clear that unless issues of copyright ownership and accessibility of learning materials is addressed it is unlikely that a sufficient critical mass of re-usable content will be created. Content must be written for re-use and re-purposing addressing copyright and access from the outset. Only when this content has reached a critical mass will re-use and re-purposing of existing content be truly possible.

EVOLUTION: educational and vocational objects for learning using technology in open networks final report

[http://www.heacademy.ac.uk/ourwork/teachingandlearning/alldisplay?type=projects&newid=oer/OER_IND_UCLAN&site=york]

The UKOER programme, like the earlier **REPRODUCE programme** [<http://www.jisc.ac.uk/whatwedo/programmes/elearningcapital/reproduce.aspx>], had a remit to focus on existing content. From a funders point of view this goes some way towards improving efficiencies, utilising previous investment and preventing duplication.

Many projects felt that efforts would be more usefully placed on ensuring that new content is developed in an open and re-purposable manner and that the significant resource needed to open up existing content was not sustainable. This programme has enabled many institutions and groups to develop robust practices and workflows to ensure that content is developed within legal constraints – which can be applied to both new and existing content.

Licensing

Jisc has published **guidance**

[http://www.jisc.ac.uk/media/documents/funding/project_management/open_content_licences_jiscguidancenov2008.doc] on the various types of open licences suitable for resources released by Jisc/HE Academy OER programme. The programme permitted the use of any Creative Commons (CC) licence (be it ported or unported) but asked for justification for the use of the No Derivatives clause.

Most OERs are licensed under a version of Creative Commons license, an overview of which is available on the **Creative Commons website** [<http://creativecommons.org/about/licenses/meet-the-licenses>]. Such licenses protect the copyright of the learning resource creator, whilst specifying how it can be reused and repurposed. Perhaps the most commonly-used is **CC BY-SA** [<http://creativecommons.org/licenses/by-sa/2.0/>].

This licence lets others remix, tweak, and build upon your work, as long as they credit you and license their new creations under the identical terms. Others can download and redistribute your work and can also translate, make remixes, and produce new stories based on your work.

Jorum [<http://open.jorum.ac.uk/xmlui/>] also uses Creative Commons as its licence framework, and current indications are that the Attribution Share Alike (by-nc-sa) licence is the most commonly used for deposit into Jorum.

Other popular licensing options include:

- **GNU Free Document license** [<http://www.gnu.org/licenses/fdl.html>]

The GFDL license grants rights to readers and users of materials to copy, share, redistribute and modify a work. It requires all copies and derivatives to be available under the same license. Copies may also be sold commercially. There are specific requirements for modifying works involving crediting the creator of the work and for distributing large numbers of copies.”

- **MIT license** [<http://creativecommons.org/licenses/MIT/>] (a license created by the MIT under which users are given permission to copy, distribute, transmit and adapt the work so long as the MIT license is included with the resource)
- Custom/Other license (the content creator decides upon the terms and conditions under which users may view, use, share, re-distribute, or modify a resource)

Creative Commons Licenses Compatibility Wizard											
Reset	Compatible Licenses:										
All Licenses of Used Works ↓ ↓ ↓ (Multi-selection) ↓ ↓ ↓											
		•	•	•	•	•	•	•		•	•
			•	•	•			•			
				•							
					•						
				•		•					
							•				
								•			
									•		
		•	•	•	•	•	•	•	•	•	•
										•	
								•		•	•

Creative Commons matrix table

©Creative Commons Taiwan

CC BY-SA [<http://creativecommons.org/licenses/by-sa/3.0>]

Including an OER resource within your own OER release is not, unfortunately, a straightforward process. Some licenses are incompatible with others – as **this table** [<http://oerwiki.iiep-unesco.org/index.php?title=Image:Cc-license-matrix.jpg>] demonstrates.

Creative Commons licenses are non-revocable. Once a resource has been released under a CC-license users are permitted to continue using that resource under the license even if you withdraw it from circulation. Other specific considerations to Creative Commons licensing are dealt with in the **Creative Commons FAQ** [<http://wiki.creativecommons.org/FAQ>].

Useful sources from a range of projects and services

A number of projects have published (as OER) details of their own work regarding IPR, including details of policies and guidance for contributors, for example:

- **OpenLabyrinth** [<http://labyrinth.sgul.ac.uk/openlabyrinth/mnode.asp?id=36091>]
- **Teaching Resources for Undergraduate Economics (TRUE)**: [<http://www.economicsnetwork.ac.uk/econometrics/ipr>] Econometrics – IPR Matters

The CASPER project [<http://jisc-casper.org/>] was established to support the RepRODUCE programme. It provides a range of online resources, including guidance on clearing background IPR, letter templates and licences

The OER IPR Support Project produced a range of excellent practical resources for UKOER projects

- **Films and animations** [<http://www.web2rights.com/OERIPRSupport/diagnostics.html#D>] including:
 - Animation on Open Data Licensing** [<http://infteam.jiscinvolve.org/wp/2012/10/09/opendatalicensing/>]
 - Turning a resource into an open educational resource** [<http://tinyurl.com/852a2u9>]
- **Range of diagnostic tools including:** [<http://www.web2rights.com/OERIPRSupport/diagnostics.html>]
 - Risk calculator** [<http://www.web2rights.com/OERIPRSupport/risk-management-calculator/>] – Important output which helps institutions identify risks associated with releasing OER. Most used tool – 300-400 visitors per week and very interestingly – CROSS SECTOR use of it
 - CC compatibility wizard** [<http://www.web2rights.com/OERIPRSupport/creativecommons/>]
 - How open are you?** [<http://www.web2rights.com/OERIPRSupport/howopenareyou/>] wizard to help institutions assess how open their strategies, policies and practice are.
- **Packs charts and wizards** [<http://www.web2rights.com/OERIPRSupport/diagnostics.html#A>]
- **Template licences, model releases, policies and forms** [<http://www.web2rights.com/OERIPRSupport/diagnostics.html#D>]
- **Practical tools** [<http://www.web2rights.com/OERIPRSupport/diagnostics.html#C>]
- **Background Information** [<http://www.web2rights.com/OERIPRSupport/diagnostics.html#B>]
- **Hargreaves distilled and the potential impact for education and research** [<http://www.web2rights.com/OERIPRSupport/blog/?p=199>] – blog post highlighting 10 things projects need to know as a result of these recommendations being implemented.

Jisc provides legal guidance on all legal issues associated with open educational resources (including **intellectual property rights**) [<http://www.jisclegal.ac.uk/ipr/IntellectualProperty.htm>]. There is also a **video podcast** [<http://www.jisclegal.ac.uk/ManageContent/ViewDetail/tabid/243/ID/1150/OER--Legal-Matters--Webcast--051109.aspx>] specifically on OER issues.

The Jisc IPR consultancy [<http://www.jisc.ac.uk/whatwedo/projects/ipr.aspx>] has also provided a range of materials in this area, including guidance specific to web 2.0, and useful background material for those unfamiliar with IPR issues.

The TrustDR project [<http://web.archive.org/web/20110306023607/http://trustdr.ulster.ac.uk/outputs.php>] has produced a “development pack” dealing with IPR issues in content sharing.

A Jisc legal guide to legal aspects of open educational resources, including copyright and other IPR issues. An OER IPR resource pack to support phase 2 of the Jisc/HE Academy programme is available at **OER IPR support** [<http://www.web2rights.com/OERIPRSupport/starter.html>] and will be of value to anyone needing information on IPR issues.

The **JorumOpen licensing guide**

[<http://www.webarchive.org.uk/wayback/archive/20100404113756/http://www.jorum.ac.uk/docs/pdf/JorumOpenLicensingguide.pdf>]

outlines the Creative Commons licences available within JorumOpen, which currently offers depositors the option to choose from the Creative Commons V2.0 UK: England and Wales suite of licences.

Jisc have issued a set of very comprehensive **guidance notes about all the legalities surrounding the recording of lectures**

[<http://www.jisclegal.ac.uk/ManageContent/ViewDetail/tabid/243/ID/1608/Recording-Lectures-Legal-Considerations-28072010.aspx>] , including third party copyright, performers' rights and data protection, and even includes a specimen consent form to adapt for getting people to sign when doing lecture recording.

Further resources

A number of high-level studies have been commissioned which focus on, or consider issues around, open educational resources (OER). There are also some useful practical guidance documents available as a result of project work in this and related areas.

This section highlights many of the resources available to institutions, consortia and individuals with an interest in open educational resources.

Historical perspectives

- Kernohan, D. and Thomas, A. (2012) **OER – a historical perspective** [<http://repository.jisc.ac.uk/4915/>] .
- CETIS commissioned an **article** [<http://blogs.cetis.ac.uk/othervoices/2012/02/13/open-educational-resources-timeline/>] and **timeline** [<http://www.tiki-toki.com/timeline/entry/20774/OER-and-JISC-CETIS/>] of OER developments which also covered the period before the UKOER Programme and provided a broader view of the landscape.
- Good Intentions Report. The Jisc information environment and e-learning teams jointly commissioned a **report entitled 'Good Intentions: improving the evidence base in support of sharing learning materials'** [<http://ie-repository.jisc.ac.uk/265/>] , examining various business cases and models for sharing learning materials. This report offers a useful history of sharing learning materials in the UK.

Overviews and general guidance

- **The open practices: briefing paper** [<https://oersynth.pbworks.com/w/page/51668352/OpenPracticesBriefing>] was produced by the UKOER evaluation and synthesis team in 2012 to highlight key issues around OER and open educational practice Beetham, H., Falconer, I., McGill, L. and Littlejohn, A. Jisc, 2012.
- **The Open practice across sectors: briefing paper** [<https://oersynth.pbworks.com/w/page/49655750/OpenPracticeAcrossSectors>] was produced by the UKOER evaluation and synthesis team to highlight aspects of open educational practice across sectors during the second phase of the programme McGill, L., Falconer, I, Beetham, H. and Littlejohn, A. Jisc, 2012
- Good intentions report. The Jisc information environment and e-learning teams jointly commissioned a **report entitled 'good Intentions: improving the evidence base in support of sharing learning materials'** [<http://ie-repository.jisc.ac.uk/265/>] , examining various business cases for sharing learning materials. We would strongly recommend reading this as a precursor to identifying and describing your own business case.
- The Jisc sharing e-learning report is a synthesis of, and commentary on, findings across 30-40 Jisc projects in a number of different programmes over the past 3-4 years. The conclusions it draws are aimed at Jisc rather than individual institutions, but **the report** [<http://ie-repository.jisc.ac.uk/46/>] is a useful overview of existing work in this area.
- OpenLearn is part of the wider **open learning network (OLnet)** [<http://www.olnet.org/>] supported by the William and Flora Hewlett Foundation which features resources, research and tools. In addition, Support Centre for Open Resources in Education (SCORE) is a HEFCE-funded project (2009-2012) based at the Open University which aims to "support individuals, projects, institutions and programmes across the higher education sector in England as they engage with creating, sharing and using open educational resources."
- The Pocket Project investigated the potential of migrating open content approaches in a range of disciplines across a number of different higher education institutions. The project ran from November 2007 until February 2009 and was led by the University of Derby. The partner institutions were: University of Bolton, Open University and the University of Exeter.
- The RepRODUCE programme addressed the repurposing of existing content for use within institutions and for subsequent open release. Helen Beetham worked with the programme management team to provide resources concerning the evaluation of activity in this area. You may wish to view the **slides** [<http://www.jisc.ac.uk/whatwedo/programmes/elearningcapital/reproduce/oct08.aspx>] as well as the **evaluation and quality assurance plans** [<http://www.jisc.ac.uk/whatwedo/programmes/elearningcapital/reproduce.aspx>] .
- **Jorum** [<http://www.jorum.ac.uk>] is a national repository for learning and teaching resources, and the Jorum Community Bay aims to support knowledge exchange and discussion on all aspects of sharing, re-use and repurposing of learning and teaching resources. The Jorum Community Bay provides links to a range of useful information, such as authoring and repurposing tools, case studies and discussion forums.
- The Learning Resources and Activities (LRA) infoKit contains **further links** [<http://www.jiscinfonet.ac.uk/themes/lra>] to previous and current Jisc funded resources in this area.

- Open Database of Educational Projects and Organizations (ODEPO) is a wiki-database of organizations involved in providing educational content online. **ODEPO** [<https://wiki.creativecommons.org/wiki/ODEPO>] includes over a thousand sites affiliated with various organizations, the majority of which involve the creation and expansion of Open Educational Resources.
- Steven Downes has released an e-book (August 2011) entitled **Free Learning** [<http://www.downes.ca/files/FreeLearning.pdf>] which collates many of his essays, posts and conversations around OER and Copyright – and address much broader issues of open practice. Provides some of the history and discourse in this fast moving field.

Research reports

- **Learner Use of Online Educational Resources for Learning (LUOER)** [<http://www.google.co.uk/url?sa=t&source=web&cd=1&ved=0CBsQFjAA&url=http%3A%2F%2Fwww.jisc.ac.uk%2Fmedia%2Fdocuments%2Fprogrammes%2Felearning%2Foeic6if3GwNmg&cad=rja>] Paul Bacsich, Barry Phillips and Sara Frank Bristow Sept 2011
- **OER Impact Study: research report** [<http://www.jisc.ac.uk/media/documents/programmes/elearning/oer/JISCOERImpactStudyResearchReportv1-0.pdf>] . Liz Masterman and Joanna Wild University of Oxford, July 2011

Practical resources

- The Open CourseWare Consortium (OCW) is an international organisation offering guidance to institutions and organisations across the world investigating the open release of learning content. They have provided an **online toolkit** [http://www.ocwconsortium.org/index.php?option=com_content&task=view&id=85&Itemid=179] to support potential projects in exploring the issues related to this form of release.
- The Open University's OpenLearn project has opened access to a wide range of distance learning material via its website. In addition to these learning resources, OpenLearn has also provided advice for educators, which describes the nature of open content and the ways in which it can be used.
Get Started: Educators [<http://web.archive.org/web/20100707125833/http://www.open.ac.uk/openlearn/get-started/get-started-educator/get-started-educator.php?>]
'Creating Open Educational Resources' module [http://openlearn.open.ac.uk/OER_11]
- OpenLearn is part of the wider **Open Learning network (OLnet)** [<http://www.olnet.org/>] supported by the William and Flora Hewlett Foundation which features resources, research and tools. In addition, Support Centre for Open Resources in Education (SCORE) was a HEFCE-funded project (2009-2012) based at the Open University which aimed to "support individuals, projects, institutions and programmes across the higher education sector in England as they engage with creating, sharing and using open educational resources."

- The **STEM OER Guidance wiki** [<http://stemoer.pbworks.com/>] contains guidance documents prepared by the STEM project teams from a number of Higher Education Academy/Jisc-funded projects, which ran May 2009 to April 2010. The guidance is based on the experience of the teams' work with practising academics around issues to do with OER production and release.
- The **UKOER Evaluation Toolkit** [<https://oersynth.pbworks.com/w/page/51320241/EvaluationToolkit>] was produced by the UKOER Evaluation and Synthesis Team during phase 3 of the programme to help projects with evaluation of OER initiatives.

Case studies

- HE Academy [<http://www.heacademy.ac.uk/resources/detail/oer/oer-phase-3-case-studies>]
- Jisc (Users) [<http://www.jisc.ac.uk/whatwedo/programmes/elearning/oer2/casestudies.aspx>]
- Jisc (in impact report) [<http://www.jisc.ac.uk/whatwedo/programmes/elearning/oer2/oerimpact.aspx>]
- Jorum [<http://www.jorum.ac.uk>]
- OER-CSAP six partner case studies [<https://csapoer.pbworks.com/Development-activity-3%3APutting-together-case-studies>] (CSAP Project, UKOER)

Blogs

Open education

February 2009

OERs shining light, new textbook model, or harbinger of a new imperialism [<http://davecormier.com/edblog/2009/02/22/oers-shining-light-new-textbook-model-or-harbinger-of-a-new-imperialism/>] - Dave Cormier, UPEI, Canada discusses issues around knowledge and content (a discussion which is still ongoing two years later). Interesting comments and follow on blog posts carrying the discourse into the area of colonialism. (OERs, imperialism, international, politics)

August 2009

The New Colonialism in OER [<http://leighblackall.blogspot.com/2009/08/looking-into-sky-open-ed-oh-nine.html>] - Leigh Blackall, University of Canberra, Australia asks 'To what extent is OER part of the cultural imperialism being felt "globally"? He discusses copyright and CC (Creative Commons) and attracted some interesting discussion in the comments. (OERs, politics, imperialism, International)

October 2009

OERs & Internationalisation [<http://elearning.jiscinvolve.org/wp/2009/10/23/oers-internationalisation/>] - post on Jisc e-learning blog

summarising discussions had at the UKOER programme meeting. The issue was identified by projects as interesting and important. (OERs, international, imperialism, politics)

November 2009

OER and a pedagogy of abundance [<http://einiverse.eingang.org/2009/11/18/oer-and-a-pedagogy-of-abundance/>] – Michelle Hoyle, Open University post following a presentation by Martin Weller which develops the idea of Big OER and Little OER (see comments) (OER, scarcity, demand, pedagogy, Big OER. Little OER, politics, economics)

December 2009

Big OER and Little OER [http://nogoodreason.typepad.co.uk/no_good_reason/2009/12/the-politics-of-oer.html] – Martin Weller, Open University discusses the politics of OER and creates a definition for the terms Big OER (costly institutionally produced) and Little OER (low cost produced by individuals). The terms have become regularly used within the UK OER community. (OER, scarcity, demand, pedagogy, Big OER. Little OER, politics, economics)

October 2010

Adoption as Linking: A Response to the Stephens [<http://opencontent.org/blog/archives/1696>] – David Wiley, founder of the Open School of Utah blogs on taking sharing to adoption through revising and remixing (sharing, reuse, OCW)

November 2010

Failure to define success [<http://tofp.wordpress.com/2010/11/04/failure-to-define-success/>] – Stephen Carson, External Relations Director for MIT OpenCourseWare provides a list of commonly observed benefits of OpenCourseWare (OCW, benefits)

Why Bother Being Open? [<http://opencontent.org/blog/archives/1735>] – David Wiley, founder of the Open School of Utah responds to Stephen Carson's blog post (see above) and argues that the benefits would be as relevant if the resources were published under a non open licence (OCW, benefits)

blogging on blogging on #ukoer [<http://followersoftheapocalyp.se/bloggging-on-blogging-on-ukoer>] – David Kernohan, Programme Manager Jisc provides a summary blog post highlighting current conversations by key figures in the field (OERs, overview, creative commons, cc, licensing, imperialism, politics)

December 2010

What I didn't see at the Open Education Conference - using negative space to outline the future of OER [<http://edtechfrontier.com/2010/12/03/what-i-didnt-see-at-the-open-education-conference-using-negative-space-to-outline-the-future-of-oer/>] – Paul Stacey (Director of BC Campus, Canada) provides a useful summary of discussions at the Barcelona conference (open movement, OERs, models)

Open education and OER is like? [<http://blogs.cetis.ac.uk/johnr/2010/12/10/oermetaphors/>] – John Robertson, Jisc CETIS offers a humorous look at some of the models and metaphors which abound in the open education landscape. (models, metaphors, OERs, open education, language,

conceptual understanding)

January 2011

The University of Open [<http://edtechfrontier.com/2011/01/04/the-university-of-open/>] – Paul Stacey (Director of BC Campus, Canada) presents a new model for the open university (open source, open university, open access, pedagogy, OERs)

Openness, Socialism, and Capitalism [<http://opencontent.org/blog/archives/1775>] – David Wiley, founder of the Open School of Utah argues that tax payers should be the recipient of resources developed with their money (OERs, capitalism, politics, socialism)

Misunderstanding capitalism and OER [<http://joss.blogs.lincoln.ac.uk/2011/01/28/misunderstanding-capitalism-and-oer/>] – Joss Winn, University of Lincoln responds to David Wiley's post Openness, Socialism and Capital and presents a strong argument around the political implications of institutionally produced (big OERs) and that these are situated within capitalism by nature of their production. (capitalism, Higher Education, economics, Marxism, politics)

OERs, capitalism and social totality [<http://www.richard-hall.org/2011/12/07/oer-capital-and-critical-social-theory/>] – Richard Hall, De Montfort University further develops the discussion by David Wiley and Joss Winn (see above) by arguing for the 'need to situate OERs within the totality of critical social theory as applied to education, rather than simply treating them as fetishised commodities or shareable goods.' He also considers the issues around exporting the Western model to other countries. (OERs, Higher Education, capitalism, Marxism, politics, economics, international)

February 2011

OERs: the good, the bad and the ugly [<http://www.tonybates.ca/2011/02/06/oers-the-good-the-bad-and-the-ugly/>] – Tony Bates offers a critique of the open resources movement which examines where open content sits in the broader open education landscape. This post stimulated some excellent debate both in the comments and in several other blog posts. (open content, open education, sharing, OER use, OER reuse, quality, pedagogy)

For a few dollars more? – OER reuse and value [<http://followersoftheapocalyp.se/for-a-few-dollars-more-oer-reuse-and-value>] – David Kernohan in response to several posts including Tony Bates' **OERs: the good, the bad and the ugly** [<http://www.tonybates.ca/2011/02/06/oers-the-good-the-bad-and-the-ugly/>] post and to the **UKOER Evaluation and Synthesis final report** [<https://oersynth.pbworks.com/w/page/29688444/Pilot-Phase-Synthesis-and-Evaluation-Report>] (OER as concept, value, benefits, OER reuse, process, practice, OER release)

Evolution of an OER initiative: an eight year retrospective [<http://edtechfrontier.com/2011/02/28/evolution-of-an-oer-initiative-an-eight-year-retrospective/>] – Paul Stacey provides a summary of BCcampus (British Columbia, Canada) looking at funding, partnerships, benefits and issues around reuse. (BCcampus, review, benefits, funding, sustainability, partnerships)

March 2011

A defence of the OER movement: Any which way you can [<http://www.tonybates.ca/2011/03/12/a-defence-of-the-oer-movement-any-which-way-you-can/>] – Tony Bates highlights a response to the earlier (February) post **OERs: the good, the bad and the ugly** [<http://www.tonybates.ca/2011/02/06/oers-the-good-the-bad-and-the-ugly/>] from Rory McGreal, VP Research at Athabasca University and asks for further comments. Rory argues that there is room for pure content (ie without attached accreditation, pedagogic context or instructional design,

etc). interesting comments continuing the content vs pedagogy dialogue. (OERs, pedagogy, content, quality, OER use)

A reflection on the OER debate: every which way but loose [<http://www.tonybates.ca/2011/03/18/a-reflection-on-the-oer-debate-every-which-way-but-loose/>] – Tony Bates continues the series of conversations stimulated by his first post **OERs: the good, the bad and the ugly** [<http://www.tonybates.ca/2011/02/06/oers-the-good-the-bad-and-the-ugly/>] . Again includes several good comments on the issue of OER quality, and the discourse around content vs pedagogy. (OERs, pedagogy, content, quality, OER use)

May 2011

ocwcglobal-and-the-state-of-ocwoer-2011 [<http://followersoftheapocalyp.se/ocwcglobal-and-the-state-of-ocwoer-2011>] – post from David Kernohan after attending the **OCWC conference** [<http://conferences.ocwconsortium.org/index.php/2011/cambridge>] which discusses the links between the open movement and the search for new models of higher education (sustainability and scalability of HE models)

Impact model diagram [<http://oersynthesis.jiscinvolve.org/wp/2011/05/17/impact-model-diagram/>] – Allison Littlejohn, UKOER synthesis and evaluation team provides an update of the team's thinking around open practices and presents an impact model for the UKOER programme towards the end of phase two activities (open practice, model, ukoer)

June 2011

Clarifying My Feeling Toward MOOCs [<http://opencontent.org/blog/archives/1864>] – David Wiley post on MOOCs (Massive Online Open Course) where he argues that MOOCs are of use mainly to those who are already academically prepared as he feels they generally lack structure and useful measurement mechanisms. (MOOC, Higher Education, future)

Do open online courses have a role in educational reform? [<http://www.connectivism.ca/?p=321>] – George Siemens responds to David Wiley's post about MOOCs which argues that MOOCs can have structure and assessment/grading aspects. George feels that MOOCs are helpful in reframing Higher Education because even if MOOCs don't continue the underlying concepts of distributed teaching, sub-networks, peer teaching, learner content creation, social networks, new methods of aggregating information, local institution accreditation will be the foundation of future learning structures. (MOOC, Higher Education, future, learning)

Modelling Learning Support in MOOCs in Netlogo [<http://opencontent.org/blog/archives/1874>] – David Wiley responds to George's post above by stating that 'MOOC-like courses only support student learning if most of the people in the course already know the material.' Some interesting comments, particularly from Scott Leslie who asks if the problem is with using the term courses to frame this approach. He points out that many communities are already operating like this although they are not labelled as courses. Other comments (although actually from Dave Cormier's post discuss the broader issue of defining knowledge). (openness, MOOC, learning, knowledge)

MOOCs as ecologies or why I work on MOOCs [<http://davecormier.com/edblog/2011/06/25/moocs-as-ecologies-or-why-i-work-on-moocs/>] – Dave Cormier, UPEI, Canada responds to David Wiley and George Siemens arguing that MOOCs provide a structure (or ecology) where learners can take control of how and what they learn. (MOOC, Higher Education, future, learners)

Yes, Virginia, There Is Knowledge Transfer [<http://opencontent.org/blog/archives/1882>] – David Wiley responds by stating that 99% of learning is actually knowledge transfer. This elicits several more responses and the debate becomes quite heated. (learning, knowledge)

July 2011

Knowledge Transfer [<http://halfanhour.blogspot.com/2011/07/knowledge-transfer.html>] – Stephen Downes continues the debate around knowledge transfer (and MOOCs) by responding to David Wiley's post and lays the conversation clearly into learning theory territory. Some challenging comments. (learning, knowledge)

Yet Another Response to Stephen [<http://opencontent.org/blog/archives/1896>] – David Wiley responds and again some really interesting comments.

From knowledge to bathroom renovations [<http://www.connectivism.ca/?p=325>] – George Siemens brings the conversation back to MOOCs who fundamentally asks for more research (openness, MOOC, learning, knowledge)

Knowledge Transfer: old wine in new bottles or how many contentious statements can I make in one blog post?

[<http://francesbell.wordpress.com/2011/07/04/knowledge-transfer-old-wine-in-new-bottles-or-how-many-contentious-statements-can-i-make-in-one-blog-post/>] – Frances Bell, University of Salford questions the newness of the MOOC concept but also the tone of the debate and the inclusivity of it. She calls for a more open debate. (manners, openness, MOOC, learning, knowledge)

Technical aspects of OERs

January 2011

Branding repositories, OER and awareness raising: some thoughts on embedding OERs – Suzanne Hardy, MEDEV Subject Centre talks about balancing a desire for simplicity of access from academics with the 'need' to brand and market repositories. (institutional repositories, branding, marketing, retrieval, finding OERs)

February 2011

Ranking and SEO – light on a dark art [<http://blogs.cetis.ac.uk/lmc/2011/02/09/ranking-and-seo-light-on-a-dark-art/>] – Lorna Campbell, Jisc CETIS post about search engine optimisation which highlights issues around UKOER phase 2 projects. Includes links to other relevant posts and useful comments (ranking, search engine optimisation, ukoer)

March 2011

OER and the aggregation question [<http://infteam.jiscinvolve.org/wp/2011/03/29/oeragg/>] – Amber Thomas, Jisc discusses issues around aggregation services to make OERs discoverable and how this links to storage mechanisms, metadata and curation issues. Raises some key questions for aggregations services to consider. (aggregation, metadata, curation, OER use, OER discovery, retrieval, value, benefits)

Licencing OERs

November 2010

What's wrong with Creative Commons [<http://www.downes.ca/cgi-bin/page.cgi?post=54161>] – Stephen Downes, National Research Council of Canada argues that CC does not challenge the notion of intellectual property and that it preserves the notion of copyright –

which benefits the owner no the users or potential users (licensing, CC, Creative commons, OERs, benefits)

No, Stephen... [<http://opencontent.org/blog/archives/1730>] - David Wiley, founder of the Open School of Utah argues against Stephen Downs and for the benefits of CC licences. Some good discussion in the comments section (OERs, licensing, CC, Creative commons)

OER, Creative Commons and a reply to David Wiley [<http://web.archive.org/web/20101125045458/http://stuck.josswinn.org/oer-creative-commons-and-a-reply-to-david-wil>] Joss Winn, University of Lincoln provides a very thorough response to David Wiley's post (listed above) and raises challenging questions about the use of and political implications of CC licences (OERs, licensing, CC, Creative commons, politics)

March 2011

So what's the deal with fair dealing? [<http://followersoftheapocalyp.se/so-whats-the-deal-with-fair-dealing>] - post by David Kernohan responding to queries about the need for licences (fair dealing, creative commons, licensing, UK)

CC Licences and Fair Dealing [<http://www.web2rights.com/OERIPRSupport/blog/?p=125>] - response from Naomi Korn to David's post emphasising that fair dealing provided defences whilst CC provides permissions (fair dealing, creative commons, licensing, UK)

May 2011

The OER debate in full [<http://halfanhour.blogspot.com/2011/05/oer-debate-in-full.html>] - Stephen Downes presents a WSIS debate entitled 'Should OER favour commercial use?' as a blog post (to facilitate comments and ongoing dialogue) (licensing, commercial use)

Use and re-use

August 2010

Is an OER still an OER if no-one uses it? [<http://followersoftheapocalyp.se/is-an-oer-still-an-oer-if-no-one-uses-it>] - David Kernohan, Programme Manager at Jisc raises questions on academic re-use of OERs and wonders if this increases the likelihood of failure for OER projects that focus on this (OERs, reuse, repurposing, academics, Higher Education)

September 2010

Do only aliens use OERs [<http://web.archive.org/web/20130730073516/http://unescochair-elearning.uoc.edu/blog/2010/09/27/do-only-aliens-use-oers/>] - Unesco Chair in eLearning blog post which describes the use of 'delicious' to track OER use and concludes that significant use by computer scientists, mathematicians and physicists implies that you need to be aware of the OER movement to re-use them. (OER use, statistics, tracking)

Taking OER Beyond the OER Community: Part I [<http://web.archive.org/web/20110313195418/http://mikecaulfield.com/2010/09/24/taking-oer-beyond-the-oer-community-part-i/>] - Mike Caulfield, Keene State College, US talks about open practice and OERs and discusses issues around pedagogic intention, producer and users/re-users of OERs. (pedagogy, learning design, OERs, OER use, reuse, academics, producers)

December 2010

Rethinking the 'O' in OER [<http://infteam.jiscinvolve.org/wp/2010/12/10/rethinking-the-o-in-oer/>] – Amber Thomas, Jisc discusses OERs from a broad perspective covering a range of issues. The post challenges some assumptions about OER release and use and proposes a 'hybrid OER version' which reflects both the spectrum of use and release practice. (OER use, OER release, definitions, models, learning and teaching, practice, pragmatism)

February 2011

It turns out that students do use OER and it does save time [<http://blogs.nottingham.ac.uk/learningtechnology/2011/02/08/it-turns-out-that-oer-does-save-time-and-students-do-use-them/>] – Andy Began, University of Nottingham post highlighting results from a student survey. This was offered as a case study following a call from the HE Academy and Jisc (students, OERs, OER use, Nottingham, ukoer, BERLiN project)

Some downside to OER? [<http://blogs.cetis.ac.uk/philb/2011/02/17/some-downside-to-oer/>] – Phil Barker, Jisc CETIS highlights the issue of student's preference for evidence of effort on the part of academics – producing materials specifically for them is valued. (OER use, students, learners)

March 2011

Making the most of open content: why we need to understand use [<http://infteam.jiscinvolve.org/wp/2011/03/07/opencontentstories/>] – Amber Thomas, Jisc discusses issues of use in advance of a session at the Jisc Conference. Amber argues that we understand more about release than use and argues for the need to focus on understanding use to identify best use cases and sustainable models for release. (OER use, understanding, models, use cases, benefits, sustainability, content)

Making the most of open content: understanding use (part 2) [<http://infteam.jiscinvolve.org/wp/2011/03/13/opencontentstories2/>] – Amber Thomas, Jisc follows the previous post with a discussion of the characteristics of OERs and highlights key arguments relating to the use/release. (OER use, understanding, models, use cases, benefits, sustainability, characteristics, affordances, content)

What's the re(use) of OER? [<http://blogs.nottingham.ac.uk/learningtechnology/2011/03/11/whats-the-reuse-of-oer/>] – Andy Beggan, University of Nottingham talks about prolific use of content by academics and discusses the issue of re-use of non OERs. Uses evidence from the BERLiN Project which tried to release existing content which was made difficult due to widespread use of third party content. (OERs, content, use, re-use, third party content, learning and teaching)

Sharing, Reuse, and Frameworks [<http://web.archive.org/web/20110619041937/http://mikecaulfield.com/2011/03/09/sharing-reuse-and-frameworks/>] – Mike Cauldfield, Keene State College, US suggests 'an impact theory of OER, not an input theory of OER.' he argues that the focus on production rather than reuse is unhelpful and also calls for teachers to work through existing frameworks (OERs, sharing, reuse, OER use, frameworks, learning and teaching, learning design)

Jisc/HE Academy UKOER programme blogs

Programme team

Jisc information environment team [<http://infteam.jiscinvolve.org/wp/>] – Amber Thomas includes posts about OER and the programme

David Kernohan's blog [<http://posterous.com/people/5erAmX21C7nj>] – David includes posts about OER and the programme

Phase 2 project blogs

ADM-OER project blog [<http://admopened.wordpress.com/>] (Practising Open Education: Developing the Potential of Open Educational Resources in Art Design and Media)

CSAP Open Collections Project blog [<http://csapopencollections.wordpress.com/>] (Centre for Sociology, Anthropology and Politics)

CSAP Open Cascade Project blog [<http://csapopencascade.wordpress.com/>] (Centre for Sociology, Anthropology and Politics)

CPD4HE project blog [<http://blogs.ucl.ac.uk/cpd4he/>] (Continuing Professional Development for Higher Education)

DELILA project blog [<http://delilaopen.wordpress.com/>] (Developing Educators Learning and Information Literacies for Accreditation)

DHOER [<http://www.ucl.ac.uk/dhoer/Home>] project blog (Digital Humanities)

EDOR project blog [<http://edor.org.uk/>] (Educational Development Open Resources)

ESCalate project news on the **ESCalate site** [<http://escalate.ac.uk/news>] (Education Subject Centre)

IPR4EE project blog (IPR for Educational Environments)

Learning to Teach Inclusively project blog [<http://icms-web2.unv.wlv.ac.uk/default.aspx?page=25525>]

MEDEV blog – aggregates posts about PORCHE project and ACTOR project (Medicine, Dentistry and Veterinary Medicine)

Open Fieldwork project blog [<http://openfieldwork.org.uk/>]

Open for Business project blog [<https://sites.google.com/a/brookes.ac.uk/bmaf-oer-omac/updates/openforbusinessinterimreports>] (BMAF)

OpenSpires project blog [<http://blogs.oucs.ox.ac.uk/openspires/>] (Oxford University)

Open STEM project blog [<http://blogs.exeter.ac.uk/openstem/>] (Transforming teaching in mathematics and biosciences)

ORIC project blog [<http://oric.edublogs.org/>] (OERs for the Inclusive Curriculum)

OSTRICH project blog [<http://ostrichproject.wordpress.com/>] (OER Sustainability through Teaching & Research Innovation: Cascading across HEIs)

SCOOTER project blog [<http://www.sicklecellanaemia.org/>] (Sickle Cell and Thalassaemia)

SPACE project blog [<http://web.archive.org/web/20120105033323/http://www.space.fusedworks.com/>] (Stimulating the Performing Arts Creative Environment)

SWAPBox project blog [<https://sites.google.com/site/swapboxproject/updates>] (Social Work and Policy)

TIGER project blog [<http://tigeroer.wordpress.com/>] (Transforming Interpersonal Groups through Educational Resources)

Support team blogs

Synthesis and Evaluation Team blog [<http://oersynthesis.jiscinvolve.org/wp/>]

Jisc CETIS blog posts [<http://jisc.cetis.ac.uk/topic/Open%20Educational%20Resources>] are highlighted on their OER page

OER IPR Support blog [<http://www.webarchive.org.uk/wayback/archive/20121011100054/http://www.web2rights.com/OERIPRSupport/blog/>]

Other useful blogs

SCORE blog [<http://oerworld.wordpress.com/>] (Support Centre for Open Resources in Education)

ORIOLE blog [<http://orioleproject.blogspot.com/>] (Open Resources Influence On Learners and Educators)

OER Impact Study [<http://web.archive.org/web/20140523225933/http://oerblog.conted.ox.ac.uk/>] (Jisc funded study led by University of Oxford)
