

Evaluation of the GEES Subject Centre's Project on the Open Release of Educational Materials in the Disciplines

Final Report

Dr Helen King, 1st May 2010

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Introduction

The JISC Programme

“Between April 2009 and April 2010, JISC and the HE Academy are supporting pilot projects and activities that support the open release of learning resources; for free use and repurposing worldwide. This pilot programme is intended to inform a larger programme covering a significant portion of the HE Sector.”

Projects have been funded under three strands: individual, institutional and subject-based (through the HE Academy Subject Centres).

“Projects are expected to make a significant amount of existing learning resources freely available online, licensed in such away to enable them to be used and repurposed worldwide.

It is expected that funded projects will demonstrate a long term commitment to the release of OER resources. Projects are working towards the sustainability of long term open resources release via the adoption of appropriate business models to support this. Supporting actions may include modifications to institutional policies and processes, with the aim of making open resources release an expected part of the educational resources creation cycle.

As a part of this programme, support and advice on all aspects of open educational resource release will be offered. This will include guidance and advice from existing JISC services and other organisations and will cover issues around licensing, intellectual property rights, technical aspects such as the use of standards and metadata, and resource discovery. Programme support will benefit all of those interested in OER release, not just funded projects.”

(JISC Website: <http://www.jisc.ac.uk/whatwedo/programmes/elearning/oer.aspx>)

Overview of the GEES OER Project

The HE Academy Subject Centre for Geography, Earth & Environmental Sciences (GEES) successfully bid for a project under the subject-based strand of the OER programme. The Subject Centre chose to take a thematic approach to the project and to focus the resources on the teaching and learning of climate change. The ‘C-Change’ project (<http://c-changeproject.org.uk/>) involved six partner departments/schools:

- University of Exeter: Department of Geography;
- Keele University: School of Physical and Geographical Sciences;
- University of Liverpool: Department of Earth and Ocean Sciences;
- Open University: Department of Earth and Environmental Sciences;
- University of Southampton: School of Ocean and Earth Science;
- University of Wales, Newport: Centre of Excellence in Learning and Teaching (CELT).

The broad aims for the project were to:

- Encourage cultural change towards open licensing of educational resources within the GEES disciplines;
- Build capacity for continued release of OER in the GEES disciplines beyond the funded life of the project;
- Enhance the profile of the theme climate change and sustainability within both GEES and the broader stakeholder community;
- Enhance the profile of UK HE GEES learning and teaching both nationally and internationally.

Purpose of and Audience for Evaluation

The purpose of the evaluation strategy for "C-change in GEES" was to capture the story of the project in a form that is meaningful to the key stakeholders and provides useful information for future projects. The evaluation was conducted as a qualitative, formative study alongside the C-change project. Hence, the evaluator did not sit outside the project as an independent observer but, necessarily, became part of the process. In particular, the project evaluation had a potential influence on dissemination and sustainability by encouraging partners to reflect and through awareness raising with key stakeholders.

The audience for the overall evaluation of the C-Change project includes the GEES Subject Centre and GEES communities, the HE Academy, JISC, and individuals and institutions interested in OER.

Evidence

The data which informed this evaluation were gathered through a variety of media:

- Discussions with the GEES Subject Centre Associate Director, Dr Yolande Knight;
- Structured telephone interviews with personnel involved in the bidding and set-up phase:
 - Project Manager (& GEES Subject Centre C&IT Manager): Mike Sanders
 - Project Adviser
 - 2 x Project Partners
 - Professional Body
 - GEES community (colleague interested in the project but not a formal partner)
- Review of the C-Change blog;
- Review of emails with the GEES community during the bidding phase;
- Poster presentation and discussion at the 2009 Geological Society of America annual meeting in Portland, Oregon;
- Meeting with the project team (February 2010);
- Visit to one partner institution;
- 3 informal monitoring reports from the Project Co-ordinator, Ed Bremner;
- Online survey of the GEES community;
- Discussion at the C-Change launch event (April 2010).

Overall Synopsis

A quote from the project coordinator, in his final reflective report to the evaluator, provides a neat summary of the overall achievement of the C-Change project:

"Well it is true that for sure we have run out of time on a number of different levels and in different ways, however we have had enough successes to be happy with the materials that have been produced and we have certainly learnt a vast amount from the process, so on the whole I think we can be quite happy with what we have managed to get done."

The GEES Subject Centre's C-Change OER project was well managed overall and within the partner activities. The theme provided a strong focus for the work that was relevant across the GEES disciplines and had the potential to offer a coherent set of useful resources. One difficulty that arose from this theme, however, was that it tended to require resources that were subject to more stringent copyright licences. As with many initiatives related to teaching in higher education, there are currently only small pockets of interest. However, these are found across many different types of institutions and within each of the GEES disciplines. Perhaps the key message to disseminate from the project is the need to clearly identify the source of resources as they are developed and to have OER in mind when creating new teaching materials: repurposing is not an efficient means of making resources openly available.

A case study of the GEES Subject Centre on the open release of educational materials in the disciplines: December 2008-April 2010

Bidding Phase

In December 2008 JISC and the HE Academy announced a call for institutional, individual and subject-based projects to pilot to the open release of educational resources. Within four days of the announcement, the GEES Subject Centre circulated an email to their discipline communities. This consultation approach was considered important in order to ensure ownership, to raise awareness and invite contributions. Many of the initial responses were offers of resources which were already open access. However, in the New Year, it was stated that the purpose of the programme was to turn 'closed' materials into open educational resources (OER). Despite this slight change of approach, the initial consultation phase had been useful as a means of getting a sense of the landscape for OER in the GEES disciplines.

The scale of the programme was the largest that the GEES Subject Centre had undertaken to date. There were several key issues to consider including maintaining credibility with the discipline communities, ensuring that the resources were of high enough quality and, most significantly, the legal aspect of the project. However, it was felt that OER was likely to become bigger in the future and that it would be an opportunity for the Subject Centre and for the disciplines to become involved from the beginning. Colleagues interviewed as part of this evaluation indicated the following strengths of the GEES Subject Centre that put it in a strong position to bid for and manage the project:

- *"GEES has a lot of experience in project management"*
- *"Drawing on existing networks within the GEES disciplines"*
- *"the GEES Subject Centre is good at communicating with people in a variety of different ways"*
- *"There is a familiarity of working with each other so relationships are quick to develop."*
- *"The infrastructure that the Subject Centre provides makes it easier for colleagues in departments take on the tasks"*

Early on, the Subject Centre felt that it would be effective to structure resources around a coherent theme. The idea of climate change was suggested to the communities and readily taken up as a broad topic which encompasses the spectrum of the GEES disciplines from social / human issues to environmental and geological science. A small number of colleagues felt that the topic would exclude colleagues / resources in other areas. However, the strengths of this approach (a focused project producing a coherent set of resources) were particularly important for this pilot programme which sought to test issues of copyright clearance for the open release of educational materials.

After the restated call to the communities in January 2009, five individuals / departments came forward with a commitment to be partners in the project. One department who had expressed an interest early on decided not to get involved; although they agreed with the principle of OER, the legal and time-consuming issues of open release dissuaded them from committing as a project partner. Another aspect of the project that had deterred some colleagues was the need to provide matched funding to support the full economic cost (FEC). This meant that there was little financial incentive to get involved. Those who did commit to the project found other motivations, for example, one partner noted that it was an investment in outreach and self-promotion for the University. A sixth partner was identified by chance during a routine visit from the GEES Subject Centre to one of their own small-scale project holders. The majority of the partners would be repurposing their own resources for the project; the University of Liverpool project was slightly different in that it aimed to facilitate the transposing of four computer-aided learning modules from Authorware to the more accessible Xerte platform.

Based on expressions of interest the Subject Centre was confident that the theme was a good one that would provide relevant learning resources to the communities even if the practicalities of Open release and the short timescale were a concern.

Once the partners had been identified and had selected resources, the GEES Subject Centre took on the majority of the work to write the bid with support from project advisors, senior colleagues at the University

of Plymouth (the Subject Centre's host institution). Advice from one of these colleagues was particularly useful as he had previous experience of writing and reviewing bids for JISC funding. He helped in drafting the bid as a mentoring process to get Mike Sanders (the project manager) up to speed; in addition he had been doing a lot of work on repositories through another JISC-funded project, so could offer the institution's UPlace repository to the GEES project as matched funding .

April – July 2009

The deadline for bid submission was 4th March 2009 and successful projects were announced a month later. The schedule for project completion was outlined in the success confirmation email:

- 29th May 2009 - Draft Project Plan
- 30th June 2009 - Final Project Plan and budget
- 31st July 2009 - Consortium agreement
- 9th November 2009 - Interim project report and budget
- 1st March 2010 - Draft Final Report
- 26th April 2010 - Final Report, Completion Report and Budget

The email also noted some areas where the bid needed to be refined. Two aspects took up most of the time: costing and legal issues.

The project was required to identify matched funding from the host and partner institutions. Sorting out the matched funding on such a large scale was a new process to Mike and the GEES Subject Centre. The University of Plymouth (the Subject Centre's host institution) had a formula to calculate full economic costing (FEC) for staff time. However, the formula was different at different institutions and so it took some time to get the information from the six partners. This was something that all Subject Centre OER projects struggled with. HEFCE ran a support event about this which was useful in outlining the principles though did not provide the details of how to go about it. Mike talked with the University of Plymouth Research & Enterprise team to seek advice.

Putting together the consortium agreement was an issue that only subject-based projects had to deal with. Individual and institutional projects generally only involved one institution. The legal aspects of putting together the consortium agreement took a lot of time. The GEES Subject Centre had been fairly prescriptive to the community (in terms of theme / types of resources) in order to constrain the number of consortium partners. Other Subject Centres, e.g. Materials, Economics, Physical Sciences) had upwards of 14 partners and had to get agreements from all these institutions. GEES was the only Subject Centre to submit the agreement on time at the end of July. Initially Mike drafted an agreement in plain English which the partners' legal people didn't like, so he went back to the JISC template which they were happier with. Exeter was the linchpin in the process, the legal person there was really helpful. Fortunately the other partners' legal people agreed with Exeter's approach which helped to expedite the process.

After the GEES Subject Centre had submitted their agreement the deadline was extended and someone brought in to provide support. Although an agreement was produced which was satisfactory to all the partners, it might have been stronger if GEES had had access to the same support the other Subject Centres received (i.e. if the support had been provided sooner). The whole process took a lot of time (by mid-October some Subject Centres still hadn't finalised their agreements).

Whilst these two big issues were being dealt with, recruitment of staff, steering group meetings etc. were also happening. A problem for all short-term projects is the time taken for recruitment: paperwork & HR processes always slows things down (even for externally funded projects with the VC's consent). The flexibility in the Subject Centre meant Mike's time could be freed to cover the project management role before a full-time member of staff was in place.

In May the project name (C-Change) and website was launched at <http://www.c-changeproject.org.uk>

July – December 2009

In July and August the project partners began looking at their modules for repurposing and the Subject Centre devised the evaluation strategy for the project together with the external evaluator, Helen King. In September the Subject Centre ran a session on IPR for the C-Change partners (four were able to attend), hosted by the OU and facilitated by Naomi Korn by Skype from London. The partners present agreed to use the Attribution-Non-Commercial-Share Alike 2.0 UK: England & Wales or (BY-NC-SA) license. Later, at a JISC OER IPR meeting in October, most of the other projects agreed with the C-change choice of using this license.

The project stepped up a gear in October with the two new members of staff commencing work: Ed Bremner (Co-ordinator) and Mark Treagust (Learning Technologist). Ed's role was to work with the partners to help them establish methods and workflows that they will be able to use to clear the 3rd party copyright included in their resources. Mark was to take the Open Resources created by the partners and upload them and/or their metadata to JORUM (the online repository provided by JISC).

By early November the project was progressing well and according to schedule. However there was some concern about the tightness of the targets and milestones and whether the partners would be able to undertake their copyright clearance and re-purposing within the proposed timescale without some slippage. This issue might have been eased if the staff members had been in place earlier, however, it is unlikely that the partners would have been in a position to begin working on their materials before the start of the new academic year. So it's hard to evaluate whether early staff appointments at the Subject Centre would have made any difference to the partners meeting their targets.

By the end of December the project was well underway and five of the project partners were all active with their repurposing tasks (the sixth intended to have a research assistant in place by January). Some had an early start with the appointment of research assistants, post-docs or PhD students to support the work. The major task for the project co-ordinator at this stage was dealing with issues of copyright clearance particularly for illustrations and diagrams in journals and, perhaps uniquely for GEES, maps. Discussion and correspondence with various publishers was not particularly successful. The original plan was for all re-purposing and copyright clearance work to be finished by the end of the year and for the repository work to be undertaken in January / February. By December the project was having to consider making a decision whether to continue investing time and effort in securing clearance from publishers or whether to seek alternatives (e.g. redrawing diagrams).

During this time, a variety of opportunities arose that could potentially benefit the C-Change project:

- In July 2009 the University of Southampton announced that materials in their EdShare repository could be assigned open access if the authors wished;
- The SCORE (Support Centre for Open Resources in Education) project at the Open University built on the OpenLearn project and extended the use of OER to help support other programmes such as the HEA/JISC OER programme. SCORE aimed to produce a further 3,600 hours of OER content including 75 hours of material on climate change;
- Considerable media coverage of OER in general;
- Dissemination of C-Change project at the Scottish Universities' and Colleges event on ESD;
- In December 2009, the British Geological Survey (BGS) announced their Open Geoscience resource (<http://www.bgs.ac.uk/OpenGeoscience/>).

A sleeping partner on the bid noted that there had not been any correspondence from the project with updates on progress. At the end of October, a forum page was added to the website to encourage discussion about OER and pedagogy across the broader GEES community. An email was sent out to advertise the forum and it was also noted on the Subject Centre's regular email newsletter. No contributions to the forum from outside the core project team were received in this phase of the project.

January – April 2010

At the end of January the project launch event was advertised and within a few weeks the time had arrived when the project partners had a large number of resources ready for uploading to JorumOPEN.

It was decided early on that C-Change would not attempt a common 'look' across its partner projects but that each resource would have a standard 'back page' with information on licensing, funding acknowledgements etc. Discussion then ensued regarding the use of institutional logos. HEIs could keep their own logos but this might require additional licensing. It was then noted that "if derivatives are permitted in the CC licence then removal of the logos is permitted under this as long as the attribution is correct", so "If the overall resource is covered by a licence that allows derivatives then the logo can be stripped out anyway, as long as attribution is still given."

By mid-March GEES resources were being added to JorumOPEN.

The C-change project proposal included an intent to provide a resource aggregator. After some testing it was found that JorumOPEN only included its last 50 items in its RSS feed so would not necessarily incorporate those from C-Change. As an interim measure a permanent link to the GEESOER tag in Jorum was placed in the sidebar of the C-Change blog site.

By mid-April the 'back page' format and JorumOPEN depositing guidelines (produced in order to try to standardise the use of metadata) were finalised. Draft case studies had been received from all the partners and the launch event was planned and fully prepared. Over 80 separate items of material were now available through JorumOPEN and it was hoped that there would be more by the end of the project. The units themselves ranged in size from a single reading list to the whole output from one project associated with only one record.

Overall the GEES Subject Centre felt that the project had gone well though there were some areas that had not met their (perhaps unrealistic) expectations. The volume of OERs produced was less than originally planned but it is hoped that some partners may continue to produce materials beyond the lifetime of the project. Whilst the project ran out of time in a number of different ways it was felt that there were enough successes to be happy with materials produced and that a vast amount had been learned from the process.

Lessons Learnt from the C-Change Project

The main difficulty facing all the projects funded under this pilot OER Programme was that of time. The short period available (one year) coupled with the length of time required to appoint new staff meant that projects had to operate in an intense and focused manner. There are many disadvantages to such a tight timescale; however, one of the advantages (from an evaluation point of view) is that the issues are intensified and highlighted in a way that might not have been so illuminating in a longer-running approach.

The following key lessons learnt (presented in no particular order) are abstracted from the GEES Subject Centre / C-Change experience but it is likely that they will be applicable to other subject-based, individual and institutional projects:

Third Party Clearance

When repurposing resources for OER, the inclusion of 3rd party materials can cause the most amount of work. Such resources (e.g. diagrams, graphs, maps, photographs and other images) need to be sourced so that clearance can be obtained from the copyright owners for their use under the creative commons licence. Considerable time may be required to identify the copyright owner of each image (or other 3rd party material) and to obtain clearance for its use. This was a particularly big issue for some of the C-Change project partners whose resources contained digital assets for which copyright clearance could not be obtained.

One project managed the issue by working with their drawing office to design their own maps. Whilst this avoids the problem of third party clearance, this approach is also time-consuming and not all departments have access to such a facility. Two other projects simply worked with resources that did not contain third party materials: one used materials solely produced by the project partner and the other was updating resources that already existed in the public domain.

Mostly as a result of third party clearance issues, time (or lack thereof) was a critical issue for all the C-Change project partners and many felt that the work was much more time-consuming than anticipated. Their experiences suggest that the repurposing of materials for OER at subject (departmental / school) level is best facilitated by a dedicated project officer as such work is beyond the capacity of individual academics. For this reason, amongst others, many of the project partners could not have undertaken the work without the external funding provided by the OER Programme.

The key lessons learnt here are:

- The time and effort required to seek copyright clearance on third party resources;
- The need for a dedicated project officer to support this work;
- The need for additional funding to support this work;
- The potential benefit of economies of scale in obtaining clearance from large publishing houses or other common sources (can this be undertaken at programme level rather than by individual projects);
- The potential benefits of sharing practice / guidance in the production of OER materials and for contacting publishers (it was hoped this would be obtained via SCORE but they were only able to provide general advice rather than e.g. specific contacts);
- The need to tag or annotate resources as they are produced to save time in the future should they required for open access;
- The recommendation to produce all new learning materials with OER in mind.

Institutional Support

Given the constraints on repurposing materials for OER outlined above, a critical requirement for a successful project is active institutional and departmental support in terms of culture / ethos, and commitment to OER and learning & teaching. Whilst the evaluation did not focus on directly comparing the experiences of the project partners (but rather looked at the overall subject-based approach), the partner case studies and interviews show a spectrum of institutional support from disinterest / discouragement to active engagement. The partners' future ambitions broadly correlate with their institution's level of support, ranging from 'never again' to a positive consideration to engage in other similar projects.

Resource Content and Pedagogical Quality

These aspects of the C-Change project were not explicitly evaluated. However, several project partners and the GEES SC team commented on pedagogical issues that may arise out of repurposing materials for OER.

Concern was expressed that alteration of the original resource, as a result of failing to obtain copyright clearance, may result in a potential reduction in pedagogical quality. Simply removing the offending image may not be a simple solution and academics need to be wary of taking this shortcut when repurposing materials.

There is also a potential for the rationale for developing OERs to have an impact on the quality or content of the final product. For example, an OER produced for an academic audience with the intention that the resource will be adapted for use in another context may be very different from one that is originally intended for public understanding. It is important, therefore, for OER authors to be clear about their intended audience before they embark on producing the resource. A key question arises here for which generic guidance might be useful: what does a good / high quality OER look like?

Finally, the C-Change project has also raised the issue of digitising 'old technology' before it degrades or is otherwise lost. Many individual academics and departments hold teaching collections of maps and images which would benefit from digitisation. In addition, such resources may also provide useful data for research in the field of climate change, for example photographs of glaciers, rainforests, deserts etc.

The benefits and constraints of a discipline-based, thematic project and outputs

Benefits and Constraints for the Discipline-based Strand of the OER Programme

Benefits

- Ease of joining the consortium and the funding available.
- Cross-institution collaboration:
 - *“Opportunities to talk to other people in other institutions and find out what they are doing. For example [our instituton] has a lot of experience with this type of activity; this is an excellent opportunity for us to benefit”.*
- Populate existing repositories:
 - *“[Our institution] put in an institutional bid which was not successful. This may have been because they already had [a] repository.. It’s all very well having an institutional repository but if there’s no support for putting materials in then it won’t be used. The subject-based strand provides the incentive for people to put resources into the existing repository.”*
- Public access to material (v PR for institution)
 - *If the ethos is to enhance public access to quality material then the subject approach, particularly with an applicable theme such as climate change is useful. For the institutional strand there is a conflict in that HEIs could jump on it as a big PR exercise and the pedagogy goes out the window. Subject Centres are slightly more immune to that but nonetheless there is an opportunity for partners to brand their contribution. The ‘greater good’ outcomes are more likely to be achieved from the subject-based approach.*
- Sense of community for those involved
- Potential for expansion
 - *“Also there’s the potential for it to be expanded on a global scale with contributions from e.g. USA and Australia because it’s about a theme, idea, topic rather than an institution.”*
- Impact on IPR policy / flexible licenses
 - *[Our institution] currently doesn’t have a written IPR policy.... If the aim of the project is to get institutions to think about these things then it’s had an impact [here].*
 - *With institutional projects there is the danger that it is too specific to that HEI. Subject Centres look across HEIs and can develop a shared perspective. The processes are necessarily more robust and transferable; and the content is released under a more flexible license.*
- Potential for multiple solutions to problems
 - *I would have thought the subject-based approach is preferable because it takes on board a number of institutions. An institutional-based project will take on the needs of that institution. The subject-based approach is more holistic, involving different ways of working and potentially multiple solutions to the problems.*
- Collaboration and sharing experience across Subject Centres
 - Tim Denning at MeDev project intends to undertake survey of institutional IPR policies.
 - Dec2009: Ed & Mark attended event hosted by HumBox at Southampton (LLAS). Opportunity to hear about other OER projects and Southampton’s EdShare.

Constraints

- Physical distance between Subject Centre hub and partners
- Less top-down motivation
 - *With HEIs it’s possible to lay down the law from the top-down to get the work done. Subject Centres don’t have this so have to take a more gentle, transparent approach. Subject Centres have fewer sticks than carrots.*
- Potential duplication of material
 - *The project may end up with more material than we need on particular topics. Not sure how much materials will be duplicated.*
- Inter-project communication (between different Subject Centres and strands of the overall programme) was less effective than expected.

Benefits and Constraints of a Thematic Project

Benefits

- Coherent focused resources
 - *The subject-based approach provides greater coherence and profile to the materials and the opportunity to produce a rich set of resources on a theme.*
 - *From the project there will be 360 credits worth of resources on a single topic, so potentially somebody could take this and have a degree's worth of material. Whereas with the institutional approach it is quite fragmented across various disciplines; so it's harder to see how it might be used in a consolidated way.*
 - *The outputs – hopefully end up with a coherent set of resources (albeit with different approaches from each department). This might make them more useable than if the project involved a whole range of different topics.*
- The climate change theme covers the broad spectrum of GEES and is highly current / relevant
 - *Comments from North American colleagues indicate that the resources would be used internationally even though they are sourced in the UK.*
 - *"the teaching material we want to post is generated by a cohort of internationally recognised scientists at the cutting edge of climate change research. It will contribute to our general outreach and the global dissemination of the science of climate change."*
 - *It has allowed the three disciplines to work more closely together. They could have taken, say, a methodological approach with a theme on fieldwork. The climate change theme is something that all three disciplines can contribute to. It was a wise strategic decision to go with this theme.*
- Small number of focused projects makes the overall project co-ordination more manageable.
 - *"If there was no theme it would be very unfocused, it would be difficult to coordinate lots of people doing lots of different things."*
- Opportunity to work on a project across the GEES disciplines
 - *"One of the real internal benefits and highlights ...has been working on a project which is inclusive across all of the GEES disciplines [in our School] from Human Geography to Geology, although there are members of School who viewed the GEES decision to focus on the climate change ... theme in a very negative light, believing it not to be relevant to all of the GEES disciplines. Therefore it's been particularly positive to have the whole spectrum of GEES subjects ... represented in the contributed resources."*

Constraints

- Exclusive
 - *"GEES is more than just climate change."*
 - *"There may be some individuals / departments for whom it is not relevant. But the benefits outweigh the weaknesses."*
 - *Very one dimensional. Can be exclusive. Choosing the right theme is important and, in [a partner's] opinion, climate change is a good choice.*
- Potentially controversial topic:
 - *"The possibility that extremist groups, e.g. those opposing climate change might hijack and misrepresent some of the resources in order to discredit climate change scientists was an unexpected outcome"*
- Higher level, empirical resources may be more reliant on recent, peer-reviewed material. Contributors to non-thematic projects might be able to select easy-to-repurpose resources.
 - *"The M-level resources contain more peer reviewed material and have been correspondingly more complex to process."*
 - *"Programme level one and human geography resources generally proved easier to gain permissions for than higher level and more science-based resources. This is because of the technical complexity of the third party material used in each. The human geography figures are more often conceptual rather than empirical and so do not generally have data embedded within them; therefore there are fewer claimants to the copyright."*

Overall Benefits and Constraints of the Open Release of Educational Resources as Identified by the GEES Subject Centre's C-Change Project

Benefits

The following benefits were identified from the one-to-one interviews and partner case studies:

- Opportunity to enable social impact of research;
- Meets institutional outreach and public engagement strategies;
- Raising the profile of the disciplines and the institutions involved;
- OER allows for private collections of resources to be shared:
 - *"Most academics have their own film and photos that no one else has got. Anyone can look in a text book for general resources but OER allows for amazing private collections to be made public."*
- OER projects facilitate new collaborations / opportunities for knowledge sharing within HEIs, e.g. with different subject areas, legal teams, the drawing office, IT.

Participants (project partners and others) at the Subject Centre's C-Change event on 29th April 2010 identified the following aspects of OERs which might be used to persuade colleagues to engage with OERs. Items in *italics* are lifted verbatim from the participants' own discussion notes:

- Marketing and promotion:
 - *Market your personal research expertise and your institution's teaching quality.*
 - *Shop window for institution*
 - *Promotes you / dept / Uni*
 - *Raise Departmental profile/recruitment aid*
 - *Raise University profile*
 - *Highlight and promote your research outputs.*
 - *Making a name for yourself*
- *Reclaim ownership of your intellectual capital.*
- *Widen access to high quality learning resources and thereby raise the public level of knowledge.*
- *Ensure the longevity of your learning resources.*
- Opportunities for collaboration
 - *Working with colleagues/teamwork*
 - *Networking opportunities (communities of practice)*
 - *Encourage inter-disciplinarity*
- *Improve material/quality through peer review*
- Culture of OER
 - *Altruism*
 - *Open learning ethos*
 - *Transparent sharing*
- *Time; Sustainable? Efficient (in the longer term)*
- Motivating
 - *Opportunity for experimentation/having fun/being creative*
 - *Stimulating / engaging / motivating?*
- *'Dis-imprisonment'*
- *£; Cost effective cf. disappearing library resources*
- *(self) quality control cf/ Wikipedia*
- *Raise H index*
- *High impact dissemination activity (may help with future grant applications)*

Constraints

The following constraints were identified from the one-to-one interviews and partner case studies:

- Copyright release (can apply to text as well as images). Copyright law is complex and case-based so legal advisers are not necessarily able to give absolute answers;
- Balance between minimizing risks of breaching copyright and having a good quality resource;
- The work took considerably more time than anticipated;
- Lack of institutional / departmental support makes it very difficult for individual academics to get involved;
- Sustainability / funding
 - *“It’s a very good idea. It would be nice if it could be funded further. More substantial funding over an extended period, say 3 years, would be better for getting it embedded as a cultural activity within academia.”*

NB: Participants at the Subject Centre’s OER event were not explicitly asked to identify the constraints of OER.

Use of OERs in the GEES Disciplines

Whilst the partners in the C-Change project cannot be assumed to be representative of the GEES disciplines in the UK as a whole, their rationales for getting involved provide some insight into departmental-level interest in the programme and OER in general.

Reasons partners got involved:

- Marketing for the institution, e.g.
"The repurposed materials will provide a shop window for University/[School] outreach and in particular for marketing courses targeted at lifelong learning/ employer engagement, e.g. climate dynamics."
"For [institutional] publicity in having wide-ranging courses relevant to C-change." [OU]
"... the free advertising we would get for the school and the University once people began to access our resources."
- Consortium approach, e.g.
"To be part of a national consortium of C-change resources that could be used to develop new [institutional] courses."
"We could also see a number of potential benefits including improving links with the subject centre, and as GEES consortium project is large in itself and across the whole of the HEA/JISC project this would provide 'easy returns' in terms of dissemination of the work, enhancing internal and external profile, and hence maximizing the benefits of taking part in the project"
- To learn about issues arising from developing OERs
- Existing need to update materials (e.g. ESCC resources)
- Interest in pedagogy of climate change
- Passion for OER

Audience for OERs:

During discussion about OER project with the GEES SC team and the project partners there was a general assumption that the resources would be taken and adapted for use by others. This suggested that most colleagues considered their intended audience for OERs to be other academics / educators. However, the case studies painted a different picture with all the partners identifying learners (students or the general public) as potential end users:

"[Our] resources and those of the wider project will allow HE users to easily access the ideas and views of their colleagues to the benefit of the wider debate. On a broader scale it will allow users to engage in the public climate change debate and carbon economy challenge in a more comprehensive and knowledgeable way."

"Students researching universities; School students doing projects; Interested public; HEI lecturers wishing to develop curriculum in GEES"

"It will hopefully enable students to appreciate the nature and scale of climate change, and provide educators with a flexible way of resourcing teaching it."

"The resources provide a framework from which lecturers can develop their own teaching programmes on a subject. They introduce the important points/issues (as viewed by the original author!) with regards to each topic and provide useful case studies for highlighting these points. They also detail the key texts for a particular topic, from which educators might develop their own detailed reading lists. The resources may also provide useful additional material for learners themselves. The formatting of all the OER resources developed within [our] project are simple and consistent, allowing for text to be easily exported, altered and developed by users".

“The resource is based on level 2/3 material but students from levels 1 – 4 will hopefully find the material useful. The material will be of interest to anyone learning about past climate change and the Cryosphere. There are currently no learning resources for this material.”

(NB the Liverpool project was focused on updating existing computer-based learning modules that are used directly by students but embedded with university programmes; therefore the resources themselves cannot be adapted but the context of their use may vary).

Changes in Practice / Future Engagement with OER

With one exception all the partners expressed an interest in continuing with the work, however, the considerable constraints of time and funding are likely to preclude any significant progress in the short-term. The partner who was not able to promise future engagement with OER was mostly constrained by the pressure to focus on research.

“Colleagues are interested in using the resources as a shop window. [We have] already attended one meeting to consider marketing of some of the C-change material e.g. Climate Dynamics by including it in a distance learning/short course package .Interestingly, when rewriting lectures for the new Climate Dynamics course, colleagues have paid much more attention to sourcing the materials.”

“we hope to introduce some C-change OER materials into our []courses in the future and use them in university publicity. There is a clear enthusiasm amongst some colleagues for having their course material available for open access, for purposes of disseminating work on a wider front.”

“Following our adopted component-based approach, new digital media that is produced as learning resources will now be routinely uploaded to web-platforms, such as YouTube and Flickr, as a method of making learning resources accessible.”

“future plans/follow-up activity: the converted modules need to be tested and used in the community to decide if it is worth converting the remaining UKESCC modules.”

“ It may encourage authors to ensure that images and other material are always clearly referenced on slides, as this was one of the initial hurdles before IPR clearance could be sought. More colleagues may be encouraged to take part in the OER process if they can see genuine benefit from the process, this may be increasing networks of people viewing resources, through to providing enhanced teaching and learning profile within the institution. Because of the dedicated Project Support Officer position, minimizing the amount of time that repurposing the resources has taken for individual academics, I believe that all contributing academics have had a positive experience of working on the project which will maybe encourage to engage with similar projects in the future.”

Views from the Wider GEES Community

The Subject Centre's event on C-change provided an opportunity for discipline-based discussion on the use of OERs in the GEES disciplines. Participants worked in three small groups, with each group addressing one of the following issues. The notes below (*italicised*) are the verbatim notes written by the participants.

What is the current culture for OER in the GEES disciplines?

- *Not much of a 'sharing culture' (though better than some disciplines?!)*
- *Academics reluctant to share teaching and research*
- *Lack of incentives for sharing?*
- *Impact of funding councils etc. on research (assimilating data) – implications for teaching?*
- *Lack of time/resources to allow for sharing*
- *Balance between open content and taught content*
- *OER not a substitute for attendance/contact time*

What is / might be the impact of using OERs on the student learning experience?

- *Use students to create OERs to enhance information literacy e.g. student source attribution*
- *Can create transportable resources for graduate portfolios*
- *Should be viewed as just one T&L tool & situated in wider framework*

What are the professional development requirements for developing or using OERs?

- *Part of new academic training*
- *Search methods*
- *Awareness of Creative Commons*
- *Awareness of teaching repositories*
- *Understanding risk management (knowing who to ask)*
- *US publicly funded research*
- *How can you use them in teaching?*
- *Understanding the pros and cons of diff types of OER*
- *How do you reference?*

A key message that arose from the discussion is that OER has a broader potential for learning and teaching than simply making resources publicly available. It provides an opportunity for introducing students to critical thinking, appreciation of copyright / IPR / plagiarism and general information literacy. However, the culture within the disciplines towards OER is still not at a place where it is broadly accepted as a good thing to be involved with.

GEES OER Baseline Survey

An online survey was made available to the GEES community during April 2010. The survey used the same template as that conducted across a variety of disciplines in January 2010 and was administered through the Bristol Online Survey (BOS) system. A full analysis of the survey is provided separately. The headline messages are given below.

Use of Educational Resources

69% (29 of the 42 respondents) use resources in their teaching practice that have been originated by someone else (not including publishers' resources). Their reasons for using such resources are:

	No.	%/29
They save me time	25	86%
They enhance the learning experience for my students	24	83%
I believe in sharing educational resources	20	69%
They support my own professional development	12	41%
I don't have the skills or support to produce resources of certain kinds myself (e.g. multimedia)	12	41%

Other:

I am often covering teaching for others and so I start from their materials. I am also new to lecturing so I like to make sure I am covering what is expected.

Outside expertise

When taking over teaching from colleagues, using existing material seems the obvious thing to do.

The reasons for colleagues not using resources originated by other people are:

	No.	%/13
I prefer to use my own teaching resources	10	77%
I have trouble finding resources relevant to what I teach	7	54%
I have trouble finding resources of high enough quality	6	46%
I prefer to develop my own skills	5	38%
I have concerns over copyright infringement	5	38%
It is not easy to adapt and repurpose resources to meet my needs	5	38%

Other:

Issue/topic specific resources tend to go out of date quickly.

It doesn't occur to me to look! Having said that, when I do, I struggle to find anything relevant.

New area of work - so we are creating the resource.

Finding Educational Resources

Participants provided free text comments to describe where they would look for educational resources. The top two sources were: the Internet (mentioned by 64% of respondents) and academic colleagues (14%).

Sharing Educational Resources

74% (31 of 42) share their educational resources. Of these, 29% share these resources openly to anyone who wants them outside their institution. These respondents' reasons for sharing resources were:

	No.	%/31
It helps learners and prospective learners (to see my teaching materials)	20	65%
I believe in open education	19	61%
It enhances my reputation as a good teacher	9	29%
It enhances the reputation of my institution	6	19%
It improves the design and planning of my resources	6	19%
Other incentive (e.g. funding as part of an initiative or project)	3	10%

Other:

Coordination of teaching across programme promote innovation more widely

De-mystifies things and makes us less precious about ego and knowledge

For some resources I developed within the framework of the Swiss Virtual Campus, open access was a requested.

Grant to produce resources - part of pay back for money
Helps establish networks
I contribute to the development of Welsh-medium HEI teaching
It saves time for others. Not sharing externally is mainly because I have not yet had the time to get to grips with depositing in Jorum
Recent JISC project on opening the archives in Exeter has made opportunities to use resources in a more open way. Mainly share because it helps colleagues prepare their material
Sharing resources often facilitates discussion and can lead to other benefits.
To help other teaching staff
To support colleagues
Usually share amongst friends/colleagues, saves time if someone can give you a lecture framework or seminar idea. We then adapt to fit our teaching/learning objectives at our institutions.

There was a fairly even spread of responses selected against the listed reasons for *not* sharing resources. These included lack of support, not something they had thought about, lack of time and lack of incentive (reward or recognition). In addition, two respondents also mentioned in their free text comments that they didn't think their resources were good enough.

Support for Using and Developing Educational Resources

In their free text comments, many respondents indicated that they had no support for finding (52% of the 27 respondents), adapting (60% of the 20) or developing resources (50% of 18).

Reasons for Sharing Educational Resources

Respondents were asked to rank the following reasons for sharing educational resources:

- a) Individual reputation
- b) Institutional reputation
- c) Financial incentives
- d) Sensible distribution of time, skills and effort (share and share alike)
- e) Special initiatives/projects encourage this approach

Sensible distribution of time, skills and effort received the most no.1 rankings (16 respondents: 38%).

Financial incentives received the most no.6 rankings (22 respondents: 52.4%).

Respondents were asked to rank the following reasons for *not* sharing resources:

- a) Concerns over quality
- b) Concerns over copyright infringement
- c) Difficulty in implementing (without reworking)
- d) Difficulty re-purposing and adapting resources to meet their needs
- e) Lack of access to / awareness of existing resources

Lack of access to / awareness of existing resources received the most no.1 rankings (14 respondents: 37%)

Concerns over copyright infringement received the most no.6 rankings (11 respondents: 32%)

Attitude to OERs

All the respondents thought that OERs were a good idea but many selected a qualified response:

	No.	%/42
I fully support the idea of open education and open educational resources	15	36%
It is good idea but there are no real incentives for the producers	14	33%
There is so much open content available now; it's time to take advantage of it	5	12%
I have some concerns about the open educational resources agenda	5	12%
It is good idea but there are no real incentives for the adopters/adapters	2	5%
It lacks a coherent supporting business case	0	0%
It is not an agenda that has much relevance to me or my students	0	0%