



Reusable Electronic Learning Objects for Theology and Religious Studies

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I. Project

This paper reports a project partly funded by the HEA Subject Centre for Philosophical and Religious Studies. We were particularly attracted by the funding steer of developing electronic delivery given our involvement with two programmes in theology and the study of religion offered by distance learning. Both are well established, with histories predating the merger of the previous Westminster College with Oxford Brookes University. At undergraduate level in particular, significant effort has gone into developing an effective electronic infrastructure using Brookes Virtual (WebCT). However, this principally offered support for students, functioning at the lower levels of Brookes's e-learning modes of engagement, expressed as follows:

Mode 1

Baseline course administration and learner support

Uses the web to distribute course information and carry out course administration (chosen from the following): aims and objectives, assessment criteria/pro formas, past exam questions and model answers/assessment sheets, timetabling announcements, reading lists, tutor contact details, course evaluation tools, FAQs, additional web resources, links to field level resources, course/module handbook, lecture notes.

Mode 2

Blended learning leading to significant enhancements to learning and teaching processes

Mode 2 specifies four areas of engagement: Communication, Collaboration, Assessment and Learning Content. We were making good progress in developing communication (improved tutor-student and student-student communications, mainly using discussion boards or email. This enables students, especially in disparate groupings and locations, to exchange information, ask questions and discuss issues relating to the course). We were a considerable distance from Mode 3, a fully online course or module, as we continued to provide all of our modules in a paper-based form. This was nonetheless a long-term goal. As an interim measure, we aimed to develop the Mode 2 Learning Content: 'Flexible access to high quality, reusable learning content, which may include structured gateways to web and other resources with accompanying self-paced independent learning activities, interactive tutorials with feedback, simulations, study and learning skills resources and activities fostering independent learning.'
(<http://www.brookes.ac.uk/mediaworkshop/brookesvirtual/modesofengagement/index.html>)

The opportunity to bid for funding from the then PRS-LTSN was therefore timely and welcome. Entitled 'Effective online learning in TRS: course design, learning objects and material transformation', the project's goal was to explore how content from the discipline of TRS might be presented and used within the paradigm of reusable electronic learning objects (RELOs). The challenges were substantial and at times daunting. For example, the very territory itself needed to be defined: What are 'reusable electronic learning objects'? Neither participant had a background in electronic delivery: What training had to be undertaken to equip ourselves to create electronic materials? Having done this initial groundwork, new questions emerged: How could the various emerging principles be applied to TRS, as traditionally contentheavy disciplines? What use could teaching staff in those disciplines be expected to make of RELOs? What pedagogical adjustments might have to be made, and what were the corresponding advantages and disadvantages both to teachers and students?

This paper addresses the majority of those questions in the sections that follow.

II. Reusable Electronic Learning Objects

Space precludes a full discussion of the literature exploring the definition and nature of RELOs. It quickly became apparent that this was new territory, with discussions revolving around:

- a) The term itself. So Muzio, Heins and Mundell (2002), in their paper 'Experiences with reusable E-learning objects: From theory to practice' refer consistently throughout to ELOs, despite the fact that their reusability is an essential dimension. These writers cite a range of terms, accompanied by a range of definitions. Alternative terms include: 'Educational objects, content objects, training components, nuggets, and chunks' (Cisco, 2001); 'media object' (South and Monson, 2001); and plain 'learning objects' (Wiley, 2001). We chose to use 'Reusable Electronic Learning Objects' (RELOs) since this incorporated the most frequently used terms, while also emphasising an important characteristic in their reusability.
- b) Definition of a RELO. In the same paper Muzio et al. highlight four 'approaches to defining ELOs':
 - i. 'A granular, reusable chunk of information that is media independent' (Cisco, 2001)
 - ii. 'Digital media that is designed and/or used for instructional purposes. Such objects range from maps and charts to video demonstrations and interactive simulations' (South and Monson, 2001)

- iii. 'Elements of a new type of computer-based instruction grounded in the object-oriented paradigm of computer science' which allows instructional designers to 'build small (relative to the size of an entire course) instructional components that can be reused a number of times in different learning contexts. They are generally understood to be digital entities deliverable over the Internet, meaning that any number of people can access and use them simultaneously' (Wiley, 2001)
- iv. 'Small chunks of learning (granules, objects) [that] are labeled (meta-tagged within IMS standards) so systems can automatically present a hierarchy of learning objects, that ranges from simulation through topical unit and reusable learning object (RLO) to information objects' (Internettime.com, 2001) (Muzio et al., 2002:22)

Since we were tasked with the actual creation of a series of RELOs, this literature, together with our developing understanding and conception of RELOs, enabled us to formulate four principles which we committed ourselves to adhering to. These were:

- a) RELOs should be reusable. We interpreted this in as broad a manner as possible, aiming to create RELOs that would be reusable in one or more areas from a range of possibilities:
 - i. Reusability across disciplines. So the content could be used, for example, by a theologian in one teaching context, and perhaps a geographer in another, and an art historian in another.
 - ii. Reusability across levels. We found we needed to relinquish our inbuilt instinct to define learning outcomes from the outset, and aim to create (certain) resources that could be used for different purposes at different levels, from foundational to postgraduate. We anticipated that this would enhance the attractiveness of RELOs as a tool in teaching and learning.
 - iii. Reusability across modes of instruction. We wanted to create RELOs that could be used in face-to-face classes, as well as in a more traditional distance learning environment, and online courses, together with a blended learning approach.
- b) RELOs should be self-contained and discrete, not deliberately building on something which has come before, or anticipating and preparing the way for something to come.
- c) RELOs should take advantage of their electronic form. There should therefore be an added value by dint of the fact that they are electronic. (By implication, this suggested that they would not be equally reproducible on paper. Our debates over this point led us to differing conclusions, which will be discussed later.)
- d) RELOs should be accompanied by a set of metadata. This was one of the few terms of jargon we allowed ourselves. Metadata refers to the important information about each individual RELO (author, ownership, copyright, content, etc.) which will permit potential users to find a RELO that they can appropriate.

Working through these issues, we realised that to a point, the concept of a RELO, and especially that of a RLO (reusable learning object) was already familiar. Journal articles, chapters in edited books, images, and one-off radio and television programmes are just some examples. With the exception of the provision of metadata (and even this could be likened to a sophisticated electronic library classification system), many of these could be considered to fulfil aspects of our other RELO criteria. The challenge would be to bring them all together: a challenge we relished but approached with some trepidation.

III. Creating RELOs

III.1 Six RELOs

Having established basic RELO principles, we then decided to work on the creation of six RELOs, deliberately

targeting different styles and forms. Our discussions resulted in a goal of creating:

- a RELO using image(s)
- a study-skills RELO
- a RELO which was the transformation of a 2-hr face-to-face class
- a RELO using part of an existing paper-based distance learning module as its base
- a RELO which focused on content but which started from scratch
- a podcast (audio)

We took three each, one colleague working on the first three, the other on the second three. Regular communication took place between us as we progressed, and we were supported in a range of ways by Oxford Brookes's learning technologists, and in particular by a member of staff from the Oxford Centre for Staff and Learning Development.

Conceptually, the easiest type of RELO to create was that using image(s). Clearly a work of art stands alone, lends itself to use and reuse in a multitude of contexts and levels, and can be reproduced electronically. We turned to the Methodist Church Collection of Modern Christian Art which is based at Westminster Institute of Education (Oxford Brookes) and, with the kind agreement of the Trustees, chose two contrasting images of Holy Communion. Conscious of the need for reusability, we provided information about the picture itself under each, and included a few brief quotes from one of the artists in which he speaks about the relationship between his Christian faith and his art.

This RELO therefore became the smallest and shortest.

Students on our undergraduate degree, a BA in Theology and Religion, are sometimes asked to write a critical book review as part of their assessment. They often find both the 'book review' aspect and the 'critical' aspect challenging. Our second RELO was entitled 'Critical Thinking through Book Reviews', immediately addressing the reusability factor head on: this could be used by someone wanting to work at writing book reviews, and by someone wanting to work at their critical thinking. It made significant use of the electronic environment, providing links to model reviews, offering feedback to interactive tasks and activities using pop-ups, and referencing internet sites focusing on critical thinking. Intended as a self-study tool, the RELO begins with a brief introduction to the principles of critical thinking, then moves to a case study using a book review as a model. From there it moves to epistemology and learning styles, suggesting that critical thinking might come more naturally to some people and less to others. For those who need to specifically acquire the skill, it offers hints and tips, asking students then to critique a highly critical book review posted on Amazon.com. In its entirety, we anticipated that it might take students approximately 45 minutes to work through.

The transformation of a two hour face-to-face class was a much bigger challenge, principally because of size, or length. (At this point, we introduced our second jargon term: granularity. Those working in this area speak of 'coarse' and 'fine' granularity; Wikipedia defines 'granularity as 'The extent to which a system contains separate components (like granules). The more components in a system?or the greater the granularity?the more flexible it is.') Both our previous RELOs had been 'fine grained': neither had separate, distinct elements embedded within it because their size was comparatively small; each functioned as an integrated whole. When creating a much larger RELO which would necessarily have a higher degree of granularity, we needed to consider both how to present the material and how to handle the relationship between the various components. The solution we found was to create a master RELO, with a number of subsidiary mini RELOs. For the master, we included (for the first time) stipulated learning outcomes, necessarily therefore restricting its reusability. Each of the mini RELOs, however, conformed to our previous principles. (Interestingly, Muzio et al cite Cisco's (2001) discussion of:

...[an] RLO, which is defined as a collection of reusable information objects (RIOs), overview, summary, and assessments that supports a specific learning objective. An RIO is defined as a collection of content, practice, and

assessment items assembled around a single learning objective. RIOs are built on templates depending on what is being communicated, whether content, fact, process, principle, or procedure.? (Muzio et al, 2002:22)

While our RELOs do not exactly match Cisco's RIOs, this third RELO certainly affirmed the network's sense that a distinction needed to be made between singularity and plurality.)

RELOS 4,5 and 6 were all aimed at Masters Level. A key reason for this was that the colleague working on these RELOs was heavily involved with an MA in Practical and Contextual Theology taught by distance learning and so wanted to respond directly to a concrete need and challenge.

The transformation of part of an existing paper-based distance learning module (RELO 4) seemed at first the most straightforward and potentially least time consuming RELO to be developed. However, it soon became very clear that the fundamental principles that we laid down for RELOs, especially those of their reusability, their self-contained and discrete nature and the requirement that they should take advantage of their electronic form, made the task very challenging. It was simply not possible to take written text and rearrange it into an electronically appropriate format. The part of the module chosen was in no way self discrete and relied heavily on preceding parts of the module. Also, the text of the module itself did not lend itself to the electronic format. The RELO needed considerable development to meet the basic criteria laid down. The resulting RELO, it was felt, met these criteria but was not a particularly good example of the benefits of RELOs for teaching and learning in HE.

RELO 5 (a RELO which focused on content but which started from scratch) was a very challenging, but in many ways the most rewarding, RELO to develop for the colleague working on RELOS 4, 5, and 6, hence the extensive description of the process of developing the RELO here. The RELO focussed on an interactive analysis of the contextual nature of theology. It introduced students to the claim (certainly not accepted by all) that Christian theology is contextual by its very nature. In order to do this in a discrete (in the sense of being self-contained) and coherent way it was decided that following elements would be included:

- The RELO would start off with an appropriate and powerful image that was an example of contextual theology.
- The RELO needed a clear introduction in terms of what was about to be encountered. So an introduction to the format of the RELO was included which explained firstly that the RELO was in effect a critical activity, and secondly that students might not agree with or share the theological position that they would encounter but that they would be expected to take a critical approach to both the ideas in the RELO and the RELO itself. Hence, regardless of the students' own perspective, they were expected to engage critically and appropriately with the ideas presented. The RELO ends with a synoptic task bringing together the ideas encountered, with the students' own reflections on them in a piece of critical theological reflection.
- The underlying claim that Christian theology was contextual needed to be explained especially in relation to more traditional understandings of theology as objective and universally true. This then was a positioning exercise and there was a body of knowledge that needed to be engaged with. Students are asked to read some of these and write a brief analysis of the key ideas. After this there is then a self-check in terms of both ideas and styles of reflecting critically built into the RELO by asking them to read two reviews of the texts studied, giving them electronic access to these reviews.
- It became clear that an introduction was needed to key related ideas, those of postmodernity and poststructuralism, but there was a limit to how much information could realistically be included here. So an activity that encouraged 152 Alison Le Cornu and Angie Pears?Reusable Electronic Learning Objects aged students to research and understand the terms more fully was built into the RELO. The level of engagement here therefore depended on the students' own knowledge and understanding.
- The RELO then moves on to exemplify the contextual nature of theology, and black theology was used as a way of exemplifying the underlying claim of the RELO. Finally it brought students' learning together in an

activity designed to reflect on and engage critically with the claim that all Christian theology is contextual.

RELO 6: a podcast (audio). The final RELO to be developed was a podcast of a debate between two tutors focussing on the issue of the compatibility or incompatibility of feminisms and Christian theology. This debate is key to the MA programme one of the tutors was involved with. The format of an audio debate which would be accessed as a podcast seemed particularly appropriate to the subject matter. It was felt that the written form did not sufficiently convey the finer details and nuances of a debate. As such, the audio debate, accessed as a podcast seemed an excellent example of the benefits that the e-learning format could offer. Given the challenges which arose in making the first five RELOs a reality, however, this one has thus far remained at the level of the theoretical.

III.2 Issues

The major issues in the creation of RELOs that emerged as we progressed were as follows:

The purpose of a RELO. This was intricately bound up with its reusability. So a RELO which had a specific teaching purpose, especially of content, often became less easily transferable from one teaching context to another, from one discipline to another. Nonetheless, we became increasingly aware of the many different layers that exist within, say, an academic journal paper. While its authors might (indeed, should) have made clear its overall thrust, nonetheless, readers are free to take and use any of its constituent threads to serve their own purposes, so long as it remains true to the original context. Hence each of our last three RELOs, while highly content-laden, are offered with this possibility in mind. We came to view RELO 1 as a teaching resource: something which teachers could use in whatever way they wished. Options included a basic introduction to Holy Communion (low level), an exploration of the contextual nature of a specific aspect of theology (higher level), a discussion of the relationship between art and faith (cross discipline)?These would clearly depend on the expertise of the teacher to draw out appropriate points. A study skills RELO such as RELO 2 had a different purpose altogether, and this facilitated its self-contained nature. Defining the purpose of individual RELOs therefore became an important aspect of their design.

Linked with this was the issue of whether (and how) content could be presented in a way which heightened its effectiveness as a result of its electronic character. Our RELOs divided into two groups, one which attempted to exploit the electronic medium (1 to 3), the other which presented text electronically in a similar way to its presentation on paper. Our discussions suggested that other considerations were slipping in at this point. One argued that the real benefit of the electronic medium was the consequent accessibility of material, almost regardless of its pedagogical style; the other concurred but parried that pedagogy and presentation, in order to be as effective as possible, should exploit the strengths and minimise the weaknesses of the medium. The electronic presentation of content has received much attention over recent years (see, for example, Laurillard, 2002), and the discussions will no doubt continue.

IV. Piloting and evaluation

Once two or three draft RELOs were created we were in a position to begin piloting them and seeking feedback. This was done in a number of ways.

First, we presented our work and the thinking behind it to colleagues both at institutional and at university level. For most, it was entirely new territory and questions revolved around the 'atomisation' of knowledge; the role of the teacher/lecturer; the challenges, strengths and weaknesses of student-centred approaches to teaching and learning; and the frequent need for teachers to 'own' the material they were using, which implied they also needed to create it themselves. This last had big implications for the reusability question. Colleagues from beyond TRS were able to engage with our work and were particularly interested in RELO 2, the study skills RELO. At the time of writing, two academic staff from other disciplines are working at transforming it for their own purposes, simply lifting out the TRS-centred book reviews and replacing them with reviews from their own subjects. This is an exciting development,

entirely within the spirit of RELOs, which gives the reusability factor a new dimension.

Second, we posted the draft RELOs on our BA in Theology and Religion WebCT site and asked students to engage with them and give feedback, using the RELO principles articulated in section II. The following is a selection of quotes from this feedback.

RELO 1

I've looked at this RELO a couple of times now and really enjoyed it. Although I have no artistic talent at all it's an area I'm very interested in.

It's definitely re-usable.

It's different from any other area I'm studying, so is not looking forward or back, but knowledge gained from other modules will inform my ideas? there was quite a lot of work about the Eucharist in the Ecumenism module.

It's been great being able to access it electronically, but to be able to make intelligent comments, I'm going to have to print out the images so I can have them to hand while typing. Does this defeat the object of it being an electronic resource, or does it just mean my computer skills are nearly as bad as my artistic ones?!

RELO 2

I think this is a useful direction to point students in, both for critical thinking and book reviews. For the latter when read in conjunction with the library tutorial on CRBs I found between them they covered a lot of guidance. One of the problems I find with critical thinking is being a novice in this field I am reluctant to comment on the ?experts?! The RELO is especially useful in this respect as it shows you how to make balanced decisions on the merit of a book or article.

I haven't finished working through all of this yet? but couldn't wait to join in the discussion! As Alison knows, I have difficulty with critical thinking and this has already helped a lot. Much of it is to do with confidence and it's nice to see that acknowledged and a structured approach suggested to deal with that. The ideas of separate and connected knowing makes a lot of sense and it's really reassuring to read that other people find it to be like a foreign language.

RELOs 1 and 2 have attracted the majority of attention, largely because they were the most complete when posted. Feedback continues to come in, however.

Interestingly, the discussion revolving around RELO 1 eventually inspired one student to work on a dissertation on iconography.

Third, we initiated and followed-through Oxford Brookes's registration as a contributor to JORUM, a JISC-funded collaborative venture in UK Higher and Further Education (H and FE) to collect and share learning and teaching materials. JORUM is a free online repository service, akin to an electronic library catalogue. With the help of the JORUM staff we have uploaded our first two RELOs and made them publicly available not only to those working in our subject discipline, but to any others. The JORUM cataloguing system has resulted in us placing our RELOs in a subject-specific area. However, the associated metadata, including key words, a description of each RELO, and more, will hopefully allow others to find, explore and use our work. JORUM also invites comment from users of each RELO; while thus far none has been received, this is a useful feedback mechanism.

Fourth, we presented five RELOs at the annual Higher Education Academy conference held in Nottingham in July 2006. Here, delegates were invited to engage with both the thinking behind the RELOs and with the finished products themselves. Feedback was positive. Delegates attended from a variety of backgrounds and disciplines and much discussion revolved around the RELOs' reusability in these other contexts. One delegate was excited at the Holy Communion RELO since he was a lecturer in dance, and foresaw a real use not only for the RELO itself, but also for

JORUM as a centralised means of accessing such resources. We also presented our findings at a subject specialist conference on Theology and Religious Studies at Oxford University. Again, the project was received with great interest and the potential of RELOs for the future of the discipline provoked very interesting debate.

VI. Final comments

As the project approaches its end, we are in a position to evaluate the variety of dimensions embedded within it, not least with reference to the feedback provided. Almost without exception, the most significant contribution of our work, not only to the subject discipline of TRS but also to the wider educational world, was our identification of RELO characteristics which we then used to guide our design of each RELO and to evaluate the extent to which we had genuinely created a reusable electronic learning object. Now, as we continue to develop our distance learning programmes and consider how to make increasing use of the electronic domain, RELOs are high on the agenda, although we continue to wrestle, in particular, with how to heighten the electronic effectiveness while maintaining an appropriately high standard of delivering material traditionally presented textually. A second grant from the Subject Centre for PRS is allowing us to expand further, and we have plans to explore the issues already raised by writing and designing an academic journal paper in RELO style, create a range of multimedia RELOs, and work at constructing an interactive self-study RELO that will help students focus on technicalities in essay writing such as referencing and formatting.

This has been a steep learning curve for us both. We started out as complete novices in virtually every area: definitions of learning objects, knowledge of how to transform a word document into an electronic format (we used a very simple mark-up programme called 'Course Genie'), how RELOs might subsequently be used. We continue as novices, in some ways, but with a much greater understanding of the whys and hows. If one spin-off of this report is that it encourages others to put a toe in the water, then we will have achieved much more.

Our RELOs can be accessed through JORUM at <http://www.jorum.ac.uk> > Library > JACS > Historical and Philosophical Studies > Theology and Religious Studies, where they reside in splendid isolation. Your institution needs to register with JORUM, but once done, please pop in and leave us feedback. Thank you.

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