



X4L Review

Final Report

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Executive Summary

Purpose of the Review

The purpose of the review was to:

- Enable the X4L Advisory Board to review progress in the area of repurposing learning materials
- Explore whether further activity is needed
- Propose priority areas for future work if appropriate.

Use of JISC and Other National Content

Most projects are using some content from the list of sources in Appendix B of the Call for Proposals. In some cases they're not using much, but they've made an effort and most have found something. The most popular sources are NLN (6 projects) and SCRAN (5 projects). Projects that aren't using content from the list have valid reasons relating to the focus of the project and their selection criteria. The main reasons for not using these sources for the project are the subject coverage, level, and availability (some sources require a paid subscription). However, projects did feel that the sources could be useful for learning and teaching, but more so for HE than FE. The level was often too high for FE (content and language), they have an academic rather than vocational feel, and FE institutions are less likely to subscribe than HE.

Intellectual Property

All projects are gaining experience with IPR, e.g. learning what it is, asking for permission to use third-party content, understanding what repurposing you can do within the law or the permission granted, and keeping records. Many have opted to use content pre-cleared for educational use and would like more sources of this type. Overall, they have found individual permissions difficult and time consuming, e.g. tracking down content owners, chasing those who don't respond, and developing work-arounds if the owner doesn't grant the permission needed. Most don't foresee IPR issues associated with making their learning objects (LOs) available via JORUM, though some will need to go back and get further permission. Most feel that there's need for more awareness of IPR, especially in FE, and practical guidance for teachers.

Progress on Repurposing

X4L projects are focusing on the basics of repurposing – planning the design and content of LOs, using tools to create and 'package' them, assigning metadata, putting them on VLEs, using them in the classroom, and evaluating the results. They're focusing on the steps in the process and how to do each one well. Most feel that repurposing will be worthwhile in the long term and there will be important benefits for teachers, e.g. less reinventing the wheel, having more content to choose from, improving the quality of the learning experience, and catering to different learning styles. Areas where they feel more work is needed include making the whole process easier, learning design and pedagogic issues, and flexible design of LOs to maximise the potential for reuse.

Cultural Change

There are several areas where cultural change may occur or where change is needed to support repurposing. Teachers must be willing to share their learning materials. For repurposing to become mainstream, it needs to be embedded in institutions and part of their educational strategies. Embedding will involve understanding how to cascade knowledge from 'pioneers' like those involved in X4L to others, and facilitating it. Repurposing could stimulate cultural change in teaching and learning, as teachers have to rethink how they deliver their courses and focus on how to improve the quality of the learning experience. There isn't much evidence of cultural change so far, but X4L has a year to go, and evidence may come out of the evaluations in progress. However, a number of projects said they had seen change at their institution as a result of the project. Understanding how change occurs at one institution may help to understand how to stimulate change on a wider basis.

Technical Issues

Most projects have or will test their LOs in VLEs, but typically this is practical testing to make sure that the LO uploads and works correctly. A few projects have or plan to test their LOs in more than one VLE, but again this is likely to be short practical tests to see if a LO created in one works OK in another. Only one project is doing more detailed VLE testing.

Projects have attended workshops to learn about the Strand B tools IntraLibrary, Xtensis, RELOAD, and TOIA. Overall, they've taken a practical view – test out the tool and use it within the project if it's relevant. Some did more detailed testing and wrote reports. Most have tested IntraLibrary or Xtensis, and will use (or have used) one of them to upload their LOs to JORUM. Most have also tested RELOAD, and used it within their project where a content packaging tool was needed. IntraLibrary and RELOAD have been well received, and several projects said that RELOAD will be an excellent outcome of X4L. TOIA has only been tested by a few projects, partly due to its timing, and partly because only some projects are dealing with online assessment.

JORUM

When JORUM opens for business, it will need some critical mass of content. The review indicates that X4L projects will generate at least 585 LOs and 125 case studies, but the LOs are likely to be heterogeneous in terms of granularity, subject focus, level, and perhaps quality. Projects didn't feel that quantity was the answer or that a follow-on X4L programme would be the best way to populate JORUM. To be successful, JORUM should provide one-stop shopping, focus on quality for its own LOs, and be easy to use. Collaborating with local, regional, and other national repositories was the most popular suggestion – using the portal approach to enable users to find what's in JORUM along with what's available elsewhere. And having a good business plan to position JORUM, develop critical mass, and manage expectations. If JORUM is good and teachers can be inspired by the potential of reuse, then the community should populate JORUM.

Recommendations for a Follow-on Programme

The current X4L programme has focused on using tools to develop LOs in a variety of educational settings for a variety of courses and learners. This will result in about 585 LOs for JORUM and 125 case studies documenting what the various institutions did. The *Staff Development Cookbook* will build on this, summarising best practice and offering 'how to' guidance. The *Cookbook* and the JORUM repository containing the LOs and case studies will be useful, but they probably won't be enough to stimulate repurposing to take off and become a mainstream part of e-learning.

A follow-on programme would be an opportunity to build on what X4L has done on repurposing and extend this to *reuse*, focusing on a single joined-up process. It would also be an opportunity to explore issues associated with buy-in and embedding at an individual and institutional level:

- **Develop practical models for repurposing and reuse of learning materials in FE and HE** – Models for easy-to-use joined-up processes for repurposing and reuse (involving JORUM), that work in different institutional settings and result in well-designed and flexible LOs. Design of LOs could also be explored and models developed to maximise the potential for reuse.
- **Clarify roles in the process** – As the repurposing process evolves, roles may change; and as a process for reuse emerges, so will new roles. Clarify who does what, who needs what staff development, explore the role of librarians in resource discovery, and develop models for cascading knowledge and enthusiasm within and across institutions.
- **Quantify the benefits of repurposing and reuse in e-learning** – For repurposing and reuse to take off, there need to be clear benefits at an individual and institution level. Identify the benefits (pedagogical or otherwise), consider the investment, learning curve, payback, and assess the cost-benefit. This is important to demonstrate sustainability.
- **Inspire teachers to populate JORUM** – Demonstrate the potential of repurposing and reuse to teachers; show them by example using a range of really good learning materials created by repurposing, how they were used in courses, and how it turned out. Build on the expertise developed in X4L and commission excellent examples in a range of subject areas. If they're effective, teachers will populate JORUM.
- **Develop publisher models for repurposing** – A UK Creative Commons will be important, but is unlikely to transfer to commercial publishers. Approach PALS – the JISC collaboration with UK publishers – and invite their publishers to contribute limited content (e.g. from e-books) to a follow-on X4L programme to explore the issues and develop a model repurposing license.

Part 1 – Results of the Review

1. Introduction

1.1 Purpose of the Review

Exchange for Learning (X4L) is a three-year JISC development programme to:

- Use and develop the best available tools to explore whether repurposing content can become a popular, sustainable way of producing e-learning materials for the future
- Increase the numbers of people in institutions with the necessary skills to repurpose learning objects
- Expose and begin to tackle the challenges associated with repurposing learning objects
- Begin to populate a national repository with repurposable learning materials, case studies, and exemplars.

The purpose of the X4L review as outlined in the ITT was to:

- Enable the X4L Advisory Board to review progress in the area of repurposing learning materials
- Explore whether further activity is needed
- Propose priority areas for future work if appropriate.

The X4L programme started in June 2002 and will end in August 2005. The review was scheduled in May/June 2004, i.e. two years into the programme and a year before it ends. A review of two years work would allow a reasonable assessment of what the programme was achieving. It would give the programme Advisory Board time to consider whether there was need for a follow-on programme and what this might cover. With a year left, it would also allow them to think about the last year of the programme and do any fine tuning.

The ITT listed specific questions listed that the review should answer:

- Is there any evidence from projects that repurposing is worthwhile and helping to foster cultural change in the community?
- Have projects revealed the need for other activities that are required to be undertaken in conjunction with repurposing to bring about cultural change? If so, what else is needed?
- Are the current projects exploring sufficiently the issues of repurposing of JISC-funded content and content created by other public bodies and agencies active in this area? If not, what are the reasons for this?
- To what extent have they made judgements about the usefulness for learning and teaching of the resources listed in Appendix B of the Call for Proposals?
- To what extent have partnerships with owners or suppliers of relevant content been explored/formed?
- Are the current projects exploring the potential for exchange and repurposing of learning materials produced within the programme?
- To what extent has the issue of IPR been tackled by projects?
- To what extent have materials been tested for use within and across VLEs and local repository systems?
- To what extent have the Strand B tools been tested by Strand A projects?
- Is more repurposing activity needed in order to continue to populate the JORUM repository?

1.2 Approach for the Research

The review was conducted over a period of 8 weeks and the work plan agreed with the X4L programme manager, Susan Eales. We agreed that the review would focus on the Strand A projects engaged in repurposing content. The programme has made other arrangements to review the Strand B tools and carry them forward.

The overall approach followed was to:

- Review project and programme documentation to understand aims, objectives, plans, etc
- Interview 'experts' within the programme to get their top-down view of repurposing, the programme, what it was achieving, and their views on the future
- Interview projects to get their bottom-up view of the same issues from their own perspective.

This approach was chosen to collect qualitative data across the programme in a systematic way. Interviews were the best way to get views, explore issues, and tease out what people felt strongly about in a short timeframe.

Early in the project, the programme 'experts' were interviewed. In most cases, face to face interviews were conducted, typically lasting 2-3 hours. Experts interviewed were:

- Susan Eales, X4L programme manager
- Mark Stiles, member of the X4L Advisory Board, Chair of the Wales and Midlands Cluster, and project manager of the SURF X4L project
- Mark Power, CETIS project support
- Jackie Carter, Project Leader, JORUM and Moira Massey, Project Manager, JORUM
- Margaret Markland, EDNER+ project conducting the formative evaluation of the JISC IE programmes.

Before projects were interviewed, a large amount of project documentation was reviewed. This included project plans, bi-annual project reports, project web sites, project outputs (where available on their web sites), minutes of Advisory Board and cluster meetings, and archives of JISC mailing lists for the projects, clusters, and Advisory Board. This was essential so that interviews could focus on the issues outlined in the ITT, what projects were learning, and their views on the future.

Each project was contacted by email and a phone interview was scheduled. Each project was sent a list of questions before the interview (Appendix 1) so they knew what would be covered and could prepare. Each phone interview lasted 1-1.5 hours.

Of the 23 Strand A projects, 21 were interviewed. It was agreed in advance with the programme manager that the PILOT project would not be included in the review, and it was not possible to schedule an interview with the remaining project in the timeframe.

1.3 The Report

The report is in two parts. Part 1 gives the results of the review focusing on the interviews with projects. This part reflects their views about progress on repurposing and future priorities. I have tried to summarise the main points they made, and indicate where there are differing views or particularly strong views. Each section starts with the specific questions listed in the ITT for that topic and concludes with my answer.

Part 2 is a discussion of the results with recommendations. Having listened to what the projects and experts have said, the recommendations reflect my own views on priorities for a follow-on programme. There are also some recommendations that could be implemented separately from a new programme.

Where quantitative data was collected that may be useful to the programme, it has been presented in appendixes at the end. For example, there are appendixes covering use of the Strand B tools, testing in VLEs, and project outputs. These are discussed in the report.

During the interviews, each project was invited to make one recommendation of their own to the X4L Advisory Board. These are listed in Appendix 4.

2. Content

Questions for the Review:

- *Are the current projects exploring sufficiently the issues of repurposing of JISC-funded content and content created by other public bodies and agencies active in this area? If not, what are the reasons for this?*
- *To what extent have they made judgements about the usefulness for learning and teaching of the resources listed in Appendix B of the Call for Proposals?*

2.1 Approaches for Content Selection

There seemed to be three overall approaches for selecting content:

- The project knew from the start what content they would use, and this was part of the project bid.
- The bid focused more on the type of LOs the project would create or repurposing issues they would address. Selection of specific content sources was left until the project started.
- The project aimed to identify a range of sources that could be useful for teachers, but they left the final choice of content to the teachers.

Projects that adopted the last two approaches needed a resource discovery phase within the project. Projects that adopted the first approach may also have engaged in resource discovery, e.g. because the source they planned to use didn't work out, or they feared it might not and wanted a back-up. If the source(s) they had selected weren't on the JISC list, there may also have been some pressure to engage in resource discovery to add some from the list.

2.2 Resource Discovery

I would estimate that about half of the projects had some experience in resource discovery and approached it in a logical and systematic way. Those with little experience found it difficult, and all projects found it time consuming. Less experienced projects didn't know how long it would take, may have left it late in the project, and not allowed enough time. The approach most commonly described was that of 'trawling through the resources' to find something that could be useful. If they had asked their librarian to help, the process could have been easier and more effective. Two projects mentioned that Susan Eales suggested this to them and they were very pleased with the results.

The problems most frequently encountered with resource discovery were:

- Working from the Appendix B list was difficult, as they had to look at source each in turn. They wanted a front end to *all* the sources. They're used to using Google.
- If the URL wasn't on the list, it was difficult to find the source. There may have been a link to it somewhere on the JISC web site, but they couldn't find it.
- For a content source that requires a paid subscription, you need a subscription to view it. Some offer short free trials, but these aren't long enough to decide to purchase it.
- Some projects didn't understand the difference between primary sources that contained content (e.g. images, e-books, data) and gateway services (e.g. the RDNs).
- Once within a source, they found it difficult to browse and search effectively to find something relevant.
- Gateways were time consuming to explore and led them down cul de sacs.

Overall, those who attempted resource discovery with little previous experience or guidance found it difficult and time consuming. But experience wasn't the only factor. The content had to be useful and relevant for their particular course. This meant working with teachers who 'knew what they wanted' and finding content suitable for the purpose.

2.3 Selection Criteria

Most projects 'knew what they wanted' or were working with teachers that did; they simply found it difficult to find. Projects interviewed were asked if they had developed selection criteria. About half said they had, and these included:

- **Topic** – The content must be relevant to the topic(s) they had selected.
- **Level** – The content must be appropriate for their target group of learners. Depending on the project, this could mean suitable for both FE and HE, FE, or FE at a particular level. If the content isn't at the right level, it may need to be edited.
- **Relevance** to the curriculum (in FE).
- **Type of material** – An image, animation, map, etc.
- **Suitability for learning and teaching** – It has to do what the teacher wants in the context of the learning experience, e.g. engage learners, illustrate a point they want to make, allow flexibility for use in different ways.
- **Quality**
- **IPR** – Ideally it should be cleared for educational use, or it should be clear who owns it and should be approached for permission to use it.

2.4 Use of Sources on the JISC List

Projects interviewed were asked which sources they used and on the Appendix B list (as updated over the course of the programme). Nine sources on the list were used by one project each. Sources used by more than one project are listed below:

- NLN – 6 projects
- SCRAN – 5 projects
- Education Image Gallery – 2 projects (another is considering it)
- Literature Online (LION) – 2 projects
- BBC Skillswise – 2 projects.

These figures should be taken with a grain of salt. Firstly, some projects have another year to run and may still be looking for content for additional LOs. Secondly, project managers couldn't always say what sources on the list had been used, e.g. where content was selected by teachers rather than the project. Thirdly, I haven't included the RDN gateways on the list, as typically these were used in resource discovery, not as sources themselves.

In all, 14 projects have found some content from the list, and a further three are still considering it and say they may. Only five said they weren't using content from the list, two because the project is to repurpose their own content (Maps and Learner Guides, RDN for FE), two because the type of content isn't relevant (ALBEDA, LawPaths), and one because the content was provided by their project partner (Retasking). The projects have made a good effort to find content from the list, but in many cases it wasn't very much. Some preferred sources not on the list that had a better fit with their selection criteria. Considering what all projects said about selecting from the list for *their* project, the main reasons for *not* using the sources were:

- **Topic** – Their project was on a specific topic not covered by sources on the list.
- **Level** – Projects creating LOs for FE found the sources more suitable for HE, e.g. in terms of difficulty or language.
- **Suitability for learning and teaching** – Some of the sources were described as 'too academic'. They often preferred to get materials direct from other teachers, as they were created for learning and teaching.
- **Availability** – Some would not use subscription sources if they (or their consortium partners) did not already subscribe.
- **Relevance** – They found better content elsewhere and preferred not to select from a list 'because it's there'.

Of these factors, availability seemed to cause the most angst. Many projects decided not to use subscription sources for one or more of the following reasons:

- If you don't subscribe to a source, it's difficult to know what it contains.
- Some subscription sources may be available for a free trial. However, the timeframe offered may not be convenient or long enough.
- For a project with multiple partners, it's difficult unless all partners subscribe.

- Decisions about subscriptions should be made before a bid is placed. Once the project budget is agreed, it's not possible to find the funds later.
- An institution should subscribe to a source because it's generally useful, not just because it's needed for a project.
- If a subscription is needed to access a source, this will limit the users who can access the LO, either during the project, or later when it's available in JORUM.
- Projects felt that FE institutions would not already have subscriptions to these sources.

2.5 Usefulness for Learning and Teaching

Projects were asked if they felt that the sources on the list were *generally* useful for learning and teaching. This meant a general assessment of usefulness, quite apart from their own reasons for selecting them for their own project. Overall, most projects thought sources on the list could be useful for learning and teaching, but more so for HE than FE.

JISC Sources:

- **Level** – Most felt that they were aimed at HE and much less suitable for FE. Some could be used in FE, but only Levels 3 and above. They have an academic rather than vocational feel. To use them for FE you would need to 'dumb them down'.
- **Availability** – FE is less likely to have subscriptions to these sources.
- **IPR status** – It's important to know if the source has been cleared for educational use and whom to approach for permissions.

NLN materials:

- **Too chunky** – They tend to be complete learning units 20-30 minutes long, so not suitable in all situations.
- **Level** – Within FE, they tend to be low level (Levels 1-2).
- **Disaggregation** – Some projects said NLN materials couldn't be easily disaggregated. This was true of Round 1 LOs, but most in Rounds 2 and 3 can be. NLN is now supportive of disaggregation, is providing workshops on customisation, and recommending RELOAD.
- **Not available to HE** – A disadvantage for consortia involving HE and FE partners.
- **Availability** – They are available in England, Scotland, and Northern Ireland, but not in Wales.

Difficulties in Using the List

As noted above, many projects found resource discovery difficult. Several projects made suggestions about how the list could be improved:

- **Content** – Indicate the type of content sources contain, e.g. text, images, etc.
- **Organisation** – Organise the list by subject or IPR status.
- **Type of source** – Distinguish between content sources and gateways.
- **IPR status** – Indicate which sources have been cleared for educational repurposing and which need specific permission, e.g. using a green/amber/red traffic light approach.

Responses to the Questions:

Are the current projects exploring sufficiently the issues of repurposing of JISC-funded content and content created by other public bodies and agencies active in this area? If not, what are the reasons for this?

This is a difficult question to answer, but most seem to be. Seventeen of the 22 projects are using sources from the list or are still considering it. In some cases they're not using much, but they've made an effort and have found something. Those that are not using content from the list have valid reasons relating to the focus of the project and their selection criteria. They want content that 'does the job' in the context of their project and the educational context where it will be used, and the list isn't the best starting point. As one project put it, "I want content because it's good, not because it's there". Most found resource discovery difficult. For some this was due to inexperience. However, it also reflects the fact that resource discovery tools aren't designed to tell them what they want to know,

e.g. academic level, type of content (image, animation), availability (free or subscription), and IPR status.

To what extent have they made judgements about the usefulness for learning and teaching of the resources listed in Appendix B of the Call for Proposals?

Overall projects felt that the JISC sources might be useful for HE, but not for FE. The level is too high (content and language), they have an academic rather than educational feel, and FE is unlikely to subscribe. To use them for FE, you would have to 'dumb them down'. NLN materials are obviously designed for learning and teaching, but only for FE, and then only at some levels. Some found them too 'chunky' and others noted restrictions on use, e.g. not available to HE and not available in Wales.

3. Intellectual Property

Questions for the Review:

- *To what extent has the issue of IPR been tackled by projects?*
- *To what extent have partnerships with owners or suppliers of relevant content been explored/formed?*

3.1 Tackling IPR

All projects are getting experience with IPR. Issues mentioned were:

- Finding out what IPR is
- Making sure project participants stay within the law
- Asking permission to use third-party sources
- Understanding what repurposing you can do with your content within the law and the permissions you've been granted
- Acknowledging third-party content appropriately in the LO
- Chasing up permissions and working around it if you can't get the permission you need
- Keeping records of permissions granted, e.g. in a file or database
- Getting any necessary releases to make the LO available in JORUM.

Learning about IPR

Most projects didn't know much about IPR and would have liked more guidance at the start of the programme, e.g. a short guide to explain when they needed to ask for permissions, what rights to ask for, and how to approach the author. Most attended a JISC IPR workshop and found it useful, but some also found it intimidating. Legal experts tend to say 'consider these issues' or 'here's a scenario', rather than give straight practical advice. They can also get into complex areas like warranties and liabilities.

Overall Approach

Almost all projects used third-party content and had to deal with IPR. Though perhaps an over-simplification, they seemed to take one of the following approaches:

- Face the music – Decide on the content you want, and get permissions for any third-party materials
- Use content pre-cleared for educational use – Minimise the need to ask for permissions
- Link to web sites – Again, minimise the need to ask for permission
- Leave it to the teachers – Let them decide on the content they want and clear their own permissions.

IPR considerations were linked to resource discovery and selection criteria. They wanted the best content to 'do the job', but minimise the time spent on admin associated with permissions. The short projects that started and finished early typically took the 'face the music' approach. In the short timeframe, they didn't have time to ponder about IPR. They had to be pragmatic and get on with asking for permissions. Three-year projects had longer to think about IPR and consider their approach. Susan Eales let them know about content sources pre-cleared for educational use, and this was appreciated by many. JISC has leverage that individual projects don't have.

Getting Permissions

Each project handled permissions in its own way. Susan Eales circulated a letter to content providers in support of the programme. Some projects sent out their own letters attaching Susan's. Others opted for a more informal approach by phone or email. This was useful when approaching academic authors. It started a dialogue with the author about what the project wanted and why, and then things could be firmed up. Some projects enlisted the help of Susan Eales in getting permissions, particularly when a formal license was involved. All appreciated her advice and guidance, and any direct assistance in negotiations.

Problems Encountered

Most projects have asked for some third-party permissions, and most have found it difficult and time consuming. Problems encountered included the following:

- It's often difficult to find out who actually owns the content you want to use
- It's also difficult to know whom to approach
- In the case of academics, the content may be owned by their institution
- The author/owner may not respond, particularly if it's a commercial company
- Unaccountably the UK Copyright Licensing Agency Rapid Clearance Service (CLARCS) never responded to one project
- The author may not want you to repurpose the content. They may allow you to link to it, but not change it or include it in the LO
- If you can't get the permission you want; you may have to work around it and create your own similar content.

Authors/publisher not responding or not granting the permissions needed seemed to be the worst problems.

Permission for JORUM

The precise permissions requested varied per project, but most foresaw no IPR problems with making the LOs available in JORUM. Appendix 3 gives a brief summary of the outputs envisaged and the likely outcome for JORUM. However, the interviews were brief, and project managers didn't have their permission files in front of them. Four projects said they thought further permissions would be needed to make the LOs available in JORUM. (Three had only asked for permission for the project, and one hadn't yet asked for permission to repurpose.) One project (ACETS) said they would only make their exemplars available in JORUM, as their teachers would not give permission for the LOs.

3.2 Partnerships

The X4L Call for Proposals suggested that partnership arrangements could be an excellent way of addressing IPR issues with publishers collaboratively. Two projects explored partnerships with publishers, naming them as partners in their bids:

- X4L Music – Macmillan, publishers of *Grove Dictionary of Music Online*
- SURF X4L – BBC, publishers of *Skillswise*.

Unfortunately neither worked out as a true partnership. In the case of X4L Music, Macmillan sold *Grove Online* to Oxford University Press. OUP didn't share Macmillan's commitment to the project and would not allow the project to include its text, images, and audio in the LOs; they only allowed the project to embed links to the online source. As only subscribers to *Grove Online* can follow the links, the project had to create alternative versions of the LOs for non-subscribers using other content. In the case of SURF X4L, the BBC eventually gave permission for the project to use *Skillswise*, but negotiations took two years.

Three other projects had relationships with content owners worth mentioning. They weren't true partnerships, but were more than just signing an agreement:

- Business English – Biz/ed has had some involvement in the project. They reviewed the LOs, gave the project feedback, and approved the final versions.

- L2L – The project worked closely with several content owners to get permissions. The closest to a ‘partnership’ is with Mantex, a small company that publishes materials on study skills. L2L will provide them with information on how the materials are used.
- Retasking – The project used content on key skills from their technical partner Teknical that were developed for delivery in their VLE Virtual Campus. In a sense it was a partnership, but with a technical partner rather than a publisher.

3.3 Further Work on IPR

Almost all projects felt that further work is needed on IPR, and the most frequent suggestions are summarised below.

Greater Awareness of IPR

Most projects felt there needs to be greater awareness of IPR and its implications for learning and teaching, particularly in the FE sector. There’s a perception that ‘cribbing’ from others has been commonplace in the world of paper. A teacher may copy text or an image from a book and put them in a handout for classroom use. No permissions are asked and no acknowledgements are made. When the handout is shared with colleagues, eventually no one knows where the content came from.

This behaviour may be naive and the effect benign, but it’s still illegal. If the same activities are translated into an electronic context, the consequences could be serious and result in legal action. Projects are in favour of sharing, but this needs to be done with an understanding of what repurposing is and an understanding of the principles of IPR. Many projects said that awareness raising needs to get the message to the chalk face.

Practical Advice for Teachers

Most projects stressed the need for practical and responsible advice, both for projects and practitioners – simple guidelines to follow. They need to know when to ask for permission, what permission to ask for, and have sample letters to use. Projects know that John Casey is working on a handout on IPR with the JISC Legal Service, but they haven’t seen it yet. This could fill the gap.

Projects that attended a JISC IPR workshop felt it was useful, but perhaps not as practical as they would have liked. Perhaps lawyers aren’t the best people to offer practical advice. An event or guidelines should tell them what to do and the consequences of not staying within the law, so they feel they have the knowledge and the confidence to deal with IPR. If it’s presented as a complex and difficult area with many legal grey areas, they may not even try.

Collections Cleared for Educational Use

Projects would like more collections cleared for educational use. This is hardly surprising. They would also like JISC to act as a broker. JISC has leverage and can clear permission for an entire source. This makes more sense than asking each project or institution to send letters for each image or video clip they want to use.

They would also like a list of the sources that have been cleared for educational use. One problem they had with Appendix B of the X4L Call for Proposals was that it was simply a list of electronic sources. One project suggested flagging the sources green/amber/red to reflect their IPR status, e.g. green sources could be used for repurposing, amber sources might have some restrictions, and red sources need specific permission in writing.

Repository Licenses

Most projects noted the importance of a JORUM depositors’ license, the UK Creative Commons initiative, and the concept of ‘Share Alike’. As the projects will upload their LOs to JORUM, they need to know that there will be a well-planned system for deposit and digital rights management. Projects aren’t directly involved, so they don’t know the details, but understand the gist of what’s going on from the JISC email lists. Comments made included the following:

- They hope the JORUM license wouldn’t be so long and complex that institutions are reluctant to sign it.
- Most projects have permissions for some third-party content. The JORUM license must cater for this.

- There's uncertainty about whether Creative Commons will cross over to the commercial publishing sector.

Responses to the Questions:

To what extent has the issue of IPR been tackled by projects?

All projects are gaining experience with IPR, e.g. learning what it is a, asking for permission to use third-party content, understanding what repurposing you can do within the law or with the permission granted, and keeping records. Many have opted to use content pre-cleared for educational use and would like more sources of this type. Overall, they have found individual permissions difficult and time consuming, e.g. tracking down content owners, chasing those who don't respond, and developing work-arounds if the owner doesn't grant the permission needed. Most don't foresee IPR issues associated with making their LOs available via JORUM, though some will need to go back and get further permission. Most feel that there's need for more awareness of IPR, especially in FE, and practical guidance for teachers (John Casey's guide to IPR may be helpful).

To what extent have partnerships with owners or suppliers of relevant content been explored/formed?

Two projects explored a partnership with publishers for content they planned to use, naming them in the bid. In the end they didn't work out to be true partnerships as envisaged. Three other projects are working closely with content owners, though it's not a real partnership.

4. Repurposing

Questions for the Review:

- *Is there any evidence from the projects that repurposing is worthwhile and helping to foster cultural change?*
- *Are the current projects exploring the potential for exchange and repurposing of learning materials produced within the programme?*

4.1 Is Repurposing Worthwhile

I thought it would be useful to make a distinction between the issues of whether repurposing is worthwhile and cultural change. Projects interviewed were therefore asked, *"Based on your work to date, do you feel that repurposing is worthwhile and will have real benefits for teachers, learners, and/or their institutions?"*

Overall the X4L projects do think that repurposing is (or will be) worthwhile. Of the 20 that responded, most said yes, and none said no:

- Yes – 13
- I think so – 4
- I hope so – 1
- I don't know – 2

Those who thought it was worthwhile gave examples of the value or benefits. However, a few also expressed reservations, typically related to how you define 'worthwhile', and if that's all that's needed. A selection of the responses reflecting all points of view is below. Arguably many of the benefits listed for learners are simply the benefits of e-learning. However, I think the point that most were making is that repurposing allows you to present the same content in different ways and cater to different types of learners.

Caveats

- Repurposing is worthwhile, but it's too early to say if it's *workable*. There's no critical mass. It's dangerous to sell digital repositories with a handful of LOs. Teachers need to see the benefits immediately. There must be lots of material and it must be easy to use. If they come and are disappointed, they won't return.
- Repurposing needs to be more than worthwhile, it needs to be *beneficial*.

- I'm not sure it is worthwhile. It's really down to the teacher to find sources they feel comfortable with, that work in their tutorials. They don't necessarily want to repurpose LOs that have already been created.
- It's useful to think about whether *e-learning* is worthwhile. VLEs have been around for years, and e-learning hasn't taken off. We need to understand the reasons for inertia. There may be implications for repurposing.

Benefits for Teachers

- There's less reinventing the wheel. If you create something that's reusable, the teacher who uses it doesn't need to start from scratch.
- It gives teachers a wider range of content to choose from.
- It allows them to develop different learning strategies for different types of students, cater for different learning styles, or reinforce what the student has learned.
- In the long term, it should save teachers time.
- In FE there's often need to put together a course on short notice. Repurposing could allow this to be done more easily.
- It makes better use of existing resources.
- It empowers teachers to be more creative and provide a better learning experience.
- It may not change how people teach, but it may provide more choice.

Benefits for Learners

- Some learners are difficult to teach, and e-learning can make learning more varied and interesting, engage them.
- Repurposing isn't just for teachers. It can be a learning activity for students, help them to learn and to share what they've learned.
- If a learner is absent from class, s/he can still get the material online.
- It can help shy learners progress online.
- It can allow them to learn at their own pace.
- It can provide a *better* learning experience.
- It provides flexibility in terms of delivery and how they study.
- They can learn any time, anywhere.
- There are benefits for bright learners as well as slow learners. The bright ones can use repurposing to do a bit extra at the end of the course, help them to progress.

Benefits for Institutions

- If learners are engaged, more will complete the course.
- Perhaps help with student retention, though this is difficult to quantify.
- Enhance the institution's reputation, attract more or better students.

JISC and Funding Bodies

- Reuse of publicly funded materials makes sense.
- Maximise use of JISC content.

4.2 Lessons Being Learned

I asked about this to get a sense of what the projects felt they were achieving. Below is a selection of their views. About half the points were mentioned by more than one project, and half are unique comments. Different projects are learning different things, and their views aren't necessarily consistent. This is useful to identify issues that merit further exploration.

Overall, these comments reflect that the X4L projects are learning a great deal about the steps involved in repurposing and what each step involves. Having done something once, they're thinking about how to do it better, more easily, and who should really be doing it.

General

- Consult with students and teachers, involve them from the start. They need to have ownership.
- Don't get bogged down in the definition of repurposing.

Expectations

- Repurposing is difficult – complex, labour intensive, time consuming, and esoteric skills are needed.
- Developing LOs that are flexible and can be reused by others is not as easy as first anticipated.
- Repurposing hasn't really reduced the teacher's workload, but it means that we teach and students learn in different ways than previously.

Staff Development

- Make it easy to start easy. Give staff simple guidelines that tell them what they need to know. They don't need to know about interoperability.
- Teachers need to understand what repurposing is. You may know, but they don't.
- It's difficult for teachers to get their heads around the language. They didn't understand 'learning object' as it's very close to 'learning objective' (which they do understand). Also terms like 'repurposing' and 'repository'.

Roles

- There's no substitute for the curriculum practitioner becoming involved. Perhaps technical staff and the practitioner should both be involved, but the practitioner is essential.
- Teachers want to create LOs, or at least tinker with them. There should be a simple tool they can use if they want.
- Teachers will need support for repurposing, from JORUM, other JISC services, or within the institution.

Pedagogy

- It's not the LO that's important, but what you do with it, the pedagogical context.
- Encoding pedagogic intent may provide an opportunity for teachers to examine and improve their professional practice.
- Repurposing has helped teachers to understand what learners do.

Sharing

- It's important to create online communities of interest to share experience and share resources.
- We share handouts (in FE), so we should be able to share online. But base it on the pedagogy that happens in the classroom (this won't change much).

Content

- Resource discovery is difficult and it's time consuming to find the content.
- Distinguish between content sources and gateways. You repurpose content, and a gateway can help you find it.
- It's restrictive to focus on the JISC list.
- It's difficult to produce LOs from existing materials that weren't designed with reuse in mind.

Design

- We really need a common template. Every LO in JORUM will have a different look and feel. If you grab a few and put them together, they will work and behave differently. We need a more joined-up approach to create a seamless learning activity.
- Templates are great if you've got a skilled developer and a production environment. They're not great for practitioners. You need tools that teachers can use on their own.
- Repurposing isn't just about repurposing content. It's about designing LOs so they're *reusable*, the LO itself, its component parts, the design, the template, etc.
- Granularity is essential for reusability.
- You need a packaging strategy that allows you to aggregate and disaggregate.
- Teachers like learning materials that others have created, but there seem to be two schools of thought. Some will use them as is, and others want to be able to customise them. You need to strike a balance.
- Build in accessibility from the start.
- Create the LOs and then do the metadata.
- VLEs may limit what you can do on design.

Tools

- It's great to have a tool like RELOAD to pull things together quickly.
- Having tools is great, but perhaps more thought is needed about who will use them and what technical skills they will need.
- Many colleges buy expensive proprietary tools to create LOs. Our experience with non-proprietary tools like RELOAD has been positive.

Metadata

- Metadata is difficult. It's important that it doesn't end up being a barrier.
- You need to choose standards and stick to them. It's difficult to change half way through a project.

4.3 Exchange within the Programme

Learning Materials

Projects interviewed were asked if they had considered the potential for exchange and repurposing of learning materials produced within the programme. Overall the response was no. None of the projects have used the LOs of others within their project, though two have done technical testing of LOs created by other projects. The main reason given for not exchanging LOs within the programme was that it wasn't part of their project plan. If there had been a requirement, they might have built it in.

- Completed projects – They have finished, so it isn't an option. For short projects that finished early, there wouldn't have been any LOs to exchange anyway.
- Projects finishing soon e.g. July – They are focusing on completing the project work and wouldn't want to build it in at this stage.
- Projects finishing next year – For the 7 projects that finish in 2005, 4 were positive, 2 were negative, and for one it wasn't relevant (RDN for FE).

The programme isn't over, and four projects (L2L, Learning Bank, e-Studio, and X4L Rapid) have expressed interest in exchanging learning materials before their project ends in 2005. For those that were negative (ACETS, LawPaths), the main reason was the subject focus of the project. If other projects aren't creating LOs in similar areas, there's not much scope for exchange. Exchange would also need to have a good fit with the project's aims and how it's set up technically.

Other Project Outputs

Though there hasn't been any reuse of LOs within the programme, most projects seemed quite willing to share and collaborate, and most were already doing so. Some had exchanged templates, metadata, permission letters, reports, etc. As noted above, some had collaborated on testing LOs. Though not all liked cluster meetings, they did like the sharing of experience that goes on there.

4.4 Further Work on Repurposing

Projects interviewed were asked what further work should be done on repurposing, e.g. if there is a follow-on X4L programme. A wide range of suggestions was made. The most popular were:

- **Make it easy** – We have a process and tools; how can we make it all easy to do and more seamless from start to finish?
- **Learning design and pedagogic issues** – We can create LOs; how are they used and how can we improve the learning experience?
- **Design of LOs** – We can create LOs; how can we design them better for more flexible use?
- **Metadata** – We can create metadata; who should create what metadata, within the institution and at JORUM?
- **Reuse** – We can create LOs; how can we reuse them, and how different is reuse from repurposing?

Make it Easy

'Making it easy' was the most frequent suggestion and mentioned by most projects. There were different approaches for making it easy, but the premise was the same – if repurposing is difficult, people won't do it. Most focused on the process. We've got a process, and it works, but you need training and technical skills. It's also not a joined-up process, either with the local VLE or with

JORUM. Some thought is needed about how to join it up, make it more streamlined, and perhaps embed the tools.

Where some focused on the process, others focused on the tools. Their point of view depended to some extent on who they thought would be using them. Those who thought tools like JORUM, RELOAD, and TOIA would be used by technical staff said make them *better*. Those who thought they would (or should) be used by teachers said make them *easier to use*. Some thought there should be new tools specifically for teachers, e.g. an easy to use 'content creator' with some of the features of RELOAD. Others thought there were quite enough tools already, so we should improve what we've got. So there was agreement that repurposing should be easier to do, but how to achieve this depends on who will do it.

Pedagogical Issues

In second place was focusing on the pedagogic aspects of repurposing. X4L has been instrumental in developing basic methods and tools for creating LOs. Before embarking on any large-scale effort to populate JORUM, it will be important to understand how the LOs are actually used, by teachers and by learners. The real benefits of repurposing and reuse are likely to focus on being more creative about learning design and improving the learning experience, not saving time or putting a course together on a day's notice. If we can understand more about how LOs are or could be used to improve the learning experience and the quality of education, we'd be in a better position to investigate design issues.

Design of LOs

Improving the design of LOs came in third place. Projects have touched on aspects of design like granularity, aggregation and disaggregation, use of templates, online assessment, and customisation, but not explored them fully. There was most interest in granularity and aggregation/disaggregation and how these could be used to maximise flexibility and reuse. Effectively ease of use, improving the learning experience, and improving design are all interrelated, and all will be underpinned by an understanding of who will actually engage in repurposing (or reuse) and why.

Metadata

Metadata was also raised. Those who mentioned it felt that the basics had been worked out, but some thought is needed about who assigns it and making this easy enough so it's not a barrier to depositing LOs in JORUM. Some said they would like minimal requirements for authors, and let JORUM do the rest in a systematic way. Others feel that the author is the only true expert. Some said that more work is needed on vocabularies to indicate educational use (or 'pedagogic intent') and perhaps controlled vocabularies for different subject areas. Not everyone is interested in metadata, and most found it difficult area, but good metadata will be the basis of searching for LOs in repositories and finding what you want. For example, if teachers want to find LOs based on how they were or could be used, then metadata on educational use is important.

Reuse

Finally, several made a distinction between repurposing and reuse. X4L has focused on repurposing, but not reuse. The processes for repurposing and reuse may be different. The people who engage in repurposing may be different from those who want to reuse LOs. So it's worthwhile exploring the differences and how they relate to design, how you make things easy, and for whom.

Responses to the Questions:

Is there any evidence from the projects that repurposing is worthwhile and helping to foster cultural change?

Most of the projects do think that repurposing will be worthwhile and will have clear benefits for teachers, e.g. less reinventing the wheel, having more content to choose from, improving the quality of the learning experience, and catering to different learning styles. Similarly, there will be benefits for students, but many of these are benefits simply associated with e-learning. Projects can see the potential, but to be really worthwhile, repurposing has to be easier to do. We also need to understand more about how LOs are used by teachers and learners. If we know more about how they're used, we can improve the design, and this will maximise the potential for reuse.

Are the current projects exploring the potential for exchange and repurposing of learning materials produced within the programme?

There hasn't been any exchange of LOs within X4L for reuse or further repurposing, though two projects have done technical testing of LOs created by others. The main reason given by projects that have finished or are just finishing is that it wasn't in the project plan. For projects that finished in 2003, there wouldn't have been any LOs to share. Of the seven projects that will finish in 2005, four have expressed interest. But most projects are interested in sharing other materials, e.g. guidelines, reports, templates.

5. Cultural Change

Questions for the Review:

- *Is there any evidence from the projects that repurposing is worthwhile and helping to foster cultural change?*
- *Have projects revealed the need for other activities that are required to be undertaken in conjunction with repurposing to bring about cultural change. If so, what else is needed?*

5.1 What Cultural Change Could Occur

Before asking about evidence of cultural change, I thought it would be useful to ask projects what cultural change they thought might occur as a result of repurposing. Responses were varied, and some focused on e-learning generally. Those below relate to repurposing:

- **Sharing** – Teachers are more willing to share their learning materials (most frequent response)
- **Institutional strategies** – Institutions see the value of repurposing and build it into their strategies from the top
- **Cascading** – Knowledge, enthusiasm, and participation is cascaded from 'pioneer' teachers to their colleagues
- **Role of the teacher** – Teachers have the ability and the confidence to repurpose/reuse LOs if they wish to
- **Pedagogy** – Repurposing encourages teachers to rethink how they deliver courses and how to deliver a better learning experience.

Sharing

For repurposing to take off, teachers have to be willing to share their learning materials. Most projects seem to feel that there's more willingness to share in FE than HE, but there's not a lot of experience in either sector. Within FE, teachers may share handouts or photocopies within a department, but sharing of paper hasn't yet translated to sharing of electronic resources, and there's little sharing across institutions. There seems to be even less sharing in HE. There would need to be a cultural shift where sharing is seen as positive thing, there were benefits associated with sharing, and safeguards to prevent misuse. One project described the culture of sharing needed, "Think of sharing like the Internet. It's free but you get out more than you put in."

Institutional Strategies

Repurposing isn't mainstream, and much work is done within funded projects like those in X4L. For repurposing to become mainstream, it needs to be embedded within institutions. Institutions need to see the value of repurposing/reuse and build it into their educational strategies from the top down. More staff need to be involved and have the appropriate skills. This may involve institutional support for staff development, but it will also involve understanding how to cascade knowledge and enthusiasm from the pioneers (e.g. in X4L projects) to their colleagues.

Role of the Teacher

There seem to be two points of view on whether teachers will (or want to) engage in repurposing/reuse directly. Some say that they will, and the development of easy-to-use tools and processes will facilitate this. Teachers want to be independent and autonomous, and not dependent on technical staff. Reuse of LOs could enable them to put together a course more quickly, something often required in FE. Technology has made them dependent on technical staff, and easy to use repurposing tools could re-empower them.

Others argue that teachers focus on the pedagogy, and there are technical staff to help them with the mechanics of developing e-learning materials, using tools and performing tasks like assigning metadata. E-learning is a collaboration between teachers and technical staff, and this will continue in repurposing and reuse. So some argue that teachers will engage in repurposing, and others argue that they won't. Between the two are some who think that they may want to and should have the choice. Repurposing, or at least reuse, should be easy enough for them to do if they want.

Pedagogy

Finally, several projects felt that repurposing as an activity could stimulate more thinking about pedagogy and how to improve the learning experience. This isn't the aim of repurposing, but a cultural change it could stimulate. A teacher who teaches the same course term after term may not think much about it. To redesign it for an e-learning environment means you *do* have to think about it. To find and build in new content to achieve specific objectives (e.g. make it interactive, motivate learners, or cater for different learning styles) means you have to think about how they learn. The teacher may not create the world's greatest LO, but they've spent some time thinking about what's important, the quality of the learning experience.

5.2 Evidence to Date

Very few projects had any concrete 'evidence' that repurposing is helping to foster cultural change, but some had a gut feeling that it was. The most frequent comment made was that students like it. This may be more related to e-learning than repurposing, but it's detectable. One project argued that this could be one way to stimulate cultural change. If students engage in e-learning and have a positive experience, they will create a demand for more.

Another frequent comment was, "We've seen some change here" as a result of the project. For example, two projects said that teachers were happy to share learning materials, but this wouldn't have happened before the project. Others mentioned how individual teachers with no experience with IT or e-learning became enthusiastic once they saw the potential of repurposing and what you could create. There was not only a change in attitudes, but in some cases changes in working practices, and more challenging the status quo, e.g. "Why don't we have more PCs in the department?"

The VTSX4L project said that their web statistics and user feedback indicate that the Virtual Training Suites are being adopted by HE/FE and are being integrated into taught courses by teachers and librarians.

Some projects gave scenarios of how cultural change *might* take place. One project gave the example of Hot Potato, and early assessment tool. It was a useful tool and easy to use. When people started using it, they started sharing questions to use in it. So in principle, when there are good repurposing tools that are easy to use, more teachers will be interested in repurposing and this could encourage sharing of learning materials.

One project said:

Our barometer is what's happening in non-technical areas like the social sciences. Yes, they're doing it, but the younger members of staff are more keen. 80-90% of staff are using the VLE for courses, though for some it may be simple uses like posting handouts. 40-50% are making more sophisticated use of it, e.g. assessment packages.

As noted above, there's more 'gut feeling' than any firm evidence of cultural change. However, some projects still have a year to go and their evaluations are in the early stages. They may gather evidence through the evaluations.

5.3 Barriers

Projects didn't have any difficulty identifying barriers to change, and their views were generally consistent. The main barriers would seem to be time, skills, and institutional attitudes.

- **Time** – Teachers need the time to learn about repurposing, develop new skills, and get experience using them (most frequent response).
- **Sharing resources** – There's resistance to sharing at an individual and institutional level.

- **Skills** – They need new skills and the confidence to use them.
- **Access to technology** – Many teachers don't have their own PCs, access to the web, or even email (particularly in FE). The equipment they do have may not be suitable for interactive applications.
- **Institutional attitudes** – Institutions need to feel that repurposing is a valuable investment of time and effort, free up time for teachers, and support staff development. They should also not seek to prevent sharing of resources.
- **Technical barriers like tools and metadata** – Repurposing needs to be easy or teachers won't do it.
- **IPR** – Teachers need to understand it. It's also unlikely they will want to handle permissions themselves.
- **Age / inertia** – There's resistance to change; younger teachers may be more receptive.

Time was seen as the most important barrier, and this is linked with skills and institutional attitudes. Repurposing is a new activity; staff need to understand what it is and develop new skills, in IT and e-learning as well as repurposing itself. To get these new skills and to experiment with repurposing, time must be released, and as some projects put it, "really released". This is an institutional issue. A project may provide funds for a teacher to spend four hours per week on repurposing, but if the work is still there when s/he gets back to their desk, the time hasn't really been released. When the project is over, they may no longer have the time to build on their skills. The institution needs to see repurposing as a valuable investment and really free up the time. They also need to trust staff to use it well.

Sharing was seen as the next most important barrier, at both an institutional and individual level. At an individual level, there's a natural instinct to create your own work, take pride in it, and think it's better than anyone else's. There's also the fear that your learning materials may be taken by others and passed off as their own. Most projects seem to feel there's more sharing in FE than HE, or at least the willingness to share. Staff in FE tend to be practical, so sharing notes or handouts (e.g. within a department) can be important when time and resources are stretched. In HE, ownership seems to be more important, and one lecturer wouldn't consider sharing his/her lecture notes with another. The lecturer, the course, the content, and the style are a unique package that is not shared.

There are also issues about sharing at institutional level. Some projects said that institutions (particularly in FE) view learning materials as an asset that could be exploited financially. For this reason, many institutions are claiming the intellectual property. There's also competition among FEs for students, and this works against the concept of sharing. Even if teachers see the benefits in sharing, their institution might want to impose restrictions.

5.4 Facilitating Cultural Change

Projects interviewed were asked what other activities were needed in conjunction with repurposing to bring about cultural change. Not surprisingly, their responses focused on overcoming some of the barriers noted above. Again a wide range of suggestions were made, and the most popular were:

- **Staff development** – Get more staff trained, and get the right training to the right staff.
- **Build on the knowledge base of X4L** – It's fine to train new staff, but don't lose the knowledge and skills built up within X4L.
- **Embedding within institutions** – Pioneers get involved in programmes like X4L. It's important to understand how to cascade their knowledge within and across institutions.
- **Understanding the benefits** – *We think* repurposing will be useful, but need to understand more about why we're doing it and how to do it well.
- **Understanding FE and HE** – *We think* repurposing will be useful in both FE and HE. We need to understand more about their requirements, how they differ, and how to 'sell' it.
- **Repositories** – Good repositories with sufficient LOs are needed to feed the process.
- **Less confusion at national level** – JISC, Ferl, Becta, and other organisations have strategic roles, provide advice and guidance, provide content, fund projects, etc. A more unified front and less conflicting advice would be useful.

These results are interesting. The common theme would seem to be that we need to know more about embedding and how to 'do it well'. There needs to be a buy-in at an institutional and individual

level. Some 'selling' will be necessary, so a better understanding of needs and benefits would be useful. However, we also need to take advantage of the skills developed in X4L, the people involved, and their own experience with buy-in and embedding.

Responses to the Questions:

Is there any evidence from the projects that repurposing is worthwhile and helping to foster cultural change?

There are several areas where cultural change may occur or where change is needed to support repurposing. Teachers must be willing to share their learning materials. For repurposing to become mainstream, it needs to be embedded in institutions and part of their educational strategies. Embedding will involve understanding how to cascade knowledge from 'pioneers' like those involved in X4L to others, and facilitating it. Repurposing could stimulate cultural change in teaching and learning, as teachers have to rethink how they deliver their courses and focus on how to improve the quality of the learning experience. There isn't much evidence of cultural change so far, but X4L has a year to go, and evidence may come out of the evaluations in progress. However, a number of projects said they had seen change at their institution as a result of the project. Understanding how change occurs at one institution may help to understand how to stimulate change on a wider basis.

Have projects revealed the need for other activities that are required to be undertaken in conjunction with repurposing to bring about cultural change. If so, what else is needed?

Projects suggested several activities that are needed. Staff development, and getting the right training to the right staff. Embedding within institutions will be important, and understanding how to cascade knowledge within and across institutions. We have to be able to 'sell' repurposing to institutions, and this means understanding the benefits and whom to sell it to (FE, HE, or both). Good repositories with sufficient LOs are also needed to feed the process.

6. Technical Issues

Questions for the Review:

- *To what extent have materials been tested for use within and across VLEs and local repository systems?*
- *To what extent have the Strand B tools been tested by Strand A projects?*

Projects were asked about the technical testing they had done, and the results are summarised in Appendix 2. This is a snapshot of what's been done to date, so more testing may be done before the programme ends.

6.1 Testing in VLEs

Testing in a VLE

The review indicates that most projects have tested (or will test) their LOs in a VLE, but only a few have or plan to do testing across multiple VLEs. Of the 21 projects interviewed:

- Have tested their LOs in a VLE – 16
- Will do VLE testing at the appropriate time before the project ends in 2005 – 2
- Have not – both are projects that don't have a VLE (Learning via Stars, SDiT) – 2
- VLE testing is not relevant (the catalogue records created by RDN for FE) – 1

The approach taken varied, but typically:

- Single-institution projects tested LOs in their own VLE
- Consortium projects had each partner test their own LOs in their local VLE
- If the project didn't have a VLE, they found someone who could test the LOs in theirs (Arches, VTSX4L)

In most cases the LOs are used in the VLE, so the 'testing' was mostly to see if the LOs uploaded, displayed, and functioned correctly. Within the project, a wide range of VLEs were used. The most frequently used were Blackboard, Learn Wise, WebCT, and Virtual Campus. Others mentioned included Wolf, Digital Brain, Moodle, Olympus, and COSE.

For most projects, the testing was practical, and no sophisticated tests were done simply for the sake of VLE testing. Few problems were experienced, but then the testing didn't seem to be rigorous or systematic, just to make sure the LOs work. The main problems reported were:

- Not all VLEs are compliant; some were less compliant than the LOs the project had created
- There were often problems passing assessment scores to the VLE, though the source could be the design of the LO, how assessment was incorporated, or the tool used.

Testing in VLEs was part of Retasking and SURF X4L, so these projects did more detailed tests.

Testing Across VLEs

Two projects have tested LOs across VLEs, and a further 8 said they would or might. Time is obviously a factor. Most were consortium projects, and their approach would be to test the LOs created by one partner in the VLE of another. A few said they might invite other projects to test their LOs. But this doesn't seem to be a programme requirement and seems to depend on whether technical testing is a focus of the project. SURF X4L seems to have done the most cross-VLE testing.

Interoperability

Projects were asked if they had tested their LOs for interoperability. Virtually all responded along the lines of, "Yes, I used RELOAD to ensure interoperability" or "I will use RELOAD to ensure they are".

6.2 Testing of Strand B Tools

Projects made a few general comments about the testing of Strand B tools. Firstly, most had hoped that the tools would be ready and available for them to use *during* their project. They were therefore a bit surprised and disappointed that Strand B was launched after Strand A, and the tools weren't available from the start. This meant that short projects had to find or create their own tools, and some longer projects may have had to reschedule some work packages to accommodate the delays.

Projects interviewed were asked if they had tested the Strand B tools, and the results are shown in Appendix 2. This is a rough guide to the testing done to date. Firstly, it doesn't indicate how detailed the testing was. Projects typically answered either 'yes' or 'no' for each tool. Some volunteered more information, e.g. they had done detailed tests or had only done brief testing at a workshop. Secondly, it doesn't indicate what future testing is planned. Some projects volunteered more information, e.g. "no, but we plan to". But overall, a 'no' simply indicates that the tool hasn't been tested to date and only indicates that it *won't* be tested for completed projects and projects finishing soon (e.g. July). Thirdly, many responded by saying, "yes, I used the tool within the project", typically for IntraLibrary and RELOAD. Testing a tool and using it are different, but this reflects the practical approach they took. If a tool was relevant to the project and worked, they used it.

Overall, the amount of testing done seemed to depend on their interest in specific tools, interest in technical issues generally, and whether exploring these issues was part of the project plan. Formal and systematic testing did not seem to be a requirement, so the testing done seemed to depend on their interest and technical skill. Within these parameters, all seemed prepared to attend demos or workshops held by the programme and give feedback on the tools. However, seeing a tool demonstrated at a workshop doesn't necessarily mean you can go home and use it. Several mentioned that Mark Power visited to show them how to use one or more of the tools, and his help was greatly appreciated.

IntraLibrary and Xtensis

Almost all projects have attended a workshop, played with the tools, and done some informal testing. The main objective seemed to be to see which one would be easier to use, so they could plan on using it to upload their LOs to JORUM when the time came. Five projects did more extensive testing – ACETS, Healthier Nation, Learning Bank, Retasking, and SURF X4L. Scarborough College of Art and Technology (in SURF X4L) developed a pro-forma for testing, and I understand that this was

used by several projects. Healthier Nation also held workshops for teachers to find out user needs for repositories. Whatever testing was done, the results were reported to the JORUM team.

RELOAD

Of the 21 projects interviewed, 16 had tested RELOAD or used it within the project, and a further 3 said they planned to. With RELOAD, there doesn't seem to have been much testing simply for the sake of testing. If the tool was (or will be) relevant to the project, they will use it. Several said that RELOAD is an excellent tool, and an important outcome of the X4L programme.

TOIA

TOIA has had less testing than the other tools, partly because it's only recently become available, and partly because online assessment isn't being addressed by all projects. Because of the timing, those that needed an online assessment tool had to find their own. Only seven projects have tested TOIA, and four of these said it was only a 'quick look'. A further 3 say they will test it. Overall, projects seem positive about TOIA, and several said it's likely to be a good tool. The main concern expressed about TOIA is that it needs its own server and therefore sits outside the VLE. This means that it's not possible to pass the assessment scores to the VLE (or this was the case when they looked at it).

Responses to the Questions:

To what extent have materials been tested for use within and across VLEs and local repository systems?

Most projects have or will test their LOs in VLEs, but typically this is practical testing to make sure that the LO uploads and works correctly. A few projects have or plan to test their LOs in more than one VLE, but again this is likely to be short practical tests to see if a LO created in one works OK in another. Only one project is doing more detailed VLE testing.

To what extent have the Strand B tools been tested by Strand A projects?

Projects have attended workshops to learn about the Strand B tools IntraLibrary, Xtensis, RELOAD, and TOIA. Overall, they've taken a practical view – test out the tool and use it within the project if it's relevant. Some did more detailed testing and wrote reports. Most have tested IntraLibrary or Xtensis, and will use (or have used) one of them to upload their LOs to JORUM. Most have also tested RELOAD, and used it within their project where a content packaging tool was needed. IntraLibrary and RELOAD have been well received, and several projects said that RELOAD will be an excellent outcome of X4L. TOIA has only been tested by a few projects, partly due to its timing, and partly because only some projects are dealing with online assessment.

7. Project Outputs

Projects were asked what outputs they were creating with potential for sharing, e.g. LOs, case studies, guidelines, etc. The objective was to get a rough estimate of what the programme would have when it ends to assist in planning for JORUM and dissemination activities. Appendix 3 shows a summary of results. These should be considered provisional, as many projects aren't finished.

7.1 Learning Objects

Projects were asked how many LOs they intend to create. The intent was to get a ballpark estimate of the number of LOs that might be available in JORUM when it opens in August 2005. Any decisions about whether they will be made available and to whom is a matter for the programme. This is just an estimate of quantity.

The review indicates that about 585 LOs could be available for JORUM. This is a rough estimate, as some projects have another year to run and haven't set final figures. The number of LOs each project will generate varies considerably, from one to 200. To some extent, this reflects the granularity. For example, the LO created by ALBEDA is a large module.

Three projects won't be uploading LOs to JORUM. The RDN projects (RDN for FE, VTSX4L) will make theirs available via the RDN. ACETS indicates that their LOs will be used to develop exemplars, and only the exemplars will be uploaded.

The remaining projects do plan to upload their LOs to JORUM (or have done so already). However, it will be important to review the IPR situation before decisions are made about making them available to others. Some projects said they had so far only asked for permission to use third-party materials for the project; they would need to go back and ask for further permission to make them available via JORUM. A few projects said there might be caveats about specific permissions. For example, where permissions have been dealt with by individual project partners within a consortium or by individual teachers, it will be important to make sure that the permissions they have requested allow for deposit and use in JORUM. Most projects didn't foresee problems. However, the interviews were informal, just to get a feel for what might be available. More detailed checks should be done later.

7.2 Case Studies

Projects were also asked about case studies, as these could have even greater value in stimulating interest in repurposing and reuse of learning materials. The review indicates that the X4L programme is likely to generate a minimum of 124 case studies. This includes the exemplars that ACETS will develop and the Curriculum Pathways that RDN for FE is developing. None of the projects interviewed foresaw a problem making the case studies available via JORUM. However, the VTSX4L project has ended, so X4L would have to arrange to upload their case studies.

7.3 Other Useful Outputs

Projects were asked about guidelines and any other outputs suitable for sharing. Some are listed in Appendix 3 for information. Many are also writing reports on various topics, but these are not listed to keep the table short. X4L should decide with each project how to disseminate these outputs. Many of the guidelines will be appropriate for the Staff Development Cookbook.

8. JORUM

Questions for the Review:

- *Is more repurposing activity needed in order to continue to populate the JORUM repository?*

During the X4L review, I met with the JORUM team, discussed JORUM with other programme experts, and asked projects for their views. The question put to projects was, "*JORUM will be most useful to teachers if it's well populated. What approach would you take to populate it to develop critical mass?*" So each project gave the approach *they personally* would take.

8.1 Critical Success Factors

As the interviews progressed, a consistent picture emerged of the factors they felt would make JORUM a success:

- **One stop shopping** – Being able to search JORUM and find 'everything' rather than shopping around at many local, regional, and other national repositories. JORUM doesn't need to physically hold all the content, but you should be able to find it there.
- **Quality** – Quality is more important than quantity. There should be QA processes to ensure that the content in JORUM is of high pedagogical and technical quality, and that it's indexed so it can be retrieved easily.
- **Easy to use** – JORUM has to be easy to use or people won't use it. It has to be easy to find LOs, deposit your own, and searching has to be good. Onerous requirements for licenses and metadata could put people off.

8.2 Populating JORUM

Interestingly, when asked about populating JORUM, few projects focused on quantity. If JORUM could deliver quality and the functionality that users want (one stop shopping and ease of use), it would be successful. Nevertheless, various suggestions about populating it were made. The most popular were:

- **Collaborate with other repositories** – Use interoperability to enable one-stop shopping of JORUM together with other local, regional, and national repositories.
- **Have a plan** – Develop a 5-year strategic plan to position JORUM services on day-one and to plan how they will develop over time.
- **Make it easy** – Teachers won't use JORUM unless it's easy to use. Getting them to share learning materials will be difficult enough. If using JORUM is difficult, they won't bother.
- **Develop critical mass** – JORUM needs critical mass in *something*, e.g. by sector, topic, or level. Don't populate JORUM with the grapeshot approach.
- **Inspire teachers to contribute** – Show teachers what repurposing and reuse can achieve using great examples of LOs, how they were used in courses, and how it all turned out. Inspire them about the potential.

Collaborate with Other Repositories

Projects supported the concept of JORUM as a national repository. However, JORUM won't be the only repository and can't contain everything. There will be other repositories at local, regional, and national level. Though many were against a proliferation of repositories, there are good political and cultural reasons for choice. The issue is not to get rid of them, but to develop ways of collaborating with them productively.

There were various suggestions about how this could be achieved. Some suggested that local repositories should upload their content to JORUM. However, a more popular suggestion was to focus on interoperability. If the various repositories were interoperable, JORUM should be able to provide one-stop shopping without the need to duplicate their content. If JORUM can do this, it will be successful. If users have to search each repository in turn, the concept of using repositories may not take off.

Have a Plan

Several projects suggested that JORUM should develop a 5-year strategic plan. This might cover issues like how JORUM will:

- Develop models for contributing LOs that create an incentive for sharing
- Develop critical mass, in what areas, and in what timeframe
- Position and promote its services
- Provide support to users, and whether this will include how to use LOs as well as how to find and deposit them
- Provide quality assurance, both technical and pedagogical
- Assign metadata of consistent and good quality
- Provide searching that's consistent with user expectations.

Many suggestions were made about what the plan might contain, but the most important one was that there should simply *be* a plan.

Make it Easy

For teachers to use JORUM, it has to be easy to use – easy to find, easy to search, easy to identify and download LOs, and easy to deposit your own. Most seemed to envisage an easy-to-use interface that teachers and learning technologists could use without assistance, though user support would be appreciated. Getting people to share may be difficult enough; if the JORUM processes or interface are cumbersome, they won't bother. Comments made included:

- **Make the process seamless** – There may be individual tools embedded in JORUM, but the user doesn't need to know this
- **Consider allowing users to submit zipped files** – Not everyone will want to learn to use a tool to upload
- **Don't have onerous requirements for metadata** – Ask users to do the minimum, and JORUM can do the rest, consistently for all LOs
- **Depositors' license** – Don't make it so long and complex that it's a barrier to submission.

Develop Critical Mass

Most projects felt that critical mass was important. JORUM needs to have critical mass in *something*, but what is a difficult issue. Suggestions included:

- **Sector** – FE is more likely than HE to be interested in using LOs created by others and in sharing their own
- **Topic** – Focus on topics where there's interest and need, e.g. topics that aren't already covered by NLN or others
- **Level** – Focus on particular levels in FE
- **Focus** – Don't use the grapeshot approach and get a little bit of everything.

There was some concern that JORUM would open for business with a few LOs, users would try it out, be disappointed, and not come back. This could be a real problem, especially if promotion focuses on what JORUM will become rather than what it is on day one. When JORUM opens for business and as it develops over time, it will need to manage expectations. Developing critical mass in *something* can help to manage expectations. It might be useful to focus on a few areas or levels initially and then expand to cover others over time.

Inspire Teachers to Contribute

At this point, many teachers aren't engaged in e-learning. Most probably have no idea what repurposing means, what a repository is, or why they would want to reuse LOs. A bit of education will be needed to get across the concepts. Several projects said that teachers will need to be inspired about the potential of repurposing, reuse, and e-learning generally. If they're inspired, they may take the plunge. The best way to inspire them is to show them what repurposing/reuse can achieve, and show by example, e.g. really good learning materials created by repurposing/reuse, how they were used, and how it turned out. A Staff Development Cookbook may explain how to do it, but it won't inspire them. Going to JORUM to see what's there won't inspire them.

Responses to the Questions:

Is more repurposing activity needed in order to continue to populate the JORUM repository?

It's estimated that the X4L projects will generate 585 LOs and 125 case studies, but they're likely to be heterogeneous in terms of granularity, subject focus, level, and perhaps quality. What's needed is critical mass, and funded repurposing isn't likely to achieve this. To be successful, JORUM should provide one-stop shopping, focus on quality for its own LOs, and be easy to use. Collaborating with other local, regional, and other national repositories was the most popular suggestion – using the portal approach to enable users to find what's in JORUM along with what's available elsewhere. And having a good business plan to position JORUM, develop critical mass, and manage expectations. If JORUM is good and teachers can be inspired by the potential of reuse, then the community should populate JORUM.

9. Postscript

Interviews with the projects focused on progress in repurposing and future priorities. Nevertheless, they volunteered many comments about the programme generally and their experience. I think it's worth passing some of these on.

Firstly, there was generous praise for Susan Eales, whom they consider to be an excellent programme manager. There was also praise for the X4L programme generally, which most feel is innovative and achieving a great deal. Participating in the programme has been a positive experience. For those who had not participated in a JISC project before, it could be daunting at times, particularly for those in FE. But projects seem to value the collaborative approach, sharing experience with others, and learning more about what JISC does generally. There was also praise for RELOAD, which they consider to be a useful tool and an excellent outcome of X4L. Finally, there was praise for Mark Power who helped them to use the JORUM tools.

Part of my role as a reviewer is to make recommendations for future work. These are in Part 2 of the report. However, I also invited each project to make their own personal recommendation to the X4L Advisory Board. These are listed in Appendix 4. Most chose to make a recommendation about future X4L work, but some made more general recommendations.

Part 2 – Discussion and Recommendations

1. Follow-on X4L Programme

The current X4L programme has focused on using tools to develop LOs in a variety of educational settings for a variety of courses and students. This will result in about 585 LOs for JORUM and 125 case studies documenting what the various institutions did. The *Staff Development Cookbook* will build on this, summarising best practice and offering 'how to' guidance. The *Cookbook* and the JORUM repository containing the LOs and case studies will be useful, but they probably won't be enough to stimulate repurposing to take off and become a mainstream part of e-learning.

A follow-on programme would be an opportunity to build on what X4L has done on *repurposing* and extend this to *reuse*, focusing on a single joined-up process:

- Develop practical models for repurposing and reuse of learning materials in FE and HE
- Clarify roles in the process, e.g. who does what, and who needs what staff development
- Quantify the benefits of repurposing and reuse in e-learning
- Inspire teachers to populate JORUM
- Develop publisher models for repurposing.

Practical Models for Repurposing and Reuse

The X4L review suggests that each project has approached repurposing in its own way and the outputs of the programme will be heterogeneous. Each has defined 'repurposing' and a 'learning object' in its own way, chosen its own tools, selected its own content, and used the LOs in the context of its courses, institutional environment, and VLE (if it has one). The process of repurposing and the resulting LOs are likely to be very individual to the institution. They will be reusable, but perhaps in a narrow range of contexts, and may disappoint the first users of JORUM.

Arguably more work could be done to perfect the repurposing process, define a process for *reuse* (involving JORUM), and ensure that LOs are reusable in the widest range of contexts. From the review, it would seem that there are opportunities to:

- Develop models for repurposing that reflect different situations, e.g. HE vs. FE, repurposing vs. reuse, use of legacy vs. new content
- Make the repurposing process as easy as possible, so teachers can do it (if they wish) without depending on other staff
- Create a joined-up repurposing process from resource discovery of source content to uploading a final LO to JORUM
- Create a joined-up reuse process from resource discovery in JORUM to using LOs in learning and teaching
- Design LOs so that the potential for reuse and repurposing again is maximised. This might mean more attention to granularity, ability to aggregate/disaggregate, and the use of templates or architectures to ensure that components can be reused or the design can be applied to other subject areas or courses.

Staff Roles for Repurposing and Reuse

Potentially many staff could be involved in repurposing and reuse of LOs from teachers, learning technologists, and ILT champions, to librarians, and of course JORUM. Roles will vary between HE and FE. The X4L projects have decided what staff to involve and how, and the *Staff Development Cookbook* will give guidance about staff development for different roles on that basis.

Projects have expressed various views about staff roles during the X4L review. Some say teachers will never repurpose, as it's too technical; they would work with a learning technologist that uses the tools and processes. Others have said that if the process and tools are easy to use, teachers might use them. IT is often a barrier to e-learning, and easy-to-use tools could 'empower' them and make them less dependent on IT staff. Many projects raised metadata as an issue, e.g. who should assign it, it's likely to be a barrier for teachers, how to ensure consistency and quality control. Another issue is resource discovery. Most projects found this difficult and didn't think of using a librarian to help out.

The *Staff Development Cookbook* is likely to recommend staff development based on experience in the current X4L programme. A follow-on programme could build on this and redefine roles for repurposing as processes get easier to use. It could also consider roles for reuse of LOs, as they may be different than those for repurposing. From the review, it would seem that there are opportunities to:

- Clarify roles for repurposing, e.g. who does what and what staff development is needed for each role
- Clarify in particular who will assign metadata for LOs (e.g. teachers, JORUM, RSCs), ensure it's not a barrier for teachers depositing LOs in JORUM, and the metadata assigned is effective for searching in the way teachers want to search
- Develop roles for reuse of learning materials, e.g. teachers may want to reuse unassisted but are happy to have support for repurposing
- Explore the role of the librarian in resource discovery for repurposing and reuse, and explore the implications for staff development with the library community
- Develop models for cascading knowledge and skills for repurposing and reuse within and across institutions.

Quantify the Benefits

X4L has explored the processes for repurposing, and hopefully the evaluation studies will tell us more about the benefits. The X4L review was conducted a year before the programme ends, so much of the evaluation is still to be done. At this point, projects have their individual views on the potential benefits of repurposing and the current barriers. Repurposing and reuse won't take off and become mainstream unless the benefits outweigh the drawbacks. And in many cases it may be senior managers rather than teachers that are making the decisions.

X4L is likely to identify the possible benefits of and barriers to repurposing, but not on a systematic basis. There are likely to be useful case studies and a few projects with quantitative evaluation data. A follow-on programme would be a useful opportunity to quantify the benefits, both for repurposing and reuse, in different educational contexts. Projects would, however, need a precise brief to ensure that their evidence is convincing and is related to repurposing/reuse and not e-learning generally. It would seem that there are opportunities to assess various benefits:

- **Cost-benefit** – What are the costs associated with staff development and getting the right kit, and what's the payback, e.g. shorter lead time to developing a course, fewer students drop out, the institution is more attractive to students
- **Learning curve** – How long does it take train staff, get them to speed, and to get to a point where they are saving time by repurposing/reusing learning materials
- **Pedagogy** – Explore how reuse can allow teachers to improve the quality of the learning experience and customise it for learners with different needs
- **Effectiveness** – Explore whether students do better, e.g. learn faster, learn more, get better scores.

Inspire Teachers to Populate JORUM

X4L will result in a number of LOs. As noted above, they will probably be heterogeneous in terms of granularity, subject focus, level, and perhaps quality. JORUM will need to develop a critical mass of content in order to be successful. Based on the X4L review, the key success factors for JORUM would seem to be:

- **One stop shopping** – Being able to search JORUM and find 'everything' rather than shopping around at many local, regional, and other national repositories. JORUM doesn't need to hold all the content, but you should be able to find it there.
- **Quality** – Quality is more important than quantity. There should be QA processes to ensure that the content in JORUM is of high pedagogical and technical quality, and that it's indexed so it can be retrieved easily.
- **Easy to use** – JORUM has to be easy to use or people won't use it. It has to be easy to find LOs, deposit your own, and searching has to be good. Onerous requirements for licenses and metadata could put people off.

Few projects suggested that a follow-on X4L programme would be the best way to populate JORUM. From their point of view, the onus is on JORUM to deliver success in terms of the factors listed above. Beyond that, teachers need to be inspired about the potential of repurposing, reuse, and e-learning generally. If they're inspired, they may take the plunge. The best way to inspire them is to show them what repurposing/reuse can achieve, and show by example, e.g. really good learning materials created by repurposing/reuse, how they were used, and how it turned out. A *Staff Development Cookbook* may explain how to repurpose, but it won't inspire them. Going to JORUM to see what's there won't inspire them.

The current X4L programme has a year to run, so it's difficult to know if it will create this 'inspirational' material. If so, it's likely to be in a few diverse subject areas. A follow-on X4L programme could review the FE (and possibly HE) curricula and select a range of subject areas to commission further examples. It would be worthwhile considering X4L projects that have already done a good job creating their first LOs, to build on this experience. They could consider reuse as well as repurposing. For example, if their first LO was for one course, how can they reuse it for another; or how can a colleague repurpose it again it for a course in another subject area. The idea would not be to create quantity, but to create quality across a range of subject areas that teachers can relate to, and build on the expertise JISC has created in X4L.

Publisher Models for Repurposing

The X4L review suggests there's interest in repurposing third-party content, but more interest in materials developed specifically for learning and teaching (e.g. NLN), and in what other academics have created and posted on their web sites, than in what commercial publishers have developed. This may or may not be the case, as other factors were at work. X4L emphasised the repurposing of JISC and national collections, not working with commercial publishers. IPR was obviously a factor, with many projects preferring to use third-party content that had been pre-cleared for educational use. The few projects that did work with commercial publishers found that IPR was a difficult issue and agreeing a license was time consuming. Some could only reach agreement to link to content on the publisher's site.

X4L is already making good progress on a UK Creative Commons. This may be all that is needed to support any follow-on X4L programme. However, it's unlikely to transfer to commercial publishers. If teachers do want to use commercially published materials for teaching and learning, then IPR will continue to be a barrier. X4L could address this in a future programme, but more exploratory work should be done to assess the demand. If there is demand, then I would recommend the following.

Approach PALS (Publisher and Library/Learning Solutions) about asking their publishers to participate in a follow-on X4L programme to contribute limited content and develop a model repurposing license. PALS is the ongoing collaboration between UK FE/HE (JISC) and publishers (Association for Learned and Professional Society Publishers – ALPSP and the Publishers Association) and aims to foster mutual understanding and work collaboratively towards the solution of issues arising from electronic publication.

It's perhaps optimistic to hope for a model license, but the voluntary participation of a few publishers to explore the issues could achieve a great deal. And participating through an existing collaboration between JISC and publishers could ensure it's a controlled and non-threatening experience for them with respect to IPR. However, publishers work slowly, and it could take a year to set it all up.

2. Current X4L Programme

Glossary of Terms

Several projects said they had problems understanding the language used within the programme. They mentioned the use of technical terms (e.g. interoperability, repurposing) and acronyms in particular. This was mentioned by FE projects in particular, but both FE and HE where teachers were involved. They would have appreciated simpler language starting with the Call for Proposals.

Some noted that there were regular debates at cluster meetings about what some terms meant, e.g. repurposing and learning objects. They felt it was important to have a shared understanding of what important terms mean within the programme. It might be useful to develop a short glossary of terms

and link it to the programme web site. It could still be useful for the projects that will run for the next year, and for any follow-on programme.

X4L Tools

The review did not cover the JORUM tools, as the programme is making plans for their development separately. However, I could make some observations. Projects have been very cooperative in testing the JORUM tools. At the start of the programme, they thought they would be using the tools, not testing them. It might be useful to decide how much further testing is necessary and whether the X4L projects need to be involved. Here are some suggestions based on the review:

- **RELOAD** – This has been well received, and most projects have either used or tested it. Encourage them to use it if there's a good fit with their project, but don't ask for further testing. If there's a new release, Mark Power could ask for volunteers and coordinate testing.
- **IntraLibrary and Xtensis** – Take a decision that the testing of these tools is now complete. Ask projects to use IntraLibrary for uploading LOs to JORUM.
- **TOIA** – Only a few projects have tested TOIA and only a few are interested in doing so. TOIA may have to plan its own programme for testing, though X4L projects might be involved on a voluntary basis.

Regarding JORUM itself, plans of the JORUM team are well advanced. It still might be useful for them to review the expectations of X4L projects for JORUM as reflected in this report.

Sharing Project Outputs

Learning objects and case studies will be uploaded to JORUM, and best practice guidelines will be incorporated into the *Staff Development Cookbook*. In the meantime, it might be useful to create a page on the JISC web site listing guidelines, templates, reports, etc posted on project web sites, so they can be shared. And projects might be encouraged to post a bit more on their web sites that may be of interest to the programme and the community generally.

3. General

Encourage Repurposing of JISC and National Collections

X4L has encouraged repurposing of JISC and other national collections. The review indicates that projects have explored the sources and found small amounts to repurpose. Various reasons have been given for not taking more advantage of them, e.g. relevance to the FE curriculum, level, type, IPR issues, and the fact that some sources require paid subscriptions. Resource discovery was also a problem, and many projects simply weren't able to easily find out what useful content might be locked within them. And as more projects were focusing FE, there's not been much exploration of the potential in HE.

JISC may wish to continue to encourage FE/HE to take advantage of the JISC Collections for repurposing. For example, it may want to encourage the HE Academy strand of the Distributed e-Learning programme to use them to create LOs for HE. If so, it will be important for projects/institutions to know what sources are available for repurposing and what they can do with them. Here are some suggestions

- **New list** – Reorganise the list on a 'traffic light' system, e.g. green sources have been cleared for educational repurposing; amber may have restrictions; red need specific permission. Alternatively organise the sources by subject and indicate the IPR situation for each. It would also be useful to make a distinction between primary sources and secondary services or gateways, as many projects didn't understand the difference.
- **Terms of use** – For JISC-funded services (e.g. AHDS, Biz/ed, RDNs), JISC may want to take a more proactive role. Ask them to post a statement of terms of use indicating what repurposing may be done as part of educational use. And try to ensure that terms for repurposing are consistent across all services, or services of a similar type (e.g. the RDNs).
- **More sources cleared for educational use** – Projects appreciated the efforts that Susan Eales made to negotiate deals and let them know what sources were cleared for educational use. It could be useful for JISC to broker more deals, or at least find out which may already have terms for educational use that include repurposing.

Appendix 1 – Interview Questions for Projects

Content

- What content are you repurposing?
- How did you select the content, e.g. what criteria did you use?
- Did you select it from the list of JISC-funded and other content listed in Appendix B of the Call for Proposals (http://www.jisc.ac.uk/index.cfm?name=circular_2_02)? If not, why?
- Overall, do you think the materials on this list are or could be useful in the area of learning and teaching?
- Have you considered exchanging or repurposing learning materials produced within the programme?

Repurposing

- What repurposing issues is your project addressing, e.g. resource discovery, content packaging, designing the learning experience, integrating learning materials in a VLE, online assessment, accessibility, metadata, testing interoperability, etc
- What are key lessons are you learning about these issues and best practice?
- Based on your work to date, do you feel that repurposing is worthwhile and will have real benefits for teachers, learners, and/or their institutions?

Cultural Change

- Do you think repurposing will lead to cultural change in learning and teaching, and what types of cultural change might occur?
- Do you have any evidence so far that repurposing is indeed leading to cultural change?
- What are the likely barriers to cultural change?
- What other activities are needed in conjunction with repurposing to bring about cultural change?

Intellectual Property

- How have you approached IPR within the project, and have you asked for any permissions to repurpose the materials?
- What was the outcome?
- Can the materials be made available through JORUM after the project ends?
- Have you explored/formed any partnerships with owners or suppliers of relevant content?

Technical Issues

- Have you tested your materials in a local VLE and/or a local repository?
- Have you tested your materials in any other VLEs?
- Have you tested the interoperability of your materials?
- Have you tested the Strand B tools IntraLibrary, Xtensis, RELOAD, or TOIA?

End of the Project

- What will be the outputs of the project, e.g. learning objects, guidelines, case studies?
- Are any of the learning objects and case studies available now?
- Will your learning objects and case studies be uploaded to JORUM?

Future

- JORUM will be most useful to teachers if it's well populated. What approach would you take to populate it to develop critical mass?
- Do you think further work is needed on IPR? If so, in what areas?
- Based on your project's experience, what aspects of repurposing need further development?
- What work could be done in other areas to realise the full potential of repurposing in teaching and learning?
- If you could make one recommendation to the X4L Advisory Board, what would it be?

Appendix 2 – Technical Testing

Project	End	VLE	Other VLEs	Intra Library	Xten-sis	RE-LOAD	TOIA
ACETS	9-05	yes	no	yes	no (d)	will	no (d)
ALBEDA	7-04	yes	no	yes	no	yes	may
Arches	12-04	yes (b)	may	will	no	will	yes (e)
Business English	7-04	yes	no	yes	yes	yes	yes (e)
ELVIS	9-04	yes	will	will	no	yes	no
e-Studio	7-05	yes	will	yes	yes	yes	yes
Healthier Nation	7-04	yes	will	yes	yes	will	no
L2L	7-05	yes	will	yes	no	yes	will
LawPaths	7-05	will	no	no	no	no	no
Learning Bank	5-05	yes	will	yes	yes	yes	yes
Learning via Stars and Literature	7-04	no (a)	no	yes	yes	yes	will
Maps and Learner Guides	7-04						
RDN for FE	2-05	n/a	n/a	yes	yes	yes	
Retasking Traditionally Structured Resources	6-03	yes	no	yes	yes	yes	yes (e)
SURF X4L	12-04	yes	yes	yes	yes	yes	yes
VT SX4L	9-03	yes (b)	no	yes	yes	yes	no
X4L Lit	10-03	no (c)	no	yes	yes	yes	no
X4L Music	12-03	yes	yes	yes	yes (e)	yes	yes (e)
X4L Rapid	6-05	will	may	will	no	no	no
X4L SDiT	7-04	no (a)	no	yes	yes	yes	will
X4L Social Knowledge	12-04	no (c)	no	yes	yes	yes	no
X4L West Midlands	8-03	yes	no	yes	yes (e)	yes	no

Notes:

The table indicates testing to May/June 2004

Projects were not asked about future plans for testing, but some volunteered this

Bold indicates that a project has done more detailed testing

- Project doesn't have a VLE
- Project doesn't have a VLE but did some testing externally
- Formal testing was done in the Retasking project, not in these follow-on projects
- Won't test as the tool doesn't have a Mac version
- Quick look but no formal testing

Appendix 3 – Project Outputs

Project	End	LOs	Case studies	Other	Will be available for JORUM
ACETS	9-05	no	yes (a)		exemplars only
ALBEDA	7-04	yes	no		yes
Arches	12-04	yes	yes	Guidelines	yes
Business English	7-04	yes			go back (e)
ELVIS	9-04	yes	no	Tutorials	yes
e-Studio	7-05	yes	yes	Teacher guide, guidelines	go back (e)
Healthier Nation	7-04	yes	yes	Guidelines	yes
L2L	7-05	yes	yes	Guidelines	yes
LawPaths	7-05		hope so	Database of searchable guides, guidelines	go back (e)
Learning Bank	5-05	yes	yes	Guidelines	yes
Learning via Stars and Literature	7-04	yes	yes		yes
Maps and Learner Guides	7-04	yes (d)	yes (d)	Template, guidelines for use of the learner guides (e)	yes (d)
RDN for FE	2-05	no	yes (b)		yes
Retasking Traditionally Structured Resources	6-03	yes	yes		yes (c)
SURF X4L	12-04	yes	yes	Guidelines	yes
VTSX4L	9-03	yes	yes	5 VTS tutorials, Guidelines	yes (c)
X4L Lit	10-03	yes	yes		yes
X4L Music	12-03	yes	yes	Guidelines	yes
X4L Rapid	6-05	yes	yes	Guidelines	yes
X4L SDiT	7-04	yes	yes	Data set, teacher & user guides	yes
X4L Social Knowledge	12-04	yes	yes		yes
X4L West Midlands	8-03	yes	yes	Guidelines	go back (e)
Ballpark estimate		585	124		

Notes:

- a. Exemplars
- b. Curriculum pathways
- c. X4L can upload LOs (Retasking) or case studies (VTSX4L) to JORUM if it wishes. Project is finished, so there are no project staff to do this
- d. Information from project plan
- e. Permissions are for the project only; they would need to go back and get permission for JORUM

Appendix 4 – Recommendations from Projects to the X4L Advisory Board

When X4L projects were interviewed, the final question was, “If you could make one recommendation to the X4L Advisory Board, what would it be?”. Below are the responses for each project. Most chose to make a recommendation about future X4L work, but some made more general recommendations.

Follow-on X4L Programme

Focus

- The emphasis in X4L so far has been on tools and methods. For any future programme, focus on practitioners and the classroom.
- Focus on the process, not content.
- Don't commission more tools; they're not needed. Spend more effort on creating LOs.
- Make the repurposing process as easy as possible, including the metadata.
- Repurposing is not just about creating LOs, it's about how they are used within the learning experience.
- Provide effective training for people in assigning metadata. Tell teachers what metadata to add, e.g. how to choose good keywords. There should be cataloguers at JORUM (or the RDNs) to add the additional metadata and provide QA.
- Collaboration is the most important thing, with teachers and students.

Approach

- Before deciding to create a follow-on programme, review and assess the outputs of the current X4L programme.
- Focus on join-up – build on what individual projects have achieved, embed nationally, and get the best value from the programme.
- Build bridges between X4L and new JISC programmes, e.g. the e-Learning programme generally, and e-Learning and Pedagogy in particular. This is a great opportunity to collect together what's been learned and build on it.
- Continue the research on repurposing generally. Pick a few areas to focus on, e.g. gaps in our knowledge, and ask for projects in these areas.

JORUM

- Develop a strategy to make JORUM as full as possible. Use the portal approach so you can search everything. Make it easy for a teacher to find what they want for a course next week.
- Find out about initiatives at regional level to develop repositories and migrate them into JORUM, with the caveat that there should be common standards and object views.
- Talk to the LTSN-RDN Interoperability project. See how to get a good fit between LTSN-RDN and JORUM. Don't duplicate.

General

Programme Management

- JISC should keep employing Susan Eales. She's a very good programme manager, very helpful, and very responsive. This makes all the difference.
- Make it easier to keep in touch with the programme and what's going on. Large programmes are difficult.

Support for FE

- Make JISC activities more accessible to FE. JISC tends to focus on HE.
- Small FE projects are different from large HE projects, e.g. they don't have large project teams and are short of time. Make sure they get enough support and are heard at cluster meetings. If they've not done a JISC project before, meet with them and explain how JISC programmes work.

- If JISC does a follow-on call for proposals, pay more attention to the language. Colleges don't understand terms like 'interoperability' and 'repositories'.
- Talk to teachers about the language, e.g. terms like 'learning object', 'repurposing', and 'interoperability'. If you can't make it simpler, then have a glossary. We need a shared understanding of what these terms mean.
- If you want JISC service providers to support FE in repurposing, they need to be funded.

JISC Collections

- If JISC wants projects to repurpose JISC Collections, find a solution to the issue of needing a subscription. There may be useful resources in the list, but a one-month free trial isn't long enough to find out. Once a project has started, it's not practical to find the funds to subscribe. Set out any requirements in the bid, so the project can build it into their budget, or provide a one-year free trial.