



Jorum External User Evaluation Report

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1 Introduction

This report documents the findings of the Jorum User Evaluation exercise conducted during the first half of 2007. This exercise was part of a package of evaluation activities planned throughout the Jorum Service-in-Development Phase (see Annex 1 for details). The user evaluation was planned in December 2006 and conducted during March, April and May 2007, i.e. 12 – 18 months after the launch of the Jorum Contributor and Jorum User services. Given this short period of service delivery, the evaluation was not expected to evidence any change in the behaviour of staff within UK Higher and Further Education (UK HE/FE) that could be related to Jorum. Nevertheless, the Steering Committee considered it a useful exercise at this time as an indicator of who uses Jorum, how it is being used and why. Evaluation findings are also intended to inform business planning for the project and to provide some evidence on which to base the JISC evolving strategy on repositories.

NB the report was authored by Leah Halliday of EDINA who took on the role of external evaluator for this exercise

1.1 Objectives of Jorum Service-in-Development

The agreed objectives of Jorum Service-in-Development are that it should:

- Provide the Jorum Contributor service to institutions wishing to deposit learning and teaching (L&T) materials;
- Provide the Jorum User service to institutions that want their staff to be able to download L&T materials;
- Encourage the sharing, reuse and repurposing of L&T resources across the UK FE and HE sectors;
- Trial current workflow, service and licensing models and procedures, in discussion with community and institutional representatives, and adjust as agreed for full service status;
- Liaise and work with other organisations, such as the HEA, RSCs, Intute, UKOLN, CETIS, Netskills and the JISC Development Team, in promotional and technical activities;
- Liaise and work with project teams funded by JISC and other funding bodies to assist them in using the Jorum service for their L&T project outputs;
- Provide an agreed, proven business model and plan for Jorum to move to full service status, with agreed SLDs, from August 2008.

1.2 Objectives of the Jorum User Evaluation

The suggested objectives of the Jorum User Evaluation are that it should:

1. Test understanding of Jorum among the community in terms of its function and purpose, and how to participate as a depositor and a user;
2. Test how confident users feel about using Jorum, as depositors and/or users;
3. Test how effective users are at discovering relevant content in Jorum;
4. Assess how effective are discovery metadata and classification of resources in Jorum;
5. Identify sub-populations of users and explore how these might best be accommodated, e.g. evaluate the efficacy of a single interface and determine whether separate interfaces for different communities may be preferable;
6. Test current workflow, service and licence models and gather suggestions for enhancement and/or replacement models;

7. Establish the volume of take-up of service, in terms of numbers of institutions subscribing, numbers of individuals registered for the service within institutions that have subscribed (vs. number of institutions eligible that have not registered), and number of those registered individuals that are actually downloading and using content;
8. Find out how effectively the service is supported, both within institutions and by the Jorum team;
9. Identify any institutional barriers to uptake and why institutions that do not subscribe have not done so;
10. Test whether the community believes that Jorum is adding value i.e. helping teachers in UK H/FE to operate more effectively or more efficiently;
11. Determine how the community is using content downloaded from Jorum;
12. Make recommendations as required for future planning of the service and/or support, and if applicable, ensure that JISC are made aware of issues arising that may impact upon their strategic direction;
13. Determine whether use of Jorum is being considered at a strategic level within institutions or is confined to enthusiastic individuals/groups within those institutions.

Jorum is an innovative service. Although a user-needs analysis was conducted during the scoping and technical appraisal phase of Jorum, it is well-recognised that user needs and expectations generally cannot be entirely specified at the start of an innovation process; they evolve as implementation provides the opportunity to try the service and experiment with how it can help users in their work. Development of all aspects of the Jorum service, including support and licensing structures, will require iteration. For example, implementation of the service so far has informed development of pragmatic policy and procedures that in turn will inform revision of the Jorum licences. The User Evaluation will contribute to this process and also provide added opportunity for the project team to network with stakeholder groups and contribute to dissemination of information about the service and participation within those groups.

2. Methodology

2.1 Key stakeholders of the Jorum service

The stakeholders of the Jorum service are listed in full in the project plan and are not repeated here in full. However, key stakeholders for the purposes of the User Evaluation would be viewed as:

- A. UK H/FE community at institutional level, including:
 - Pro-Vice Chancellors and equivalent;
 - Teaching staff;
 - Support staff involved as Jorum site representatives and/or technical support representatives;
 - Library/information staff and/or VLE managers;
 - Learning technologists;
 - ILT co-ordinators.
- B. Organisations serving and supporting UK F/HE, including:
 - JISC and JISC-funded projects
 - Intute
 - HEA and HEA Subject Centres
 - RSCs

2.2 Planned Activity

A combination of five methods was proposed for the User Evaluation:

- Focus Groups
- Structured Interviews
- Cognitive Walk-through
- Online questionnaire
- Examination of usage and sign-up statistics

This plan was revised during the evaluation period. A new version of the intraLibrary (2.8) system on which Jorum is built was launched in May 2007. The Cognitive walk-through had been planned for March 2007 but testing the old version was considered to be a waste of resource. It is difficult to recruit staff for a cognitive walk through in May and June as this is the period during which exams are held. The online questionnaire was also considered inappropriate during this period as the Steering Committee considered it likely that this exercise would be more usefully conducted as part of the summative evaluation exercise.

This evaluation report documents two focus groups, two structured interviews and statistics about useage and sign-up.

3 Focus groups and interviews

This section of the report documents the findings from the two focus groups and two interviews. Participants in the groups were recruited as follows: a message inviting volunteers who could represent relevant stakeholder groups was sent to a variety of JISCmail discussion lists (see Annex 2); and members of the Jorum team nominated individuals with sufficient experience of Jorum in one or more stakeholder capacity to be able to contribute substantially to its evaluation. As Jorum is still a very young service, the number of individuals within the community with sufficient experience to contribute in all categories was limited. There was some overlap between membership of the various ongoing committees and groups that inform Jorum development. Although people working at a senior, strategic level within UK HE/FE were invited to participate in the focus groups, none accepted. To obtain a strategic view, interviews were conducted with a Pro-Vice Chancellor in a UK HEI (HE1) and with the Director of e-Learning at a UK FEI (FE1). These were intended to supplement the focus groups by eliciting information about how well Jorum fits with e-learning strategy in UK HEIs and FEIs, by following up on issues raised in focus groups and by seeking a strategic view on the importance or otherwise of preservation as a function of Jorum. Six people working within the sector at this level were invited to interview. Three declined to respond, one declined the invitation and two agreed to be interviewed. Neither of the interviewees had used Jorum (as user or depositor). Both FE1 and HE1 were based at institutions which are licensed as Users but not as Depositors. The focus groups were attended by people occupying a variety of roles within the UK higher and further education community (UK HE/FE). Participants are identified in this report by the roles specified in Table 1. They were provided, in advance, with a list of questions to be discussed (Annex 3). The first focus group (A) was held in London on 6 March 2007 and the second (B) in Edinburgh on 22 March 2007. Groups met for a period of 4 hours which included a short break for lunch. Interviews were conducted by telephone in early June 2007. These were based on an interview schedule of five questions (Annex 4).

The report is organised by subject rather than strictly on a question-by-question basis. This is to assist reading and understanding as some relevant comments were made out of sequence. The topics discussed can be broadly categorised into: the value provided (by Jorum and related services); cultural barriers to uptake; the Jorum licence model; evaluation of the service (including user support functions); technical issues; and Jorum policies and how well they fit with practice within user communities. Each focus group was asked also to identify any single thing that would make Jorum substantially more attractive than it is now. Responses to this question focussed largely around removing barriers such as multiple levels of authentication and a complex licence model. The responses of interviewees are interspersed in the text where relevant.

Throughout this section of the report, roman text is used for commentary and italic text for material that is directly quoted. Focus group participants and interviewees were given an opportunity to comment and approve an early draft of the report.

Table 1: Focus group and interview participant roles within the UK HE/FE community.

Identifier	
<i>First focus group</i>	
<u>A1</u>	A representative from the Higher Education Academy
<u>A2</u>	Learning technologist working in Higher Education
<u>A3</u>	Representative from a Regional Support Centre for Higher and Further Education
<u>A4</u>	A Project Manager of eLearning Projects in Higher Education
<u>A5</u>	Librarian and content creator working in Higher Education
<u>A6</u>	Learning technologist working in Further Education
<u>A7</u>	Librarian in Higher Education
<u>A8</u>	Representative from a Higher Education Subject Centre
<u>A9</u>	Learning technologist and lecturer in Higher Education
<u>A10</u>	Cataloguer
<i>Second focus group</i>	
<u>B1</u>	Representative from a Regional Support Centre for Higher and Further Education
<u>B2</u>	Representative from a Higher Education Academy Subject Centre
<u>B3</u>	Library Manager working in Further Education
<u>B4</u>	Learning Technologist working in Further Education
<u>B5</u>	Digital Library Research and Development Project Officer in Higher Education
<u>B6</u>	e-Learning Project Officer in Higher Education
LH	Leah Halliday, focus group facilitator
MD	Mike Dodds, Jorum staff member
HE1	Pro-Vice Chancellor in UK Higher Education Institution
FE1	Director of e-Learning in UK Further Education Institution

4 Summary

Those who participated in the focus groups do value Jorum. It provides a home for content that, in the past, was lost. They also value a facility that provides content on clear terms and conditions of use; they know what they can and cannot

do with the materials downloaded from Jorum. The needs of different user communities vary; single assets are more valuable to some than packaged learning objects and disciplines vary with regard to their willingness to share. One reason for not participating at this stage is that adoption of any new service or system requires an investment in time – by users and support staff – and the community has yet to be convinced that Jorum is a stable service, assured of ongoing funding, and thus warrants this investment in time. The interviewees were less impressed by any unique feature of Jorum, considering it to be a source of content akin to any other on the internet. (It is worth bearing in mind that neither of the interviewees had used Jorum.)

At present, it seems that Jorum competes as a provider of content for teaching and learning with services on the open web such as YouTube, Flickr, PodCast Nation. For discovery, Google remains very popular. These services are attractive not only because of their scope; also because they are so accessible. Lecturers often prepare teaching materials with little lead time. The Jorum authentication barriers deter use at this stage. This hurdle may diminish as increasing numbers secure Jorum User accounts and have passwords to hand at the point of information need. Easier access to Jorum content may also be facilitated by embedding search functionality within the user's information environment, e.g. her virtual learning environment (VLE).

One advantage of Jorum over the 'open web' services is that it includes content that is designed specifically for teaching and learning. One focus-group participant described it as 'fit for purpose'. The interviewees were less sanguine about this aspect of Jorum content. HE1 would not expect packaged learning objects to be useful and assets can be acquired from any internet content site. FE1 considers sharing of teaching and learning materials to be important and suggested that Jorum could be a useful resource – but only if it were open to users beyond UK HE/FE and to students. Neither FE1 nor HE1 could see any reason for restricting participation in any way; Jorum should be an open-access facility.

It seemed at both focus groups that e-Learning is still at an early stage in its development. It is the realm of lone innovators rather than the mainstream. Many potential users of Jorum have yet to understand the function of repositories let alone seek to use one. In many ways culture, practice and erroneous beliefs and assumptions militate against the smooth uptake and use of e-learning repositories and thus of Jorum. Barriers to uptake include resistance to and lack of incentive to share; a mis-match between the institutional workflow implied by the Jorum model and practice within institutions in the community; and lack of strategic initiative in e-learning. The licence model and authentication system for Jorum are also significant hurdles. The interviews provided a perspective that contrasts starkly with this view. The interviewees are aware of and involved in strategic initiatives to embed e-learning methodologies and technologies within the curriculum in their institutions and yet, repositories have not featured in these initiatives. HE1 did not perceive a need/desire to share within her/his institution whilst at FE1's institution, sharing was brokered by the e-learning team rather than facilitated by a repository.

Those that have used Jorum found the intraLibrary¹ interface clunky, old-fashioned, unintuitive and sometimes disheartening. The Jorum browse function was most heavily criticised; it is complex, uses unfamiliar terminology² and many of the folders are empty. Furthermore, it is so prominent on the front page of the service that users are drawn to it as a first step. The intraLibrary search function also requires improvement. For example, users would like to search simultaneously across subject and educational level or to search within an existing results set. The deposit process was criticised for lacking a clear workflow. The best thing about the current Jorum service is the User-Support and Training function. This was wholeheartedly praised and endorsed by focus group participants. They had a single complaint, namely that the helpdesk phone number is not on the Jorum website.

Depositors into Jorum create metadata records usually consisting of a few mandatory fields (although some depositors create much richer records). Full metadata records are created for Jorum resources by the Intute service. These are extensive and thus resource intensive to create. There was no consensus on whether this investment is worthwhile. There was, unfortunately, some criticism of the cataloguing; in some instances it was considered by participants to be incorrect.

Focus group participants were also divided with regard to the importance of preservation. Some believed that the promise to preserve would be incentive to deposit; others considered this to be the responsibility of the depositor's institution; and others would not expect teaching and learning materials to endure as useful resources over a 5- or 10-year period. Interviewees were, similarly ambivalent although both cautioned about the resource-intensive nature of effective preservation.

In addition to improvements to interface and licence, the focus groups called for sustained publicity of the Jorum service, its function, value, the current contents and the JISC's commitment to maintain it. They also called for initiatives to engender the cultural change that is required as a prerequisite to the establishment of services within an e-learning culture.

5 The value provided by Jorum and related resources

5.1 Sharing resources under clear conditions

Focus group participants value Jorum simply for providing a facility for sharing content on clear terms and conditions. Content in Jorum may be used under the terms specified in the licence without seeking permission directly from the creator or rightsholder; the terms and conditions of use are clear. It is also valuable as a home for content created by projects which otherwise may be (and has previously been) lost.

A3: ... lots of FE projects existed but no facility to share. There was the will to share but no facility.

A5: I was part of the [Name of project] which was funded in the other stream in which Jorum was part. I go back and almost cry about it. £20,000 was spend on [name of project]. What's out of it? Nothing! We were gathering all this material together and

¹ intraLibrary is the name of the software package used to build Jorum. Some features of Jorum are intraLibrary features and some have been designed by the Jorum team. The distinction is made in Section 8 of this report.

² At the time of completion of this report, the terminology used in the Jorum browse function has been revised to address this issue.

spent all our effort working out where to put it because Jorum wasn't developed until after the Project was finished. We missed a terrible opportunity. If Jorum had been there at the beginning, [name of Project] could have been a great success with the whole community using it ... that community could be resurrected but it would need some funding.

A7: a lot of institutions are using password protected VLEs so you can't get in to see a lot of the material that's being written ... Jorum is very useful because then people can just deposit material that you can freely use.

A5: We'll look around the web to see what's out there. There might be a website listing resources that people use. You need to ask for permission to use it.

A5: that was one of the great criticisms of JISC projects: resources get created but nobody knows about them. Jorum makes them available for the longer term.

Furthermore, Jorum is valued by focus group participants because it facilitates sharing of resources at different levels of granularity. Teachers in FE want to find and use small asset-sized resources from which to build teaching materials. Many other services providing teaching materials offer only substantial, professionally produced learning objects.

A3: Jorum hopefully will allow sharing of the small building blocks that might end up in a course later. It might just be a document, a video or some pictures...Practitioners in FE don't use big learning resources. They don't give a student a whole text book. They tend to photocopy little bits and pieces; they tend to mix and match and I think learning objects tend to focus on the huge monolithic chunks of learning – the huge CD ROMS where you went from a very linear fashion from the start to the finish. Also, there needs to be a sense of ownership from the tutor that they've contextualised it...Having the little chunks allows that contextualisation and personalisation and gives that sense of ownership to that tutor having built something unique from the bits.

HE1 considered asset-sized resources to be potentially useful but doubted the interest of academics in packaged learning objects or courses that have been developed by others. This may be related to HE1's view of Jorum as akin to other sources of content on the Internet rather than as a hub for UK HE/FE-created content. HE1 was equivocal regarding the value of Jorum; s/he would not differentiate it from the plethora of services offering content on the web. S/he speculated about a possible future role for Jorum – but then suggested that this function could be fulfilled by Google (thus implying that Jorum is redundant).

HE1: I suppose we just haven't felt that that's something that academics wanted to do really. ... it's partly a 'not-invented here' syndrome and also because people do tend to write fairly specific courses that don't have a lot of common material between them...Also that if you take somebody else's the likelihood is that you're going to have to modify it so much that you're almost better off starting from scratch. I think that's what people might think anyway. I'm not sure how true that is. I can think of some courses where I think we should be doing more of this but as far as I know, there isn't a strategy for that... looking around at what other institutions have done in terms of reusable learning objects, it seems to me that it just hasn't caught on in Higher Education so far...Jorum probably has a role at the moment but I would hope that in the not too distant future – 5 years or so – a lot of this material will become available anyway. People will become a lot less protective of their content and so we'll see it opening up and becoming available and searchable by Google. Of course, it could be that the opposite will happen: everybody will use Jorum to put their content on or will link from Jorum to their sites, which could be a neat way of doing it. So, you could imagine that if there are 50 universities in the country that would like to open up their content, there's not much point in you replicating that. You'd be better off just having a set of links or some sort of indexing system that if you wanted to find something else about differential equations, you could type that in and it would search all the sites – I suspect you can do that through Google anyway.

A3 suggested that the facility to download an item, modify it and replace it is important. (Deposit of an item that has been downloaded and modified is prohibited in the current Jorum licence. This issue was revisited when the licence was discussed). Both of the interviewees shared this view. HE1 went so far as to suggest that this is essential if a useful service is to be maintained.

A3: Surely one of the advantages of Jorum is that people can put material in there and people can take it out, update it and put it back into Jorum. In the same way that Open-source software - people put half-finished products up there and other people pick them up and redevelop them. You could do the same with learning objects...It could be one bullet point or changing the date ... it could be something fairly trivial that stops people from using it, couldn't it?

HE1: So it's all going to be stale and out of date in a few years. Is that right? ... That's ridiculous. It seems to me the natural way of making sure that something stays alive; somebody's going to download it and think 'oh, I can improve that. This has changed so I'll update that' and if they can't put it back on there, you're only going to be left with the old stuff. That does seem really peculiar. I suppose there must be some legal reason why but it does seem really peculiar.

Several focus group participants reported reluctance among academics to share and a reluctance among those supporting them to invest time and effort in a service that is not yet sufficiently established to appear stable. A9 identified clear differences across subject disciplines depending on pace of change; in those where information is current, there is less willingness to share; to do so may be to prematurely expose the lecturer's knowledge.

A2: there's some strategic thinking but there's a lot of small groups at different departments that have been looking at different repository systems. Everybody is waiting for a critical mass. Waiting for things to get off the ground. Not wanting to jump in to signing up – putting the time and effort involved to getting involved with one specific one. People seem to be holding back before going for a repository.

A7: one of the lecturers at [my] University had posted his lecture notes on the VLE and then discovered that a member of staff in another department was using them. He'd literally pinched all of his PowerPoint slides. I think that put him off sharing his resources and it probably put a lot of other people off as well which was unfortunate. That's had a big effect at [my] university.

A6: I've seen that kind of reaction as well within our FE college. Not that stuff has already been appropriated but some people are worried about putting their resources on the VLE because they think 'I've spent a lot of time putting this together, why should I'

A9: I've found that different subject areas have very different attitudes to sharing. It depends how current they perceive their knowledge to be. If they're about to publish, they're not going to share their learning resources. In other areas they're more willing to share. Some areas of teaching mathematics where things haven't changed for years and some areas of cutting edge science.

Focus group A had a rich discussion about the tension between feedback as valuable incentive and as the basis for improving content versus privacy to use content without being monitored.

A7: when we were demonstrating Jorum to some academics, one thing that they didn't like was that they didn't know who had downloaded their material. I know that if you download somebody's material, you've got to acknowledge that. It was that lack of relationship with the person who had used their material: if they found it useful and how they used it. You'd just never know when somebody had used your material at all.

A5: I'd really endorse this. I've been trying to trace where my stuff has gone. I know who's linked to my site cos it's on the ... resource bank but the stuff that went into Jorum, I

can't work out whether it's the same people who've linked to my site or ... somebody different... When I download material from a site like Jorum I think that they'd probably like to know that I'm using their stuff so that they can see that it was worth them putting it in.

A3: I think that's a bit 'big brotherish'. If I download something, I don't want somebody coming along saying 'I see you've used my ... No! Leave me alone.

A7: sometimes when you develop something and it's experimental how you use it with a group of students. Sometimes that can be really useful for the person who developed the resource to know exactly what context you used it in and how they found it.

While several participants in focus group A considered it important that contributors be made aware of who had downloaded their materials, an equal number considered it essential that this information be provided optionally at the discretion of the user. A9 suggested that an annual invitation to users to provide feedback may be an effective and unintrusive mechanism. This was heartily endorsed by other participants in that group.

A9: An email once a year to say 'you've downloaded these objects. How are you using them?'

A3 suggested that lecturer's reluctance to share reflects misunderstanding about the source of value; the resources in Jorum are not valuable in themselves, the value arises through their application as building blocks of something useful. HE1 also suggested that it is misconceived to view content as valuable in itself.

A3: There is a preciousness about resources – about perceived value and letting go of those resources. ... The value isn't so much in the resources itself. Every resource is on the internet. It's just a question of spending time finding it and spending time adapting it. It's actually how you apply the resource. How it's contextualised – how it's used, personalised to the student. That's where the skill and value is – not in the resource itself cos let's face it, there's no object in Jorum that's any use until somebody actually uses it so I don't know why people get so hung up about the actual materials themselves.

HE1: Things have changed so much, literally in the last 2 or 3 years really. If you asked academics to write a course, they tend to start off by thinking of the course content... I think that's wrong. Content has become so freely available these days. There's so much content out there on the internet anyway. Content isn't the problem ... content is more or less free. What you do in a University these days is to enable students to learn ... the way that we interact with students has changed. It's all about enabling them to find and interpret information rather than causing them just to learn loads of facts – and the way that we assess them and give them a quality degree or a quality product at the end of that.

5.2 The services and resources used within the community

There are few resources akin to Jorum. Participants acknowledged this, referring to Merlot, the eLearning Exchange, COLEG and Fenc as the examples of which they are aware and use. They also use educational information services such as Film and Sound Online, SCRAN and the National Learning Network (NLN) resources and they use Intute for discovery. Focus group participants considered the key advantages for educational resources to be that they are targeted for this audience, they are 'trusted' and copyright cleared.

A8: There hasn't been much other than a couple of repositories in the US and Canada. Merlot and a couple of others... There's the e-Learning Exchange, run by the Scottish Institute for Excellence in Social Work Education, which is a repository but it's only accessible to those Scottish HEIs who buy into it, the 6 HEIs. That's the best example ... of a well-funded repository.

B3: We use fenc and have been promoting use of fenc within the FE sector for both staff and students and we've seen a massive uptake of that with tutors and a massive interest through promoting it within the different schools... we also have a staff intranet where best practice is put, so, for example, the Jorum video is deposited there.

The features that attract users to Fenc are relevant content and ease of navigation. If they do not find what they want, they return to Google.

B3: they can find things much easier... they're looking for quite specialist stuff about different kinds of skin – for hair and beauty – we have quite a lot for construction and they can find it. The ease of the navigation, they can find it... getting the material first time, otherwise they go back to Google.

Several participants in both focus groups referred to users within their institutions using YouTube, Google, Flickr, and PodCast Nation. An attraction of these services is that they may be accessed without a password. Users are often searching for content with little lead time; they need it now and do not have time to secure a password. The vast number of resources accessible through these services is also important as is the simplicity of the interface and functionality and thus the ease of use.

A8: I wonder how Jorum will keep up. Will people go abroad for the free Open source learning materials that are on the web. ... All the things that are out there developing. For example, ... PodCast Nation ... Are people going to put stuff in there because it's easier and quicker to get stuff in there than to Jorum. There is that cultural issue.

B2: Within the Engineering community, I think the vast majority use Google for finding resources...I think it's mostly familiarity that makes it easy to use... I don't think that they think very much about whether Google is going to be the best way of finding the resource that they're after at the moment but it's the first thing that they turn to ... They might be looking for an image and they might find an image collection through Google and then through that image collection find the resource that they want. It's the point of first call that leads onto a wide variety of other resources.

B1: I think one of the attractions of Google is that it's not sitting behind passwords [assent by B2]- which is a barrier to a lot of people using various collections from JISC or whatever.

B3: It's got an easy interface as well.

B2: It's got huge scope.

B5: [the issue is] (a) knowing [specialist resources] are available at all, and (b) having to get some password access and go through some procedure to get access – like the NLN resources, you have to go find the person who's downloading them and finding them and re-finding them. If you could just go to an interface where you're in control [B1: and not depend on somebody else] because I think a lot of them are a kind of last minute mentality. They think 'I've got to get this course out by next week'

B1 has discovered recently that Google has become more attractive for users in FE because they may search for content that is available by Creative Commons licence. Several participants reported that clear terms and conditions of use are important; lecturers can use the resources without concern about copyright status.

B1: We find that people are beginning to use Google more because now you can do an advanced search and search by Creative Commons licence so you can know for the sites that you bring up whether you can use or adapt it so the copyright issue is much clearer with that advanced search. That's an important issue for staff wanting to know what they can and can't do with information from websites...

B4: Also, resources like Film and Sound Online and SCRAN and things like that, just to say 'there are alternatives to Google, you can go on here, it's copyright free, you can use this content, you don't need to worry' about things like that.

Several participants in focus group B reported that they endeavour to promote specific resources as alternatives to Google. These included subscription databases, Jorum and other repositories, and Intute.

B4: We're really trying to roll out, at the moment, the idea of repositories and electronic resources rather than using Google.

B3: Part of my remit is to ... make them aware of different resources ... to get out of the Google mentality and use databases and peer-reviewed stuff.

B2: We're trying to promote the use of repositories to students and academics – to use resources other than Google: the American digital library, Merlot, and other more-or-less [subject]-specific catalogues and repositories. And Intute as well, we try to push people towards Intute... if we have a teaching and learning resource that we want to share, we put our stuff into Jorum and try to share it through that.

For sharing resources, focus group participants reported using institutional repositories, Jorum and Sharepoint. Although users often choose Google as the first source, resources providing content that is designed for teaching and learning are also popular because the content is fit for purpose and can simply be adapted and used; permission to use is understood. As indicated above, at FE1's institution, sharing is facilitated not by a specific technology but by staff who are aware of good practice within the institution and can recommend suitable solutions to teaching and learning problems.

B1: I also find, in FE, that quite a lot of people are using the FERL website because the resources in there are actually teaching resources so when they find resources they can adapt and use them rather than going to a website which are not obviously straightforward teaching materials ... the FERL website gives some examples of assessments, lesson plans, teaching materials, powerpoints or flash objects or whatever so it's something that's nearly ready made. Again with the FERL website, anything that's in the teaching resources area can actually be used and adapted without going to the ... [rightsholder] as long as you acknowledge where it came from.

B5: I think if they have that time built in for course development then things like relevance to the curriculum are obviously important and things like Coleg are obviously designed for the curriculum.

5.3 How Jorum subscribers are currently using content downloaded from Jorum

Participants attending the focus groups had very little information about how content downloaded from Jorum was being used. A few offered technical information, for example, that the content is uploaded to a VLE. Others reported that Jorum content is being used during lectures or as part of a WebCT course. B2 reported lecturers' surprise at how easy it is to upload an item from Jorum onto the VLE – and thus provide 30-minutes worth of content that a student can work through. B5's institution is not licensed to use Jorum. S/he reported use of learning objects and lecturers' delight at the value derived. Rather than uploaded onto the VLE, these are saved onto the shared drive and students are directed to them. Neither of the interviewees was aware of use of Jorum resources within their institution.

B5: It took persuasion to get some of the lecturers to use them but when they have used them, they've found it really enhances their class time. They've been able to get students to go away and look at a learning object on some sort of technique so that when they come back to class they know. So, after a bit of initial resistance, they've found it useful because it actually improves their teaching to the students.

Most participants had no experience or knowledge of how Jorum content is being used in practice. B4 explained that it is too early to know; Jorum has only recently

been introduced and promoted within her/his institution. Participants in both groups suggested that case studies would help their users to utilise Jorum. A6 suggested that it is a recognised problem that Jorum is not currently being used.

A4: I don't know about Jorum but for things like YouTube, I have teachers that have used that and what they want to do is to hack it up ... They want it to start here and end here because they only want to use two or three minutes of it in their powerpoint presentation.

A9: I would expect people to want to do both of those things: simply put something into Blackboard or to disaggregate it and recombine it with other things.

B4 and B1 suggested that in FE there is little understanding among staff about the function of a repository thus reinforcing the message that ongoing publicity and dissemination is required.

B4: lecturers ... don't really understand the concept of repositories. They think maybe Jorum's just something the students can go into as well and find that resource as well. They don't really understand that ... Jorum's a resources for them to go in as staff, ... look for something, find something, take it out and do something else with it.

B1: the same thing has happened with NLN materials. When lecturers register for the site, they're just really supposed to preview the materials but quite often you'll find that they'll give students the password to use it on the site rather than downloading the resources.

B2 reported some success in communicating the function and value of a repository to teaching staff.

B2: one of the challenges that we set ourselves was to try to explain to academics why putting some of these resources into a repository led to something that was more useful than just putting them onto a website that other people can access. I think we succeeded. If I was doing that workshop again, I'd do that bit at the beginning rather than at the end.

5.4 Impact of Jorum on working practice

Focus group participants were asked whether any aspect of their work (or their users' work) had changed since they began using Jorum or whether any such changes were made possible. The most striking impact reported was simply that by providing a home for learning and teaching materials, Jorum relieves projects of the need to spend time and money finding or building a suitable home.

A9: I'm aware of projects that have been trying to produce learning objects and they've spent a lot of money trying to choose suitable repositories for those and in future that won't be necessary.

A4: our first reaction was 'fantastic! I don't have to buy an additional server at £6000 along with backup for an additional £3000' So all of a sudden, £10,000 in HE budgets it's a considerable amount... There's also the preservation – being able to sign the sustainability clause on our projects, like 'yes, it will be sustained – by them, heh heh'.

Jorum also provides consortia with a facility for sharing across institutions within the consortium.

A6: we're able to share across institutions just by publishing in Jorum... to share any of the products of the ... regional consortium, just by making it available in Jorum.

A couple of focus group participants wondered if they may become responsible for providing technical and user support and whether they may be responsible for quality control.

A9: it sounds like the object packaging – the support needed for that – is something we haven't properly considered yet.

Although, at the time of these groups, Jorum had been operating as a service for over 14 months, it seems that some people in the community had yet to be

convinced that it was here to stay. A8 explained that s/he had been delaying its promotion to her/his community until s/he was confident that it was an established service populated with content. A7 was also reminded, through participating in this group, of the benefits of Jorum to her/his users.

A8: in a way, from our point of view, we were playing a bit of a waiting game because it felt like Jorum was coming, it was coming, it was coming – and now, in a way, I'm going away from here a bit more thinking it is here. I can go out and be a bit more assertive and confident because to be honest last year there was a delay and I thought 'well is this going to happen?' We've been talking but in terms of going out and really doing a bigger push with our subject communities, I felt that the time wasn't right and maybe now I can feel, OK now I can go out and do it because I can see that stuff is in there.

A7: I think it's quite positive as well. In my role, I feel like I can promote Jorum to the academic staff and maybe try to persuade them to load some of their material onto it and I quite like that idea.

6 Culture and practice within UK HE/FE

Participants in both focus groups identified a wide range of cultural barriers to participation with Jorum. Among them were: lecturers' fears that their materials will be used without attribution; a proprietary attitude among lecturers, towards their content; an erroneous belief that the institution would not support sharing (even at institutions that have signed a deposit licence); fear of exposing one's materials to wider scrutiny; and fear that the cost (i.e. deposit) may far outweigh the benefit (i.e. useful content available for download). This last point was made also by FE1.

A7: I think people are ... worried that by sharing their idea on Jorum somebody might pinch it. Even though you're supposed to acknowledge it, they're worried that by putting it on Jorum, something doesn't become their idea any more.... also ... some people have been lecturing for a while and they feel that they've picked it up as they went along and it did them good. They've developed their own materials so why should they share it with somebody else? [Other people agreed – saying that they'd encountered this attitude too]

A5: There's also this feeling that the University wouldn't want me to (even though we've got a Jorum licence) because it's helping the competitors... [the] attitude that we want to be the best so you don't share it. [agreement from A7].

A8: I think there's also considered to be something a bit risky about exposing teaching materials. It's different from when you submit an article for publication. You get it reviewed and change it in this way whereas if you're just putting something straight into Jorum, there is an element of risk and personal exposure.

A6: I think helping people to share things is demonstrating that there are materials out there that are worth sharing. But potentially, there's a barrier [the perception] that there aren't enough resources out there to sustain sharing.

FE1: I can't see the point when we'd be inputting something into that - probably much more than we took out of it and there's just no incentive to do that.

For HE1 there is little incentive to share. HE1's institution actually hosts a website for staff to share e-learning solutions but this has not been very successful.

Those initiatives that have been successful at both HE1's and FE1's institutions are facilitated primarily not by making specific technologies available but by skillful intervention by e-learning experts. It seems that a technical facility is of little use unless it supports the strategic activities of staff who actively facilitate and promote e-learning solutions within the institution.

HE1: We have actually an internal website in which it has been possible to see the main things that are available on other courses within the institution mainly so that people can see the learning and teaching methodology that's used rather than content.. I'm talking

mainly about e-learning or technology-supported learning courses where people have used different bright ideas to learn and teach. So, new techniques that have been developed might appear. I must admit, it hasn't been a particularly popular website so we're thinking of doing that in a different way as well... With methodology ... we really are very keen on trying to get people to do it right first time. We have a very strong and active strategy for doing that. It's not just the website. That's just a minor thing really ... We base everything strongly on evidence before we start to put it out... we're doing a lot to ensure staff development and enablement. We do simple things like a lot of training for our Blackboard VLE. We also do things which we call [workshops in which] which is basically that we send a team of people into a department which is considering a new course for 2 days solid and in that time we actually get the basics of their course online. If you leave academics to it, they'll just simply put content onto an e-learning site. That simply doesn't work. You've got to change the way that you get students to learn entirely. The advantage of this is that they learn about these techniques.

Another cultural barrier arises from the mismatch between the licensing model and practice within Further Education. It seems also to be at odds with the way in which eLearning is developing.

A3: there's a significant barrier to contributions in terms of it being limited to certain people with a contributor username and password. ... The reality is that in a lot of FE organisations, communication isn't that great. The internal structure, in order for that workflow to take shape, just doesn't exist ... there'll be an initial push of resources – because I think every organisation has a bank of resources that they've done through projects or whatever – once you've exhausted that and put those onto Jorum, it really needs to be sustained by continual contributions from people... If they can't contribute themselves, there needs to be some kind of workflow within the organisation to allow them to collate those – for it to flow through the contributors. Now I think that's unlikely to happen without a humungous effort in a lot of colleges.

B5: e-learning is happening in little pockets. Some people are quite innovative and certain individuals are doing really great things but it's not managed and run at a high enough level and they're the people that need to sign up to Jorum. They can make podcasts and do Web 2.0 stuff but something that requires sign up, managed resources and things, they're not quite ready to take on those things. ...

B2: When it comes to uptake of a lot of different types of e-learning, it often starts with lone innovators within a department. I wonder whether the institutional model for signing up to the Jorum isn't actually alienating them. B5 mentioned Podcasting. That's something that you can, if you've got an hour or two spare, you can find out how to do these and just do it yourself and get something that you can use and Jorum doesn't tend to work like that... With federated search, the fact that we can search the metadata that we find from Jorum but later there's a dead end [the authentication stage], the innovators that want to try something to see whether it works, they can't do that with Jorum because of this.

B5: you see people doing that with VLEs. 'It's too hard' so they get a blog going, just point their students to that or even stick things on YouTube and tell them to go there .. because they just don't have to wade through the ...

The investment in time spent learning to use a resource is a barrier to uptake not only for Jorum; uptake of VLEs is also affected. Nevertheless, some innovative lecturers are creating eLearning materials and delivering them on the open Web. The result is legal exposure for institutions by the back door. This is an important cultural issue. B1 suggested that institutions feel less exposed in these circumstances because they have not signed indemnity clauses such as those in the Jorum licences.

B1: that's what you find. There's quite a lot of lecturers in FE who're running their own courses through blogs because the difficulties of actually accessing the VLE and using the

VLE are too difficult. ... I don't think it's just Jorum...this issue exists with using any repository just now because a lot of institutions are not ready. Some of the FE colleges, for instance, are not making use of their VLEs even. To get to a point where they're able to use that, only then will they be able to get the benefits of using Jorum.

B5: This is the thing. We can't sign up because of the risk or whatever but actually academics are doing things incredibly more risky on their own websites and things that are completely open and could be putting the institution at all sorts of risk. I'm aware of some independent websites that lecturers have set up that have all sorts of copyright violations on it but because they also have the institution branding on it, the institution's gonna be liable but they can do it, so they just do.

B1: they're not worried about that because they haven't officially signed anything.

B5: but they're really just as liable. They haven't trained their staff about what they should and shouldn't be doing. They've started doing it in the institution's name. Just because they haven't signed up to it, in their minds they don't have liability because it hasn't been put in front of their face.

The consensus in focus group B was that eLearning is at an early developmental stage. B2 suggested that Jorum is intended not for early adopters but to support the mainstream uptake of eLearning. Thus, at this stage, Jorum faces a difficult predicament: it struggles to attract those creating and using eLearning resources because they are early adopters.

B2: Jorum isn't there for the early uptakers. It's supposed to be part of the mainstream uptake of e-learning but there just seems to be this disconnect between the enthusiasts and the mainstream who just want something that's easy.

Finally, A2 reported a lot of scepticism about repositories and, specifically, about Jorum. S/he suggested that people are reluctant to invest the time to deposit content when they're doubtful about the future of the service. A4 suggested that this results from the fact that the content is 'hidden' behind an authentication barrier – so potential end-users cannot see that Jorum is full of valuable content.

A2: One guy said to me 'it's dead in the water'. I asked 'what do you mean' he was like 'go look on the web'. I looked and there's nobody saying Jorum is a disaster already.

A4: and there's nobody saying it's a great success either. There's not enough of the inner guts of it, it's a silo. There's not enough of the inner fantasticness of it and there is great stuff. It's a walled garden. Why do we have to keep this closed to just teachers.

A3 considered it essential that the Jorum team do something to challenge people's fears, engender confidence that Jorum is here for the long term and highlight the benefits that it offers.

A3: A lot of these [fears] are based on emotional responses rather than any logical basis. You've gotta try to confront those in some way.

A4 suggested that the key benefit to be highlighted is that Jorum offers resources that will save time. The mechanism for communicating this message, s/he suggested, could be learning objects about Jorum.

A4: ... I think more development time should be spent with the Jorum team putting out some very short, snappy learning objects about Jorum and how cool it is.

6.1 Suggested improvements to workflow

With reference to current workflow and communication issues, B1 suggested that it may help if the Jorum website provided the contact details for the local site representative. A3 and A9 suggested a workflow that may facilitate contribution in FEIs.

A3: ... maybe put something in and it stays in a holding area and somebody else in the library who's got the contributor rights .. takes it up and loads it.

A9: If that side of it could be handled by the website. If an individual member of academic staff submits it to Jorum, but then it's referred back to the contact person at the institution who does the quality control or whatever needs to happen. That might work better but it needs to be instant from the academic's desk.

[There was a lot of agreement among other participants for A9's idea].

6.2 Strategy on sharing within institutions

A few participants in focus group A (mostly HE but including one FE participant) reported strategic direction to share resources. (A9 was actually employed as part of a strategic initiative to foster sharing within the institution). Nobody reported a specific strategy related to Jorum. A more common experience among participants was that they were unclear about who would provide strategic direction in this area within their institutions. In group B only B3 was aware of strategic initiative to encourage sharing of resources; this came from the executive. Other participants in that group were aware of ad-hoc and informal sharing practice but no strategic push. Sharing is often promoted and co-ordinated by ILT staff.

A6: Strategically at our college there is direction that we need to share and repurpose rather than keep rebuilding them all the time and there are other lecturers who are only too willing to share. .. the strategic direction is coming from the management team. There is an ILT strategy in place that wraps up VLE learning resources and sharing resources.

A9: We're just beginning some strategic thinking at our university. My post came into being a year ago. We're beginning to have image databases for sharing images within the university as well as using databases from outside and just more systemic thinking about applications in general.

A8: I don't always find it easy to work out who has strategic responsibility that then gets operationalised because of the learning and teaching enhancement unit, the teaching and learning co-ordinators, the VC for teaching. It's not easy to work that out.

A8 suggested that a well-established repository of research output within an institution may provide a model that facilitates extension of practice into the teaching and learning materials.

A8: [My university] has a very successful eprints repository and when you've got something like that in place it may provide a way of working which may then extend to teaching and learning.

The interviewees had clear strategic vision and could identify strategic initiatives to develop e-learning practice within their institutions but sharing by means of a repository was not an important factor in either institution. With regard to current practice in her/his institution, FE1 explained how sharing of 'good practice' and of content within the institution is facilitated by e-learning and technology support staff who identify a learning need and can propose e-learning solutions because they are aware of good-practice throughout the institution. In that way, sharing is achieved through process rather than by employing a specific technology.

FE1: [Lecturers] would know that the e-learning and technology service exists because that's extremely well known throughout the college... we have an e-learning and technology support service ... They are going out into the curriculum, finding the good practice and supporting its use on the VLE ... and making sure that that good practice and thereby that will be content, will be shared across to other areas of the college..... one thing that we've done is to look at the pedagogical issues such as, for instance.... We have also embedded that into research that asked students three questions: what was the most difficult part of your course? How could it be improved? And could e-learning help? ...

then go to that tutor and say 'this is what the students have fed back that this is the most difficult part of your course – the bit that they find most difficult'. Usually the tutor will confirm and say 'well I find that the most difficult bit to teach' or something and we will give them an e-learning answer...So we're effectively a brokering service in terms of brokering that good practice across the college.

6.3 Incentives to deposit

Both focus groups discussed the issue of incentive to contribute content to Jorum. Only one participant, A1, suggested that some kind of reward should be offered. A3 strongly disagreed as this contrasts with the culture of sharing that Jorum is intended to foster. Both A9 and B2 suggested that if Jorum were established as a source of high-quality content, deposit would enhance the depositor's reputation. A9 suggested that this would be contingent on quality control. The suggestion was supported also during interview, by FE1 who is enthusiastic about sharing but explained that people do not find time to deposit and that this might be overcome if they were recognised for their contributions. Clearly, willingness to share is not sufficient; some incentive is required to persuade people to spend time and effort depositing content in Jorum. Among focus group members and FE1, the most likely incentive would be recognition.

A3: I think the rewards idea would be the kiss of death to any repository because it wouldn't be sustainable. You'd get everybody hooked on the idea of handouts every time they contributed something and then when they stopped, the whole thing would go belly up. I think that's part of the cultural change – you contribute something and you get something back. It's a share and share alike culture; it's not about feathering your own nest.

A9: It goes hand and hand with the thing about peer review or quality control. That if they put into Jorum and they want some kudos, they want it to be perceived as good-quality, acceptable resources so there's no value in saying I've put a few things in if there's no quality control.

FE1: We would pass them [our resources] to any college quite happily as long as we are allowed the [College] logo on it in perpetuity so that people know where it comes from. ... The incentive ... is not really financial. It's about bodies. It's about people: people taking the initiative and being prepared to do that and to make it happen...as long as he is accredited with that, I'm quite happy – [the creator of the e-learning resources] and the college...If the individuals can see that they get the credit for it, when they want to move on, they can then show that as a portfolio to others and people will know about it because it's good.

7 The licence model and authentication requirements

The licence structure, the complexity of the licences, and the requirement to authenticate both through ATHENS and then separately as a user of Jorum were all cited as colossal barriers by most focus group participants. Most of the participants at the focus groups considered the licence model a barrier. The model presents many challenges for institutions and individual staff within them. B2 implied that some enthusiasm is required to overcome these barriers. B5 added that the benefits of doing so need to be clear to provide that incentive. The mismatch between the licensing model and practice within Further Education was also cited as barriers (see Section 4 on Culture and Practice above).

B2: I think when you look at it, it's quite easy to find reasons for not signing up to the Jorum. If you're in the position of the person who has to do it, it's quite easy to say 'no, I don't like the liability clause or 'no I don't like the fact that we've got to find somebody to provide on-site support'. It's quite easy to not do it.

B5: until such time as it can be proved to them that there's people using it or that it has some benefit or that there's some tangible proof to the people that are going to sign up to it. ..

A8: It's been quite a struggle for me to get a deposit licence signed. I got help from Mike [member of the Jorum team] but even then it was quite difficult. Apart from playing at workshops, I haven't been able to deposit anything; I haven't been able to work out how to do that within our institution. Until I do, I can't say how keen I'll be to use Jorum when I can go into some of the other sites and websites.

A9: Most of our databases and resources we provide through ATHENS single-sign-on so once they're signed into the university systems, they get straight in and although you've got that part of it, I think it's mystifying for most users that they've got to come and sign up individually... Also, it means that we can't link directly to the Jorum search interface because we have to link to the Jorum website so that users know what to do to sign up and then they've got to navigate through the website to actually get to the search interface.

A5: and then when you get Shibboleth, you've got to do it all again. Both times, they say it's 24 hours which is scary cos you want it now.... I don't know whether the fact that you're thinking of getting a search screen on the other side of the registration process would overcome a lot of this. I think it's the fact that we don't even know whether it's gonna be worthwhile when we get in there.

A3: I think it has to be said that the authentication is the single biggest barrier to people using the Jorum ... in an HE or FE institution, they'd probably get in automatically whereas if they're off site, they'd have to log in using their own personal ATHENS account... Most people wouldn't get to that point. They'd just give up.

The interviewees were not asked about the licence. They were asked to comment on how useful an open-access repository would be for their institutions. The responses relate to the licence as the licence restricts participation in Jorum to staff at UK HE/FE institutions. The fact that content downloaded from Jorum and modified may not be deposited in its revised state also arose in interview with HE1. (The latter is referred to in section 3.1 above). Both HE1 and FE1 would extend participation in the Jorum community to anybody, anywhere in the world including commercial organisations and students. They could see no argument, from the perspective of depositor or user, for restricting access to Jorum and FE1 cited benefits from opening it up to others.

HE1: I would be quite radical and say that the site should be completely open for anyone to contribute and use across the world entirely freely. That's the way probably the most well known institute in the world – the Massachusetts Institute of Technology – have gone with all of their stuff and obviously you can't get a degree by just learning it. That's not where the value is added. The content itself is almost free these days... I think students have to learn to be critical that not everything on the web is correct...at the end of the day part of the point of educating people at this level is to make them critical ... It's a bit like pointing them to Wikipedia which is great because it's got millions of pages and it's usually really up to date but you have to say 'anybody can change it and say whatever they like at the end of the day. [The comment function] would be helpful for anybody like students ...I suppose that some contributors might be worried that anybody can use their stuff but I think that's something that we're going to see a sea-change with anyway ... I think in the next couple of years it will become even more evident that content is so easily available that you shouldn't be worried about putting your content on a site like Jorum. . In terms of contributors I can see where you're coming from in that it gives you a bit more credibility or authority if it's coming from people within the Higher Education sector. Is that good? I don't know. Going back to Wikipedia, anybody can contribute to that and you'd think, therefore that's a load of rubbish but, in fact, it's a very well respected site. And, of course, there is some refereeing of that anyway really. I suppose it makes your life easier because if you know that it's only HE academics that are putting stuff on there then

you know that it's good stuff and you don't need to have any more controls; it'll just more or less run itself... My thoughts are probably that ultimately, you should be moving towards a system where anybody can contribute but also, anybody can comment on them as well.

FE1: [Jorum does not meet my needs for a national service] because we would want to be able to work with commercial partners and non-standard FE colleges, work-based learning providers etc. etc. And it's really important for us as a sector that that happens which is one of the major reasons, I suspect, that you probably don't have as big an FE contribution as you could possibly have... [with regard to students] We have an e-mentor system here where students support staff in using the technology... The students are well ahead of the staff so it makes sense to have them pull the staff along... That works just as much for a repository as it does for anything else. If it's open to staff, it should be open to students.... as a depositor I'd be quite happy to see anybody use anything. ... [an open-access repository would be of] much more use, I think. I believe in open source... I would go a step further ... saying that all content, created in all Further and Higher Education institutions and schools, should be Crown Copyright and completely open so that, with the same caveats that I mentioned before, people could be recognised for what they've done.... What gives us an edge is that we use [e-learning materials] on a day-by-day basis and we gain from giving it out to other people because we gain different aspects of feedback from those different institutions which we would never have access to otherwise. So effectively it's the piloting process: getting different perspectives looking at it so you can improve the quality of what you're doing by getting that feedback from other institutions. That's the real added value.

7.1 Separate deposit and user licences

The fact that institutions are licensed separately as users and depositors was considered confusing.

A5: I've had at least two senior members of staff at different institutions come to me and say 'I can't use it because our institution won't sign up to Jorum.' At that point they weren't aware of the two licences and thought they couldn't use stuff from Jorum unless they agreed the conditions of the contributor licence. Those institutions ... would not sign the contributor licence.

While this demonstrates a problem with communicating/understanding the model, it also shows that depositors' fears of unfairness are justified, i.e. that some institutions will download content without depositing.

A6 suggested that having signed a depositor licence, an institution could reasonably expect to be allowed to download content from Jorum.

A6: There's also a degree of confusion about the need to have both a contributor and user licence. That's a bit unique isn't it? ... It feels odd. It came as a surprise to our organisation when we had been contributing that we then had to sign up as a user.

A1 wondered why it's necessary to sign a licence to contribute, given that Jorum is trying to encourage deposit.

Furthermore, the relationship between the licences is presented on the Jorum website in a manner that may suggest a gross imbalance in trust. The webpage addresses depositors with information about what they 'cannot' do unless they sign the user licence. To B5 it appears that Jorum secures promises and in return refuses to trust the depositor institution. S/he agreed that this could be improved simply by revising the text on the web page. Another gesture may be offer the depositor a non-exclusive licence to use the Jorum metadata record for her/his contributed content.

B5: My impression is that there's an immediate discrepancy between the user licence and the contributor one when you see it on the website. ...the impression it gives when you read through that 'you can give us all this stuff, we own the metadata and that's very nice of you but you're not, under any circumstances, allowed to download anything or do anything with it.'

7.2 Complexity of the licences

Many participants considered the licences to be excessively complex. Both focus groups referred to Creative Commons as a preferable model; it offers brief, simple licences with clear iconic expression of terms.

A3 reported her/his experience of working with institutions to explain the Jorum licences.

A3: They're not often practical objections. They're emotional responses – or based on hearsay or some concept that they've gathered elsewhere. If you actually go through the licence line by line and knock down the objections like that and talk your way through, you're successful in the end.

Clearly, the resource required to explain the licence clause-by-clause to each institution would be substantial.

The clarity with which contributors and users understand licence terms may be related to the complexity of the document and the model. One focus group participant who had contributed content to Jorum believed that by doing so, s/he had forfeit control over how it could be used as well as the right to be acknowledged as author. This is incorrect. The Jorum depositor licence is not exclusive, i.e. content may be deposited into Jorum and made available elsewhere at the same time. Furthermore, Jorum users are required to acknowledge the author and are prohibited from removing any copyright notices from content that they download from Jorum.

Anonymous: The contributor licence says, basically that you put it in and then anybody can wipe your name and take the content.

A4 responded to this contribution with a call for a Creative Commons-type approach. This would bring not only simplicity and ease of understanding, it would also accommodate an international user base.

A4: the Jorum licence is too difficult to read into. You the librarians who are supposed to know about the licence don't know about the licence and the truth is, I don't want to go to a bunch of training on what the Jorum licence entails. ...it needs to be something like Creative Commons where big, fat icons can be shoved on anything and we kind of know the general meaning. And there's also the larger issue of what happens when we start sharing resources with the States, Australia and Canada – and even India for that matter. You've got this licence that says 'UK only, sorry!'

This comment exemplifies the situation that the JISC Legal advisor sought to avoid when she refused to endorse icons that communicate licence terms. She considered it important that users should not be presented with icons that they 'kind of know the general meaning of'; they should be required to read the licence to establish the specific meaning of the terms therein. This is the tension that exists in creating a user-friendly licence whilst satisfying the relevant stakeholders that their interests are protected as effectively as they would be in a traditional licensing regime.

A9 emphasised the importance not only of simplicity but also of standardisation.

A9: it would be nice to have the translation: this equates to this in Creative Commons. Then people familiar with those systems can think 'OK, right, I understand that' without really ...

Both A3 and A4 agreed that simplicity increases the likelihood that people will comply with licence terms.

A3: It must be clear and concise. If you get some sort of complex, legal model that people have to adhere to, there's not a hope in hell of it being adhered to is there?

While everybody agreed that the licence and model must be simple, A6 suggested that Jorum cannot be responsible for ensuring that depositors and users understand licence terms. It is incumbent on institutions to provide some expertise and to school their staff with regard to their legal responsibilities.

A6: You can't expect the system to handle all of these things. There must be parts of the institution that help people to understand things. Even when things are represented really clearly, you often have to tell people several times before they actually understand. You've got to present it in different ways.

B5 ended her/his contributions regarding the licences by suggesting that the Jorum model arises from a traditional, risk averse culture which s/he contrasted with the Creative Commons model.

B5: The licence is coming from a place which is quite a risk averse culture: trying to protect things and create boundaries rather than just an assumption of trust and openness which doesn't recognise the way people are wanting to work. I think there's a big impetus behind Creative Commons and things like that and people get a nice feeling about using them.

Both interviewees shared this view; they would have Jorum open to all users throughout the world. One reason for restricting use is that the Jorum team wishes to be able to contact a user and revoke content that is subject to complaint. HE1 considered this unnecessary.

HE1: I don't care who uses my content and I suppose that I would always vet anything that I was going to use anyway – I think that's my job. I do point my students to loads and loads and loads of websites, but I always tell them to treat them with a bit of caution because they are external websites that haven't been given any quality mark by me; they're just websites.

7.3 Licence terms

Both focus groups concurred on their criticisms and suggestions for revision of the licences.

- They suggested that there should be more than one licence from which depositors may select; not a large variety as that would add to complexity but some flexibility is needed.
- They called for extension of the licence to an international audience, or at least the addition of a licence that accommodates an international audience.
- Extension to professional audiences and to international audiences would also meet the needs of academics in some subject areas (Engineering and meteorology were named respectively by two participants).
- They would value a licence that prohibits modification; in some subject areas, e.g. legal subjects and sciences, the creator wants to ensure that the integrity and accuracy of the content remains under her/his control.
- The groups also called for the facility to download content from Jorum, modify it and republish it into Jorum.

A3: in terms of the longevity of learning objects, it's probably something that you'd want to think about. The NLN materials are starting to get a little bit dated in places, aren't they? I suppose a lot of them could just do with, as the curriculum changes or other things change, sometimes it's just cosmetic changes: you might just want to tweak it here, tweak it there, adjust this, adjust that, you know, just generally freshen it up.

B2 suggested that providing access to industry could help to publicise depositor institutions. This may be a good incentive for those institutions to participate.

B2: Ford, for example, find out that they can get really fantastic learning objects from X University, then that's a fantastic advert for X University.

7.4 Responsibility of contributor/depositor

Section 4 on 'culture and practice' (above), indicates that FEIs tend not to have the structure required to channel the contributions of all staff through an individual signatory. This was also an issue with regard to the licence as it places an apparently onerous responsibility on the shoulders of that signatory whilst simultaneously appearing to deprive the content creator of authority for and control over her/his own content.

A3: It puts a lot of responsibility on the contributor. Some might not be comfortable with the idea of making the decision to publish or make available resources from a range of people ... I have a colleague I was speaking to recently who ... suddenly found that they were the entire contributor for the entire university and they weren't right comfortable with that particular scenario.

A9: it comes down to academic freedom as well. Whoever is the academic wants to think 'yes, I sign on my own behalf' rather than somebody else agreeing or disagreeing.

The licence as deterrent to uptake of the contributor service is not exclusive to Jorum.

B1: the other learning repository, the [name of a subject-specific learning repository], they had the same issues with trying to get the institutions to sign up because of the liability. The lawyers were saying 'don't sign up to contribute to it' so I think it's not just Jorum.

8 The Jorum Service

8.1 Functionality and interface

While participants considered cultural issues, licences and authentication to be the most challenging barriers, they also criticised the service interface and functionality. The Jorum service was developed using intraLibrary (a learning objects repository system). The intraLibrary vendor, Intrallect, is responsible for the design and development of the interface and functionality. The Jorum team has some influence on development of the system. However, it cannot respond as quickly to the requirements of the community with regard to the system as it can with regard to other elements of the Jorum service. Focus group participants were critical of the interface, functionality and of the classification scheme adopted by the Jorum team.

The intraLibrary interface was described as '*too technical looking*', '*not intuitive*'. The high-level names for the classification schemes used in Jorum make no sense to users '*what is JACS?*' The fact that many folders are empty discourages users. On a positive note, users in focus group B found Jorum simple to use once they were familiar with it. They liked the workflow and metadata template and found that it works well with content packages. Those in focus group A had fewer

positive comments to offer but were encouraged that the Jorum team continually solicits feedback acts on it.

A3: it's more the cultural barriers ... than the actual physical routes to upload the material. It's more about people getting used to the idea of working in that way regularly and it actually being their responsibility not somebody else's.

A4: It looks like a library catalogue which looks too formal to me. If you go to Amazon or to YouTube, It feels more human

A7: It didn't feel very intuitive either when you used it. It didn't seem very obvious to me.

A9: I have to agree. It has a passé look and feel. If you look at the Web 2.0 applications, the skins ... the use of frames here and of standard windows drop-downs, all of that makes it dated.

A2: academics staff are not gonna easily trawl through it.

B5: it's all happening in these frames where they're used to on-screen searching.

A4 suggested that Jorum content should be available through a simple search box that may be embedded within the learning environment rather than exclusively through the Jorum service interface. This would minimise effort thus maximising use. Participants agreed that users should have access to Jorum content within their VLEs. Providing access to Jorum at minimum effort would be an effective route to increase uptake. The new RSS feed from Jorum goes some way to addressing this. It was enthusiastically received by participants in both groups – although **B6** said that it would be improved if the user were permitted to specify the number of feeds.

A4...but the interface ... should be personalised ... if you expose your search data then I can pull that inside of the learning environment and make that a little search box that is exactly to our marketing specifications and they can search and it appears right there in WebCT or Blackboard or something else. That's when it's seamless. It's not going somewhere else. It's 'oh well, I'm in here, I might as well search for a resource'.

A3: A lot of practitioners may be using the VLE for the first time and scratching their heads thinking 'what content can I create?' and they're trying to find something a bit more innovative. They need an easy route from that interface straight to the Jorum interface so that they can 'I'll put some of this in and put some of that in'. ... you could develop modules for the common VLEs ... provide some interface that's bespoke to that VLE which means that you don't have to leave that. It would deal with the authentication issues as well. If you could get the authentication via the VLE. ... it would provide it in the native environment where most people would want to use it.

A9: the RSS feed is fantastic. That'll make a big difference to people I think.

B5: the RSS, A few of us mentioned that it would be very useful – whether to save subject-based searches or more from a management point of view – somebody could set up one for their own institution.

B6: The RSS feed I found very useful as well but I think there's a limit on the number of items that can be set up by RSS. I think it's 50... it'd have to be increased because I want to set up an RSS feed of all the resources I contribute from [a specific] project which is 245. At the moment I've got an RSS feed, my feed-reader reads it every day and just tells me about the first 50 resources that are there. I don't think it's the newest resources either. I think it's just a random 50. It's pretty much the same ones every day. [LH: How many would it be useful to set it for?]. Well, 250 would be OK but if somebody wanted to set one up for say [the specific discipline], it'd be a lot more. Perhaps a better way would be to allow the user to decide how many RSS feeds.

A4 suggested that the name Jorum should also be dispensed with

A4: Just stick the content up there. That's all they want.

A problem with this approach is that it is exclusively user-focused whereas Jorum is a service for sharing, i.e. use and deposit. If the user is unaware of the source of content, she's unaware of the ethos and her opportunity and responsibility to

contribute. If Jorum is to be the focus of community activity, users need to know the source of the content.

8.1.1 Classification scheme and browse facility

Participants at both groups found the classification scheme confusing and unhelpful. They also considered the term 'LearnDirect' to be confusing as it suggests to users that Jorum contains LearnDirect content³.

A5: it doesn't talk in the terminology that I talk in. Information literacy gets you nothing and then you're down into information management ... yeuch. I had to [drill down] to find where my stuff was supposed to go. And finding other people's stuff was difficult too.

B4: [Users] go through and it's zero object, zero object in a lot of the branches at the moment. Also when they look at the classification scheme they don't know what they are. That takes a bit of explanation. They see the 'Learn Direct' one and think it's something to do with Learn Direct.

A4: I think there needs to be more of an explanation and even hiding the browsing in an advanced area. I think it turns the general user off to actually see that browser. They think 'oh I'm in LearnDirect. I don't do LearnDirect, I do HE'.

However, although one participant suggested that Dewey would be a good alternative, another stressed the importance that educational level be evident at an early stage in the search/browse process.

A5: I think finding out if it's supposed to be HE or FE or schools stuff. I do that quickly before I bother going in. I'm looking at skills stuff so there's stuff at all levels and I'm trying to get stuff that's appropriate to me.

Participants in both groups were dismayed to find numerous empty folders within the tree structure.

B1: people find it really frustrating when they went into the browse area. Really frustrating. They go in thinking they're going to get something and there was nothing so if that number beside the application could be [s/he was suggesting that, within the tree, each subject branch should indicate how many items are in that folder. B4 agreed with this].

Participants in both groups suggested that the browse facility (and thus the classification scheme) should be in an 'advanced' area of the interface.

8.1.2 Search and metadata

B1 was disappointed to find that the intraLibrary search does not facilitate simultaneous filtering by subject and educational level.

B1: There's also something about, you couldn't do a search and also [specify] education level at the same time – and people found that frustrating. If they did a search on educational level, it came back with everything. They couldn't do a search on a particular area and the educational level.

The value of the search function is determined by the quality of the metadata. A majority of participants in both groups considered the metadata to be unnecessarily complex. **A4** suggested that formal cataloguing should be replaced by user-generated tagging of content. Among other things, this would substantially reduce the cost.

A4: the other thing in terms of taxonomies is going towards folksonomies... Maybe we need the formal metadata for the cataloguers but I also think there should be informal stuff...The cost of cataloguing these objects has got to be phenomenal. I think it'd be better

³ This issue was addressed when a new version of Jorum was released in May 2007. The term 'LearnDirect' is no longer used in the Jorum browse function.

to put it down to the 80/20 rule. Use something like Dublin Core for each one and then hire more people to actually go in and participate in the community of the system. It's those informal links to get people to look at other resources [by] adding this informal metadata [you] bring people into the system.

A3 considered the high-quality metadata to be an essential feature of Jorum but agreed that the building of community around Jorum is essential if the service is to really thrive as a resource for sharing.

A3: I think the application of metadata in Jorum is one of the defining features ... what makes it useful ... It's pretty much anarchy if you don't have that... you just throw it all in a big pot and hope you find your way around. It's not so bad now when there's not so many objects in there ...you need some groups to come together and feel like it's a bit of a club and spur each other up. ... there are so many websites, resources and services. What really ought to make Jorum different is that people can identify with it and feel like they've got some personal engagement with it. That's one of the really difficult things to achieve, I think, at a national level. There's also the problem of crossing the sectors. Certainly in FE, they sometimes see JISC things as being a bit sort of academic... nothing to do with me really so you've gotta try to break those barriers down.

There was no consensus on the value of the metadata for Jorum resources. The first focus group discussed the metadata in general terms. The second discussed the fields in detail. B5 offered feedback for each field. Although extensive, it is rich and so is quoted here in full along with the interjections of other participants.

A10: [it's useful] only if people are actually using it to find things... Personally, I think the metadata is unnecessarily complex and there's probably too much of it ...if [users] are not using it, there's not much point in having it but if they are using it, it is necessary.

A3: If it's not there, they can't use it.

A9: And there's the possibility to hide all but the most popular options for searching so you only present the things that people want to search within.

B5: : I've spent some time looking at how the metadata fields can be configured, so can comment on Jorum's use of fields in the Advanced Search.

'Choose collection': given that there only is one, seems like a bizarre one to have in the advanced search.

'Aggregation level': to most users, I think '1, 2, 3, or 4 – what does that mean?' so not really useful.

'Catalogue reference': I tried various means to figure out what that was searching on and the only thing that came up with a result was using 'Bodach' (part of the string that's in that field) but certainly putting in a number for the ID didn't bring any results so I'm not sure what the catalogue reference is for.

'Contributor': fairly straightforward although it might be difficult for people to know what format to enter for the institution. Same with the 'dates', what format to enter it in.

'Description': useful.

'Keyword': a bit unpredictable but that's just the nature of keywords.

'Language of this record': there only is English so until you start having resources in other languages ...

'Level of Difficulty': again very subjective so difficult to make a decision on that.

LH: so are you suggesting that there should be some sort of scale or direction?

B5: Well, potentially, but it becomes a bit complicated with level of difficulty for this type of learner.

B2: I was going to say 'Level of Difficulty' in terms of how it's defined in the LOM only makes sense if you also have some information about the educational level and it doesn't look like you can search on educational level as well.

B1: No, that's what so frustrating.

MD: what would be the best thing to do?

B5: Some of them you could relabel. For example, there's one 'Section name' which is actually the classification node or whatever. There's nothing else in the system that tells

you what 'section name' is. I think in the new system you can label. Certainly, if you had a controlled vocabulary in there that users were searching from it would give them an indication of what they could put in there.

'Role of contributor': there are two 'Role of contributor' fields, one for metadata contributor and one for resource contributor and the one that's in there is for metadata and it only allows you to put in 'creator' or 'validator' so why would you search on that? It doesn't seem like a useful search field. Whereas if it applied to the resource, being able to put in 'publisher' and link it to an 'institution' would be more useful... I'd change that all together.

B5: there's one or two I'd remove like 'aggregation level' I can't see that being useful. Others, potentially rename, like 'section name', being able to search by classification fields would be useful but if you don't know that that's what it applies to ... 'star rating': I was surprised that it was useful. Why would you want anything that's any less than 5 stars? But I did find a couple of things which were actually 2 stars which were actually useful to see why they didn't fit a particular purpose.

'Type of resource': I think there were too many to select from [there's a huge list]. Some of which are really the same thing so knowing which one of these to pick, because something can be many of these things. 'Type of format' also has too many options 'Type of system': That's the type of system needed to view it rather than the type of format of the object...

B2: it comes from the technical section of the LOM and I can't imagine anybody is cataloguing against that. You need to say what's the highest version of the browser, what's the lowest version of the browser, for each of the different browsers you can think of.

B3 considered the list of search fields too complex. Her/his users are interested in keyword and format. B5 suggested that for most users, the facility to search within a specific field is valuable only if a list of options or guidance on format is provided; otherwise, a free-text entry in the simple search box is as effective. B2 suggested that many of the current fields may be valuable to some users if the search function were more flexible, for example, if some fields could be hidden and if users could search within a results set.

B3: I think if you make it too confusing, academic staff will not use it. They'll just go back to Google. It needs to be quite [gesticulating and noise which suggests choppy/snappy and quick] What we normally find is that they'll search on keyword and that's it. To present them with too much information - because they're not librarians, they're not cataloguers...

B2: I think part of that depends on the user interface as well. One of my favourite sites for buying books is ABE Books ... they've got a great way of presenting this sort of thing but there's options for refining the search [results set] that you've already got. So ... instead of going to the advanced search and saying 'I want a hard-back, first edition that I can buy from a seller in the UK, you'll do the search which is the book title and then you can refine on the following fields: do you want a first edition? Where do you want it to be located? I think when somebody's done a keyword search and they've got their 200 resources on the heart [s/he was talking about Jorum again], I'd like to say 'well actually, I want something that's for first-year, undergraduate students'.

B6 would value the facility to search on a field that specifies the relation of the deposited resource to others in the repository.

B6: One of the things that you can't search by is 'relation to other resources'. We've used this field because [the project on which s/he worked] was taking older resources from earlier projects [s/he named them]. So we had other partners in the project and they were trying to find the resources so they would type in [the project name] and nothing would come up ... I'd like to set up an RSS field of all the resources that came from that original

resource. There's no way of searching for them. we've used the relation field it's just that you can't search for it.

On a related point, B4 indicated that s/he had searched for resources that s/he knew had been deposited by a JISC-funded project. The project team had publicised the fact that the resources had been deposited but B4 could not find them. S/he contacted Jorum support and was informed that the resources had been removed due to incompatibility with some VLE software packages. B4 suggested that in instances such as this, it would be useful to have a marker in Jorum indicating that the resources had been removed, the reason for their removal and the expected date on which they would be available in Jorum.

B4: Lecturers here at [my college] are familiar with projects in their subject areas and many projects state they will deposit the resources in Jorum. We have been using this as a selling point for Jorum and lecturers here may decide to register for Jorum because they think they can get access to resources from a particular project. If the resources are just not there even though all the project literature says they are I don't think that leaves a good impression of Jorum.

8.1.2.1 Inaccurate classification

Metadata creation for Jorum is resource intensive so the complaint by two participants at the second focus group that the metadata created after deposit are inaccurate is important. B6, B2 and B5 had all noticed in Jorum resources that had been classified in a 'strange' manner. They assumed that these classification decisions had been made by the depositors, until resources deposited by B2 and B6 were catalogued for Jorum. The cataloguers had not only added inaccurate metadata, they had replaced accurate metadata with inaccurate metadata. B6 was concerned that this reflects poorly on her/him. It is important also that these resources were available in Jorum for a year before they were catalogued. The contributors would have expected them to be catalogued within a few months of deposit.

B2: We put quite a lot of effort into putting good quality metadata into the resources in the first place and it's taken a long time for the cataloguers to get round to doing the cataloguing and they're not doing it correctly. I don't know what the thinking is from a library background but from the structure of the LOM records that they've created, they're misusing it.

B5: I've not looked at many resources but I'd agree that there is some quite odd useage of – the classification ... there were quite a number that I would think 'why is that there?'

B2: the one that I particularly look at is the Policy Themes.... that is useful if you've got a resource in there that's about Higher Education. Then you can classify it as about HE.

Most of the stuff that's classified there seems to be there because it's for Higher Education. I had assumed that was uploaders doing that.

B5: Yeah, you've got pedagogic terms like 'online education' because it happens to be an item that's online but it's not about online education. I thought that was just strange.

B6: I was looking through an RSS feed of all the resources yesterday and noticed some of the titles had been changed by the cataloguers and when I looked further I thought 'that's strange, why is it catalogued under the category of e-learning?' I mean, essentially, every resources in the Jorum could go under that.... We'd notice before that a lot of resources were being classified like that and thought the projects were making mistakes... it looks like we've done it wrong.

8.1.3 Download

At present, a user selecting to download an item from Jorum is presented with a window offering a variety of optional formats. Participants in the second focus

group considered this complex and intimidating. It is also inaccurate which confuses users.

B3: [Users] got very confused with all the download options. When they were faced with all this, it was frantic phone calls: 'what do I do? What do I press? How do I do this?'

B2: especially when one of the download options is SCORM package and not everything that you get from that is a SCORM package ... you go to upload it to the VLE and the VLE says 'this isn't a SCORM package'.... you have a choice either to educate the users onto the differences between SCORM and versions of IMS – I wouldn't push that on anybody – or you have to try to explain in plain English. But even at a conceptual level, the idea of content packages is quite difficult for academics to get their head around – for anyone to get their head around. I think 'content package' is probably a better term to use than SCORM content package. It's at least technically true.

When downloading, the information that a user needs depends on the use to which s/he plans to put the downloaded content. Often, s/he will wish to upload to a VLE.

B5: Even if there was some way of suggesting 'this item will work in – whatever VLE it is they're about to use'.

8.1.4 Depositor experience

Participants in both focus groups criticised the deposit process. The first group identified, as specific problems the requirement to provide minimum metadata beyond title and author name, the complexity of the licence, and the requirement that content packages be IMS compliant. Participants considered these issues to be sufficiently problematic as to prohibit deposit.

A4: There is no lecturer on the planet who is going to add 5 elements to upload content. ... At best, you'll get them to stick in title and their name because they care about those two things ... and they have no idea about licensing. I spent half an hour trying to explain ... what a creative commons licence is never mind the six licences underneath. How on earth am I going to explain the Jorum licence?

A5: I did contribute some stuff to Jorum and I found the biggest hurdle for me wasn't when I was putting images in or things like that, it was when you want to put packages in, it's got to be IMS compliant. That was beyond me. ... You were very, very helpful at JORUM, helping me but it has put me off. ... We all have our own jobs. We're not going to invest a lot of time.

Participants in the second group provided detailed feedback about the experience of cataloguing resources during the deposit process. Inline help would be useful as would a step-through workflow.

B5: Just by having more inline cataloguing guides – I know you have guides and manuals but for users who aren't using it that often and come back to it – cataloguing guidelines that are specific about any controlled vocabularies in use, for example.

B6: one of our cataloguers is actually cataloguing the resources before they're moving onto the Jorum cataloguers...it's a bit fiddly. You have to go back and click on different buttons. There's no real order...she was saying, if you had: step 1, fill out these fields; and then next go onto step 2, go onto step 3. I think that would be a lot more straightforward. Even for an academic uploading a resource, you've got all these buttons and they don't know what they mean. Step 1, click on this button, step 2 type in a description, step 3, do this.

B5: and then you've got the exclamation mark when there's a field that it doesn't recognise. That can trip you up – it wants you to do that before you do the rest of the metadata or ...

B2: We've made a fair amount of use of both workflows and application profiles ... I guess one thing I should say is we do like the workflow functionality and we do like the template

functionality – It's very good. But we've used an application profile in our projects that involves different people filling in different fields of the metadata and there's no way of presenting the cataloguer just with the fields that they have to fill in. The interface at the moment is built very much around the LOM structure, which has a certain logic to it but it presents an awful lot to somebody that ... they don't need to see. It leads to this [The recording was muffled. B2 suggested that the lack of a logical flow leads to people 'zipping up and down through the record'.]

8.2 User support

Focus group participants with experience of using Jorum were generally very satisfied with the training and central support offered and for the guides and animations provided by the Jorum team. While participants in both groups commended the workshop training offered by the Jorum team, they also called for more training. They suggested that institutions signing the licence should commit staff to attend central workshops so that they can deliver local workshops and demonstrations. Participants in both groups who had used the service found the system help unhelpful. A3 and A6 had used the help text within the service. They suggested that it could be improved.

A3: It's not always immediately obvious where you can get help. I did access some of the help buttons when I was in there. ... They're OK but the little question mark buttons came up. It did lead you to some context-sensitive help which was good but it could be improved upon. I think it's because they were designed for the system rather than Jorum. They come from a very systems-oriented perspective.

A6: It makes you wonder where you are actually when you first open them up because it talks about the organisation that produced them rather than ...

A4 suggested that a search facility onto a database of help would be useful.

A4: Enter question, get answer back. Something like the sort of think you get on Microsoft.

A3 added that an introductory tutorial would be useful for first-time users.

A3: You could have some sort of tutorial that kicks off the first time somebody uses it – that you can get rid of... something interactive.

Several participants in both groups were frustrated by the lack of a telephone number for the Jorum helpdesk.

A5: When I was in trouble, I had to email them and wait for them to phone me back before I could have a conversation. Is it a policy?

A9 suggested that the most important 'support' would be support for cultural change.

A9: the biggest type of help that we would like is changing the culture. It's not about the technical aspects of it...I've spoken to a lot of people and they've said 'get Jorum up. Get them to run a workshop on changing the culture'.

B5 suggested that a discussion forum, as part of the effort to foster community, may assist in support.

9 Technical: interoperation

When asked which systems and services Jorum should interoperate with, participants indicated that the common VLEs are the most important. Moodle, WebCT and Blackboard were named. Participants in both focus groups also considered it important that Jorum interoperate with other repositories; specifically, they want a federated search of repositories. Participants in both groups suggested that Jorum content should be open to discovery through Google and

specifically Google Learning. B4 also suggested that interoperation with the library management system would be valuable.

In response to a later question (about how Jorum content is currently being used), A3 and A4 discussed tools that would assist with use of content downloaded from the repository. The Jorum team and the intraLibrary vendor (Intrallect) would be well advised to consider interoperation issues related to use of popular tools.

A4: ... there's a tool available in the states called MediaMatrix that allows you to say 'I want you to play this resource and start it here and stop it here' but it just points at the resource, it doesn't download it.

A3: Quite a lot of people in FE are now using a tool called eXe (<http://exelearning.org>). I think the problem is a lot of VLEs are a bit light on the content-creation tools or they're not easy to access or you might want to take the content-creation offline. You don't necessarily want to be doing it in the VLE. [exe is] a sort of drag and drop – you just sort of drop bits in. It sits very nicely with the idea of Jorum and using bits to create a course because that's exactly what it does. ... it really helps to embrace that culture of just using bits and bobs from elsewhere to create something new.

They also referred to Reload although agreed that it is not currently user friendly and would require a WYSIWYG interface to be so.

10 Policy

10.1 Preservation

Focus group participants and interviewees were asked about the importance of preservation of content as a function of Jorum. There was no consensus on this topic. A few focus group participants considered preservation to be essential. In group one, A4 suggested that there is no need to dispose of anything when digital storage costs are low and falling. B5 suggested that it would be valuable to preserve all content as a record of online teaching in this period. B2 differentiated preservation from retention; it may be appropriate for Jorum to undertake the latter but not the former.

Both groups suggested that the need to preserve might vary by discipline. A8 suggested that, in her/his (social scientific) field, s/he would be very unlikely to use now any teaching materials that s/he created 8 or 10 years ago because the context and issues change across time. B5 differentiated biology, as a subject where content may remain unchanged over time, and law where change is frequent. B3 was concerned that her/his institution's move to MS Vista may compromise its ability to use content from Jorum. This is an issue now.

A9 and A5 considered weeding to be more important than preserving.

A9: I think increasingly the issue is how to get rid of stuff that's just out of date.

A5: Can you find the needle in the haystack? If there's 20 years of rubbish material because it's out of date, why are you keeping it? It means that that one beautiful resource that is there ... isn't found.

A5 suggested that if preservation of teaching materials is required, it should be undertaken by the creator's institution and that it should not be the responsibility of Jorum.

A5: If you want to hoard stuff, you hoard it in your own institution. You wouldn't rely on Jorum to look after your teaching materials.

A3 wondered why focus group participants were being invited to answer this question as the need to preserve or not cannot be predicted. However, s/he suggested that a promise from Jorum to preserve may act as incentive to deposit. *A3: Ask us in 10 years! That's the problem, isn't it? We don't know it's valuable until it's missing... It could be an incentive to use Jorum... the pay off is that if you want to find something ... you might think 'now I did produce something for that group in 1987, now where the heck did I put it? Oh, I'll just have a look in Jorum'. You can do that now with the web.*

Both of the interviewees were equivocal about Jorum adopting responsibility for preserving content and in any case, the decision to preserve should be related to usage and value. Both interviewees cautioned that preservation would be a very expensive activity. HE1 added that an active user community would effectively preserve the content that's useful through the activity of modifying and reposting – this would act to refresh materials. FE1 suggested that consultation would never generate an effective policy as there is no consensus (thus reflecting the status in the focus groups).

HE1: I suppose it depends what sort of content it is. It's up to journals and museums to archive in that sort of way. I would have thought that if things are more than a few years old in Jorum, they're probably not going to be particularly useful anyway. Could you relate it to how often it's used and whether it's given a five-star rating? If something's 20 years old and it's still being used a lot then it's probably worth preserving but if something's been on Jorum for the last 5 years and never been used or hasn't been given very good ratings then it's probably not worth archiving is it? ... My feeling is though that normally teaching materials will start to date in most subject areas after about 5 or 10 years and then it's time to reinvigorate them anyway. My gut reaction is that I wouldn't try to archive everything cos it would cost a fortune ... I think it's only worth doing it where something's really worth having it's going to be very expensive for you to do it. You might find that effect that I was talking about earlier where people have downloaded stuff and changed it around a bit, that they're putting it back on in a new format a few years later so they're almost re-using stuff when it's coming back on so the old stuff will naturally not be used any more anyway.

FE1: Given the sheer volume of what's going to be in there, it's probably impractical to keep it forever and you actually want to have some sort of quality yard-stick as to whether things are actually being used...I think there's a reality check here. I think for me, with my knowledge and understanding, I'd understand that it wasn't there [after 10 years] because there are practicalities about this – it's all about good housekeeping. There is that brutal reality that you can't keep everything for ever... [Regarding Jorum policy] I think somebody would have to put a stick in the sand and say 'this is what we're going to do' and then take that on a strategic basis. Otherwise you'll just get inundated with lots of different views and I don't think you'll get any sensible coherence out of it. It'll say everything.

10.2 Participant views on Jorum policy of accepting all content at all levels of granularity

At present there is no formal quality-control mechanism for content deposited into Jorum. However, many of the staff at Intute are subject specialists. Occasionally, when cataloguing an object in Jorum, the Intute cataloguer will detect an error in the content and will report that to the contributor. Opinion varied on the policy of accepting content at all levels of granularity without quality control. Both groups included participants who endorsed this policy because user needs vary; some

value whole learning objects whereas others find assets more useful; some users do not know how to disaggregate and have no support to assist them with this.

There was some discussion about the need for quality control. Both groups suggested that some of the single-image assets should not have been accepted into Jorum. B5 suggested that the results page might usefully distinguish single-image assets from content packages and B2 suggested that cataloguing some of these assets to the level that Jorum resources are catalogued may be a waste of time and money.

In the first group, A1 was concerned about factual accuracy (this was a concern rather than experience of finding low-quality or inaccurate content in Jorum). A3 was clear that the lecturer using Jorum should be the quality-control filter. Furthermore, s/he suggested that as Jorum develops, an etiquette regarding quality will emerge.

A3: there is a quality check. The quality check is you or I ... the resource isn't going direct to the student. There's that intermediary ... and if you're supposed to be teaching that subject you should have sufficient familiarity with the subject to know whether something's inherently good. I think the culture is changing. We have so many resources available on the internet, there is a greater need for individuals to make those evaluations and that's why information skills are becoming such an important feature... Surely, in time, an etiquette will establish as well... It's in its infancy at the moment....you've purposely tried to promote a very diverse and wide range of contributions but, in time, when people start to see the sorts that other people have put up, some sort of etiquette might emerge ... if people begin to see what's really of value and what's not.

This view was qualified by A7 who suggested that this may apply to experienced lecturers but less so to novices.

A7: It depends on the experience of the user as well, I would've thought. If you've got a lecturer who is a subject specialist in a field then they'll be able to judge quite easily whether or not they want to use something. If you've got somebody who's new to a field then, I think, it'll be a bit harder for them to decide whether they want to use something – whether it's good enough.

HE1 discussed the issue of quality control and the responsibility of the user to discriminate good-quality content on the open web. S/he cautioned that quality control is expensive to implement. S/he also referred to the fact that the Wikipedia system of controlling quality (i.e. that anybody may correct or edit submissions) is very effective and it is free of charge.

HE1: It's not a bad idea to have a quality mark but that's quite an expensive thing to do. When you read a paper in a peer-reviewed journal, you don't really pay for the paper any more .. what you're actually paying for is a paper that has been peer-reviewed.

A9 reported that lecturers at her/his institution are interested less in content than in ideas. HE1 discussed the possibility that Jorum might facilitate sharing of ideas. S/he cautioned that some quality-control filter would be required in this instance to prevent the service becoming a bucket for untested ideas; only proven examples should be included in Jorum.

A9: When I spoke to academics, the things they want to share aren't high-quality resources. They're an idea for an activity and that's actually what they found valuable when they looked at other people's resources.

HE1: Perhaps we should be thinking about putting on a site somewhere the different methodologies that are available. ... It's quite a difficult thing to do because if you just

invited anybody to contribute to that... I think ... you'd be over-run by just ideas some of which were good and some of which were not good at all. I think you need to have something that's firmly based on evidence to show that it's actually a good way of going forward and where it could be used and where it couldn't be used...if you just had a site where anybody could contribute, ideas for methodology, I'm afraid it would either fall into disrepute or just become a site that wasn't very useful...It's almost like publishing in a journal: you need some referee to say 'yeah, this has been done' or 'this is a good idea' or so on. You need some sort of quality kite mark. With content, people can go in and think 'oh, that's a load of rubbish, I'm not going to do that' or 'that's a really good idea, I'll put that into my course' so I think it's slightly different to the content argument... You can imagine an awful lot of apocryphal stuff coming along where people say 'that's not going to work because of this' whereas it actually did work, or the other way around. I think it needs to be done in a proper research way before people go recommending methodologies. Just as an example, say somebody does come up with an idea which people think is great and lots of people go spending loads of money doing it and then it doesn't really work very well, that's an wasted effort and resources. It does take a proper research programme to show whether methodologies are useful or not before people actually take them on board and start implementing them.

One participant in each group suggested that a contributor whose material was refused by Jorum may be discouraged from offering anything further. Furthermore, A6 suggested that content should be evaluated with reference to learning styles and the media that match those styles.

A6: If you have a subjects expert, they can say whether a resource is good or not but what about those resources that are inter-disciplinarian? How do you say that's good or not? What I would be interested in is something that could look at it in terms of learning styles, e.g. this is audio-visual or kinaesthetic. This uses this medium to get its point across.

A4 reiterated throughout her/his contributions that s/he considered it important that Jorum be open to end users. B2 reported that lecturers with whom s/he has contact also want to provide their students with access to Jorum. Other participants in the groups consider it important that Jorum be restricted to lecturers.

A5: I think there'd be a big issue with contributors if they did open it up to students. There's a difference between a repository where you bung things in and something that you could use with students. ... it's not for the students to have a jumble of different resources. It's for [the lecturer] to select the ones that [they] want'.

A6: I strongly agree with that.

A8: Repositories are for teachers ... and that's OK isn't it?

Most discussion about quality control related to content but one participant suggested that it would be useful to allow subject-experts within the community to validate metadata records.

A2: Maybe users who download who are subject experts, it would be easy for them to contribute to that metadata and go 'ok I've validated this now' and then you could search on that so you could filter out unvalidated metadata.

11 Which single thing would make Jorum substantially more attractive to the user community?

11.1 Authentication and licensing

Focus group participants were asked to name the single thing that would make Jorum substantially more attractive to users. In both groups, the first thing named was abolition or at least simplification of the authentication barrier. This is even

more of a deterrent to use in FE than HE because many potential users in FE do not have an ATHENS password. Nevertheless, B2 reported a couple of instances where HE subject centres have tried for months to secure user status without success. S/he did not know the reason but guessed it was difficulty identifying the appropriate signatory for the licence and securing that signature. Each barrier, s/he suggested, may be the point at which the potential user gives up.

B4: the main barrier that we're coming up against is getting registered. A lot of our staff don't maybe have an Athens password or they're not familiar with Athens at all. So you've to explain that to them and they get their ATHENS password. They have to wait for their confirmation of that and ... then register with Jorum. They have to wait for a couple of days to get that so it takes them about a week or so to get set up for it. It's not something they're going to use instantly.

B2: That's assuming the institution is already registered. If the institution isn't already registered, it could be months.

B1 explained the difficulty faced by some FE Regional Support Centres with getting access to Jorum. S/he considered signature of the deposit licence to be an even greater barrier than signature of the user licence. B5 concurred; the terms in the deposit licence have delayed for months and possibly deterred signature of the deposit licence at her/his institution.

B1: at the regional support centres, we had to get access through our lead institution and some of them had difficulty because their lead institution didn't really regard them as permanent members of staff. Some of them had problems getting access to Jorum... I think that's particularly true with regard to the contributor. They don't want to sign people up to contribute to Jorum because of IPR issues.

B5: I do remember that discussion going on at our institution. People saying 'well who is it that signs' and somebody said 'I can just do it. I can just sign' and somebody else said 'well, do you realise what it is you're signing?' – with the indemnity clauses and all the rest of it so she thought twice and decided she would pass it up – into the mists of time, yeah, months later ... it's probably on somebody's desk.

B5 suggested that the stringent authentication barriers imply a lack of trust and added that the resource required properly to support Jorum is also a deterrent; institutional commitment and resource is required..

B5: It does seem to indicate an overall culture of 'we don't really trust you' ...even though the terms of the licence are quite clear... it's requiring a lot of sign up and you've got to prove at every stage who you are... And there's a recognition that to use it properly, it would have to have support behind it and we're so stretched in terms of supporting people to use the VLE, to use other resources, all the electronic resources that are paid for and we're having to support and make sure they're used... you have to make sure that there is resources put into it so that it will work. Rather than the library saying 'yes, we'll take it on but nobody up there's supporting us so we're not gonna get any extra.

11.2 Simplify the interface

In response to this question, the focus group B reiterated their views on the interface. B1 suggested that the classification tree structure should be removed from the front page and that users should be presented with a simple search box. B4 concurred.

B4: the search box is away in the corner and they look in and it says 'library' and they say 'what's that' and they click on all those things and think 'Uggh!, what's that?'

Several participants in focus group B agreed that Jorum would be more user friendly if it looked like Google. B2 explained why a simple Google-like search may not be an effective mechanism for discovering Jorum content. This is true.

Unfortunately, it is not obvious to users who remain frustrated by complexity and wonder why the service cannot provide simple navigation like Google.

B2: I think it's very easy to say make it just like Google but I'm not sure that it's possible. You can make it – I'm trying to think what you can do. You can have just a single search box ... but at the moment, you'd just be searching the metadata records because that's all that's indexed. I don't think that that would necessarily be enough for people who are used to full-text search. So you've got to do a full-text search but I'm not actually sure that it's possible to do full-text search on a lot of the resources that are in the Jorum.

B1 acknowledged B2's point and suggested that there are more intuitive ways of presenting subject categories than the tree structure used in Jorum. People are drawn to the classification tree in Jorum because it is so prominent and then they are confused and discouraged by it. There was some enthusiasm in this group for subject-based interfaces.

B1: it could be more like other things that have subject categories – like Intute. When people do a search via Intute etc., a subject term is only available if there is an actual resource, plus they only have to submit a simple search – they don't choose between various taxonomies. For most individuals the use of taxonomies is maybe best kept to an advanced search option.

B2: so you'd have a sort of Jorum for science or Jorum for ...

B3: [enthusiastic]Yes – like hubs.

11.3 Ongoing publicity

Several participants agreed that a publicity drive is an important requirement. It should address both users and librarians. A3 added that it should be sustained to ensure ongoing awareness. Both A7 and B3 suggested that by publicising a list of current licensees, Jorum could encourage uptake at other institutions.

A1: A publicity drive.

A7: Yeah, not many academics in our place seem to know about it ... I had a meeting with our business and management ones and they hadn't heard of it and they were really interested so I sent them some details... the library would be a good starting point but it shouldn't just be the library. Surely it should come centrally or nationally.

A8: Maybe at course for new lecturers – making sure that those programme leaders are aware ... this is a big thing for new lecturers. Suddenly they're teaching two modules – how to find resources. That's where Jorum should be coming into its own –giving them ideas.

A3: There are so many things vying for people's attention today that what's going to make a difference is a sustained effort to keep it on the boil. ... a lot of effort went into promoting the NLN materials to begin with. There were NLN subject mentors who went into colleges and so forth. There was an awful lot of effort but that tailed off and of course, use of NLN materials has tailed off as well. Without that sustained effort, ... that's what will happen.

One of the focus groups generated a variety of specific proposals for publicising Jorum. These included a range of innovative ideas a few of which the Jorum team already employs:

- When a depositor puts something into Jorum, s/he could publicise that on relevant subject-based mailing lists. ('saying "I've just put something new into Jorum that might be of interest to you. Go and have a look". A9).
- 'Swarms' of people should receive small sums of money to contribute to Jorum as a way of generating enthusiasm and demonstrating the potential of the service. (A4).
- HEAs should promote Jorum as a facility for sharing across institutions (A5 and A6). [The HEA does currently promote Jorum. An HEA representative

reported this adding that Jorum faces the same difficulties as the HEA Subject Centres in trying to address a national audience with few people; her/his suggested strategy was networking and enthusing champions of the service who will promote it to their peers].

- Jorum representatives should attend subject-based conferences to recruit allies within the user community and should also use librarians to publicise Jorum (A5).
- Promotion should not be delivered by JISC. There is scepticism within the HE/FE community about JISC national resources. Credible voices would include subject experts or heads of department. (A4).
- Send email to subject-specific email lists, listing five learning objects that are relevant to that audience (A9).
- Provide promotion materials to learning technologists to use in promoting Jorum within the institution (A6).
- Promote to people that teach PGC courses for HE. (*I did a PGC course and I would've found it really useful... if they could see that it was a resource that they could use, they'll think about it and hopefully incorporate it into their teaching and hopefully contribute as well.* A7)

A3 reiterated her/his conviction that Jorum requires long-term commitment from the funding body and ongoing promotion.

A3: It's gonna take a lot of time for people to make those cultural shifts and sometimes funding councils are not quite as patient when thinking about people changing practice: coming around to it, discovering it and starting to use it ... five years down the line we may be somewhere ... but the problem is you often get short-term initiatives that last 2 or 3 years and they go 'aw, no-one's using anyway. We'll pull the plug and make the money go somewhere else'. But it's often just as it's starting to bloom which is the really frustrating thing. So coming back to my comments about marketing as well, it needs to be done on that sort of basis; not a big push now, 'let's get everyone on board', spend all the money and then all of a sudden it goes flat.

11.4 Community of practice

A7 went on to suggest, again, that academics must be persuaded of the value of contributing to Jorum. S/he suggested that if academics described in the comments field how they had used a resource, this would provide useful information and may stimulate discussion which, in turn, might foster a community of practice. A3 added that 'community' is essential to foster buy-in because there is widespread scepticism within Higher and Further Education (especially FE) about national (e.g. JISC-funded) initiatives; users do not expect them to persist. A5 reinforced this.

A5: What we need is ownership, that different groups of people feel that Jorum is theirs ... that they decide to use Jorum rather than set up another repository or whatever, they decide to use Jorum.

11.5 Other proposed enhancements to Jorum

Among the improvements to Jorum proposed by participants in response to related questions were the idea that every folder in the subject tree should be populated with one or two high-quality items.

A1: If I go through there and there's nothing there for me, that's it, switch off. You could put a better resource in yourselves within the Jorum team so that you have one or two showcase pieces within each category so that you can say 'this is the type of resource that's in there' that's what's gonna hook people.

A7 also suggested that Jorum publish a 'wanted list'.

A7: That allows people to say 'I'm doing a lecture on such and such, does anybody have anything that could help?' that would allow people to see that they have something that other people could use.

B3 called for user statistics.

B3: that we'd like user statistics. Not necessarily who's doing it but the amount of people accessing the service from the institution. We get that from other services – other databases ... maybe two or three times a year just to give us an indication if there's a particular impact in July when they're preparing the courses or, if we do promotional work, whether it has any impact. If we have stats, we know people are looking.

11.6 Software and 'widgets' as well as learning and teaching materials

During the discussion about how Jorum might be enhanced, **A3** reiterated her/his view that it must interoperate with other repositories. S/he expanded by expressing a need for a repository of software and tools; this may be a repository that interoperates with Jorum or may be an extension of Jorum. The other members of this focus group were enthusiastic supporters of the idea.

A3: I'm wondering about the relationship between Jorum and other repositories, e.g. specialist repositories and those for academic papers ... I was at a meeting the other day and somebody was showing me the latest piece of software developed for doing assessments, for doing group assessments. They'd spent 2 years developing it and the same sort of issues about sharing came up as for learning resources and I wondered what platform there was for sharing pieces of software and widgets that people had devised ... to help with teaching and learning. What facilities are there to allow people to help develop those and share those? ...it's whether to sell them or ... either Jorum, or something like Jorum or something related to it could actually help ... tools, we mentioned Reload earlier on, that would be one... how could people share those and build on one another's work, rather than all trying to do it ... it could be really simple tools like a macro in Word... it's about having a structured environment where people are able to find them which is obviously what Jorum offers. It enables a way of locating them.

A9: For us, exploring other things apart from just content. It's about things that help students engage and talk to each other. Those types of things could do with being recorded.

12 Usage and sign-up statistics

12.1 Current statistics relating to the service

At the date of writing this report, July 2007, the following statistics relate to the service:

Jorum User

- 351 institutions signed up in total
- 108 HE (64% of all HEIs)
- 243 FE (52% of all FEIs)
- 3226 registered users
- 6122 downloads

Jorum Contributor

- 82 institutions signed up in total
- 31 HE (18% of all HEIs)
- 51 FE (11% of all FEIs)
- 464 registered contributors

- Resources contributed: 2386

In contrast, the following statistics were derived in November 2006:

Jorum User

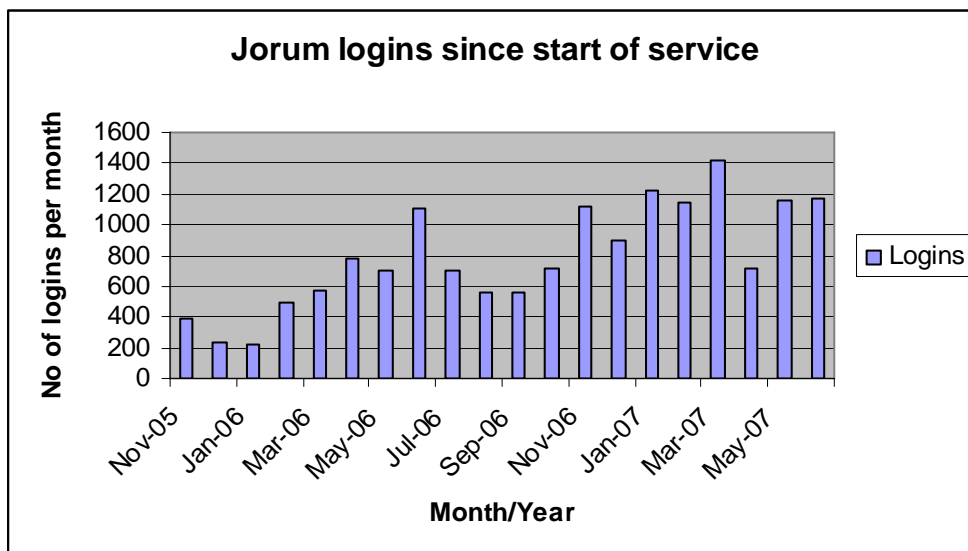
- 260 Institutions signed up
- 95 HE (56% of all HEIs)
- 165 FE (35% of all FEIs)
- 1828 downloads

Jorum Contributor

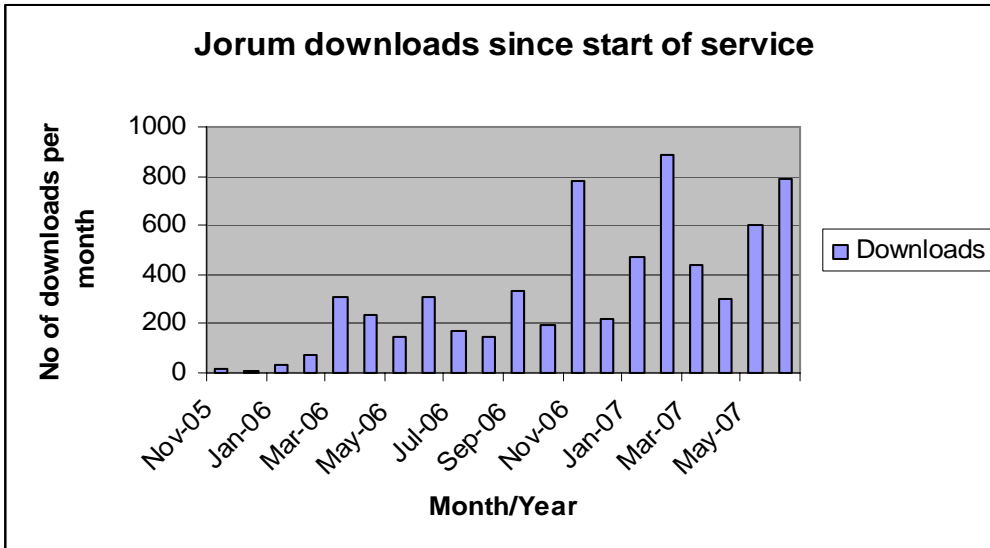
- 51 Institutions signed up in total
- 21 HE (12% of all HEIs)
- 30 FE (6% of all FEIs)
- Resources contributed: 1884

12.2 Statistics from November 2005 to June 2007

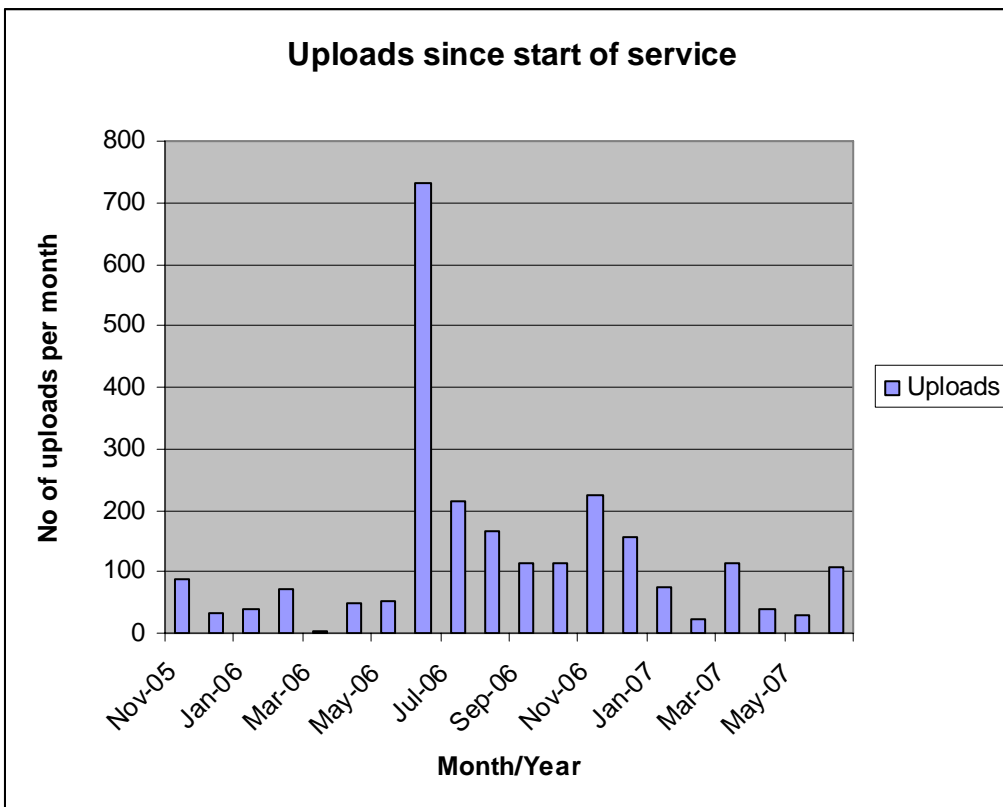
The following statistics cover the period from November 2005 (commencement of the Jorum Contributor Service) to end of June 2007.



- Total number of login sessions: 15,850



- Total number of downloads since start of service: 6,469



- Total number of uploads since start of service: 2,451

13 Conclusions

It is too early to know how useful Jorum will be for the UK HE/FE community as a whole. It is valued as a home for content created by projects. Beyond that, an incentive is required to persuade lecturers to deposit content. Willingness to share is not sufficient as lecturers throughout the sector are very busy and the deposit process is a task requiring time with no clear benefit to the depositor. Participants in the focus groups and the interviewees indicated that if Jorum were to develop a good mechanism for providing feedback and recognition, this recognition may be incentive enough to stimulate deposit.

An effective feedback mechanism may also be part of community-building. Establishing community and a sense of ownership of Jorum among users is important not only because user-generated content (e.g. feedback and comment) adds value to the service. There is some suspicion about the value of 'national services' and 'JISC' within FEIs so a shift in focus from the centre to the user community may help to attract and retain users.

It is clear that Jorum will be integrated within e-learning practice only if it is considered useful by practitioners and support staff. E-learning initiatives that are well resourced and enjoy buy-in at a strategic level tend to revolve around expert staff; these are the brokers of methodology and technology and thus, these are the conduit for Jorum uptake by the community.

Uptake is also hindered by the authentication and licensing systems used by Jorum. These require a complete overhaul to make Jorum simple and accessible. The repository interface also requires substantial revision to make it approachable and useable.

It seems that many in the UK HE/FE community consider Jorum to be simply one of many sources of content. Unfortunately, the others are immediately accessible while Jorum is secured behind a long, restrictive licence and two authentication systems. The ethos surrounding this security seems outdated to staff at strategic level and to some of their staff. While those working directly with content and with lecturers value the fact that the legal status of Jorum content is clear (in the licence), this benefit is not exclusive to Jorum; Google now facilitates a search by Creative Commons licence and the CC licence is considered to be simple and straightforward. The interviewees (at executive level) expressed no concern about copyright status of content retrieved from the Open Web. Neither of the interviewees identified a unique feature that differentiates Jorum from other sources of content on the Web and neither considers content to be valuable in itself. Although both interviewees are responsible for e-learning strategy and extremely enthusiastic about the range of e-learning initiatives within their institutions, neither of them had used Jorum nor were they aware of use within their institutions.

There was no consensus among focus group members or interviewees regarding the role of Jorum in preserving content. Both interviewees cautioned that this is an expensive undertaking and they would not be surprised if Jorum took no responsibility in this area.

14 Report Recommendations

14.1 JISC should consider the following

- Indicate a clear commitment to sustain Jorum over a term of at least 5 years.
- Commission creation of two or three high-quality resources to populate each folder in Jorum.
- Consider extending Jorum to include tools and bits of software that would assist users and developers of content.
- Commission development of case studies that help potential users to understand the value that Jorum content offers.
- Consider making funding available to past beneficiaries of JISC funding to put their materials into Jorum.

14.2 To Jorum team

- The Jorum model and the flow of information from the Jorum team to staff in institutions correspond with a specific type of workflow within an institution. The Jorum workflow should be developed so that it works effectively with the actual workflow in Jorum user institutions.
- When revising licence model, consider institutional workflow that is implied; it must fit with practice within FEIs as well as HEIs. It should not be premised on the existence of a centralised managed bureaucracy.
- Investigate ways to embed search functionality into user environments (such as VLEs).
- Review information presented to users on interface, e.g. description of download options to ensure that these meet the needs of users at that point in the process (perhaps as part of cognitive walk through).
- Consider creating functions that facilitate easy publicising of individual items to specific subject communities, e.g. by providing a facility at the end of the deposit process, for depositors to email a JISC discussion list advising subscribers that X item is now available in Jorum.
- When deposited items are removed from Jorum by the Jorum team, leave a marker in the system indicating the reason and the expected date of return.
- Consider revising RSS function to allow the user to configure the number of targets.
- Conduct walk-through evaluation with users to determine which metadata fields are being used and which are not; consider reducing the size of metadata records.
- Facilitate search for 'related items' within the 'advanced search' function.
- Facilitate requests for specific types of content from users to the Jorum 'depositor' and 'user' communities.
- Provide basic user statistics to Jorum User institutions.
- Work with VLE vendors to ensure that Jorum interoperates effectively with all major VLEs.
- Work with 'real' depositors (including those who work as teams to deposit and catalogue resources) to create a clear work-flow for the deposit process.
- Consider a publicity push to teacher training centres in HE and FE.
- Consider including full text searching in development requirements.
- Review the Jorum Application Profiles in the light of comments made by focus group participants.
- Aggressively promote and encourage feedback from users about content that they have downloaded from Jorum. Explore ways of encouraging feedback and disseminating information about quality that is generated in this way.

Explore other means of developing 'recognition' as an asset and benefit for depositors.

- Publish a 'wanted list' to enable people to advertise that they are looking for certain content, so that others can see that they have something that others could use.
- Explore and implement community-building activity to shift emphasis from centre (JISC) to communities of practice.
- Extend access to Jorum beyond staff at UK HE/FE.
- Consider preservation issues for Learning Objects and Jorum's remit within this area⁴.
- Create 'plain English' inline help designed specifically for Jorum (rather than generic intraLibrary help) for use during the deposit process⁵.

14.3 To JISC and/or Jorum Team

- Explore ways to simplify the Jorum licence model, and to make it transparent and flexible. Specifically review the separate deposit and user licences, investigate use of icons to communicate licence terms, and introduce options such as 'no modification' in licences.
- When revising licence, introduce option to download, modify and republish (to facilitate refreshing of content in Jorum).
- Investigate possibility of simplifying authentication challenges.
- Plan and implement a sustained programme of publicity. Highlight benefits identified in this report.
- Fund creative project to investigate and initiate the fostering of community around a service like Jorum – to engender 'ownership' by different user communities within UK HE/FE.
- Identify a unique selling point for Jorum that fits a need within the community and publicise this.
- Fund and conduct a focussed evaluation exercise to determine the requirements of e-learning support staff within institutions and work with these staff to meet their needs and secure their buy-in for Jorum. These staff broker e-learning technologies and methodologies within institutions; their buy-in is essential.

14.4 To Intrallect

- Simplify and modernise the interface.
- Consider moving the browse function from the front page onto an 'advanced search' page.
- Move the 'simple' search box into a central position on the front page.
- Indicate at every level the number of resources in each folder.
- Plan interoperation with all major VLEs into ongoing development of intraLibrary.

⁴ Jorum preservation policy should take into account issues identified in this report.

⁵ The inline help is created within the intraLibrary system used to build Jorum.

Annex 1: Jorum User Evaluation Outline Plan

Purpose of this Document

The purpose of this document is to propose to the Jorum Steering Group an outline plan for user evaluation of Jorum to be conducted between December 2006 and July 2007. This plan will be presented to the Steering Group for approval in December 2006.

Jorum Evaluation Activities

Jorum Service-in-Development has in its project plan three different areas of evaluation. These are:

- Procedures to log and consider ongoing requirements requests from the community, and an Enhancement Committee that meets bi-annually.
- Jorum User Evaluation (Work Package A17) in year 2 of Service-in-Development (August 2006 – July 2007).
- Jorum Summative Evaluation in year 3 (August 2007 – July 2008).

The Jorum team propose that the User Evaluation could be undertaken from within current project resources. Planning would commence in December 2006 and activity would take place between January and July 2007 (a timetable for planned activity is available on page 7 and further details of proposed work are given below).

The Jorum Co-Directors have suggested that the Summative Evaluation should properly be undertaken by an externally funded group in year 3. The JISC has been asked to provide funding in order for this activity to be undertaken. We would expect the Summative Evaluation to address not only similar themes to those outlined below for the User activity, from the point of view of an evaluator external to the team, but also whether Jorum Service-in-Development has achieved its aims as a funded activity.

Objectives of Jorum Service-in-Development

The agreed objectives of Jorum Service-in-Development are that it should:

- Provide the Jorum Contributor service to institutions wishing to deposit learning and teaching (L&T) materials;
- Provide the Jorum User service to institutions that want their staff to be able to download L&T materials;
- Encourage the sharing, reuse and repurposing of L&T resources across the UK FE and HE sectors;
- Trial current workflow, service and licensing models and procedures, in discussion with community and institutional representatives, and adjust as agreed for full service status;
- Liaise and work with other organisations, such as the HEA, RSCs, Intute, UKOLN, CETIS, Netskills and the JISC Development Team, in promotional and technical activities;
- Liaise and work with project teams funded by JISC and other funding bodies to assist them in using the Jorum service for their L&T project outputs;
- Provide an agreed, proven business model and plan for Jorum to move to full service status, with agreed SLDs, from August 2008.

Reasons for undertaking the Jorum User Evaluation

The Jorum User Evaluation will be undertaken only 12 – 18 months after the launch of the Jorum Contributor and Jorum User services. It is a timeframe that is too short to measure impact of these services in terms of altering behaviours among staff in colleges and universities, especially given that inclusion of L&T materials in teaching can take a substantial period of time (we have often been told by teaching staff that this can take 18 months). However, there is merit in undertaking User Evaluation activity within year 2, for the following reasons:

- The Jorum services have already had uptake in colleges and universities, in terms of institutions signing up to deposit and use, that far exceed the targets for growth set in agreement with JISC, and it would be worth undertaking some research to determine who is depositing into Jorum, who is downloading and using content from Jorum, how that content is being used, and how those depositors and users experience the Jorum service;
- Undertaking the evaluation activity at this point in time will help inform the Jorum business plan, by giving indications for ways in which the service might develop over time;
- The JISC has defined L&T and repositories as key strategic areas for development in the future and need an evidence base for underpinning their activity in these areas.

Objectives of the Jorum User Evaluation

The suggested objectives of the Jorum User Evaluation are that it should:

1. Test understanding of Jorum among the community in terms of its function and purpose, and how to participate as a depositor and a user;
2. Test how confident users feel about using Jorum, as depositors and/or users;
3. Test how effective users are at discovering relevant content in Jorum;
4. Assess how effective are discovery metadata and classification of resources in Jorum;
5. Identify sub-populations of users and explore how these might best be accommodated, e.g. evaluate the efficacy of a single interface and determine whether separate interfaces for different communities may be preferable;
6. Test current workflow, service and licence models and gather suggestions for enhancement and/or replacement models;
7. Establish the volume of take-up of service, in terms of numbers of institutions subscribing, numbers of individuals registered for the service within institutions that have subscribed (vs. number of institutions eligible that have not registered), and number of those registered individuals that are actually downloading and using content;
8. Find out how effectively the service is supported, both within institutions and by the Jorum team;
9. Identify any institutional barriers to uptake and why institutions that do not subscribe have not done so;
10. Test whether the community believes that Jorum is adding value i.e. helping teachers in UK H/FE to operate more effectively or more efficiently;
11. Determine how the community is using content downloaded from Jorum;
12. Make recommendations as required for future planning of the service and/or support, and if applicable, ensure that JISC are made aware of issues arising that may impact upon their strategic direction;
13. Determine whether use of Jorum is being considered at a strategic level within institutions or is confined to enthusiastic individuals/groups within those institutions.

Jorum is an innovative service. Although a user-needs analysis was conducted during the scoping and technical appraisal phase of Jorum, it is well-recognised that user needs and expectations generally cannot be entirely specified at the start of an innovation process; they evolve as implementation provides the opportunity to try the service and experiment

with how it can help users in their work. Development of all aspects of the Jorum service, including support and licensing structures, will require iteration. For example, implementation of the service so far has informed development of pragmatic policy and procedures that in turn will inform revision of the Jorum licences. The User Evaluation will contribute to this process and also provide added opportunity for the project team to network with stakeholder groups and contribute to dissemination of information about the service and participation within those groups.

Proposed Methodology

Key stakeholders of the Jorum service

The stakeholders of the Jorum service are listed in full in the project plan and are not repeated here in full. However, key stakeholders for the purposes of the User Evaluation would be viewed as:

- C. UK H/FE community at institutional level, including:
 - Pro-Vice Chancellors and equivalent;
 - Teaching staff;
 - Support staff involved as Jorum site representatives and/or technical support representatives;
 - Library/information staff and/or VLE managers;
 - Learning technologists;
 - ILT co-ordinators.
- D. Organisations serving and supporting UK F/HE, including:
 - JISC and JISC-funded projects
 - Intute
 - HEA and HEA Subject Centres
 - RSCs

Planned Activity

A combination of five methods is proposed for the User Evaluation:

- Focus Groups
- Structured Interviews
- Cognitive Walk-through
- Online questionnaire
- Examination of usage and sign-up statistics

Focus Groups

Two focus groups are planned, to which will be invited representatives from the key stakeholders listed in group A above i.e. executive, teaching and support staff in institutions. Representation will also be invited from the RSCs and HEA Subject Centres in group B. The focus groups will contribute to outcomes in areas 1 to 9 of the User Evaluation Objectives listed above. Focus groups are a good complement to interviews as, during dialogue and exchange of perspectives, new information may be revealed or developed that would not arise in a one-to-one interview. Whilst two focus groups will not generate the same information, we can expect the same themes and opinions to arise. If findings from these two focus groups were to vary considerably, a third focus group would be undertaken to reinforce results from the first two.

We would plan to run the focus groups in different geographical locations, probably in London and Manchester, with the third in Edinburgh if necessary. Funding would be made available to offer T/S expenses and lunch to attendees.

Structured Interviews

Exploration of organisational variables (for example, the support available locally for contributing to or using content from Jorum), and how these impact on uptake, will be explored through structured interviews with representatives from group A within different organisational contexts (possibly one small FEI, one large FEI, one small HEI and one large HEI). While face-to-face interviews would be ideal, this would be an expensive option, and therefore the majority of these interviews would be undertaken by telephone, enabling two interviews per day.

Cognitive Walk-through

Cognitive walk-through of the Jorum service interface based on Nielsen Norman guidelines will be conducted on participants selected by means of a tested screening questionnaire. Members of the Jorum team will be present as observers. Intrallect will also be asked to send a representative to observe. This method will be undertaken to address objectives 1 – 4 of the User Evaluation in greater detail and representation will be invited from group A of the key stakeholders. RSCs and HEA Subject Centres may also be invited to send representatives.

Online Questionnaire

An online questionnaire will be used to assess how effective the Jorum team has been with liaising with readily identifiable bodies listed in groups B, C and D of the key stakeholders. Questionnaires will not be used with group A of the key stakeholders. Whilst a questionnaire addressed to the whole community may prove to be a useful tool for triangulation of results derived from qualitative methods, the expense involved in achieving a representative sample of the target population is prohibitive. It results in a self-selected sample and provides no means of comparing the profile of respondents with that of the total user population.

Examination of Usage and Sign-up Statistics

The statistics examined and reported from the User Evaluation will include:

- Number of institutions that have signed and returned Jorum depositor licences
- Number of institutions that have signed and returned Jorum user licences
- The constituencies represented by these numbers e.g. how many small FEIs, large FEIs, small HEIs, large HEIs
- Number of downloads
- Number of logins per month
- Number of contributors
- Number of users

The change over time of these statistics will also be reported.

Timeline

The project plan indicates that the Jorum User Evaluation should take place between February and July 2007, reporting in July 2007. An earlier start date would be preferred by the team to allow time to act on results within the timeframe of current funding.

- Scheduling of focus groups would begin immediately on agreement of the evaluation plan (December 2006), with a view to holding these groups in February/March 2007;
- Scheduling of structured interviews would take place during the last week of January 2007, with a view to holding interviews during March and April 2007;
- The cognitive walk-through of the interface would be scheduled during the Spring term to avoid the busiest periods (start and end of term);

- A report would be delivered at the end of July 2007.

Activity	12/ 06	01/ 07	02/ 07	03/ 07	04/ 07	05/ 07	06/ 07	07/ 07
Scheduling focus groups	XX							
Conducting focus groups			XX	XX				
Scheduling interviews	XX							
Conducting interviews				XX	XX			
Cognitive walk-through				XX				
Delivery of evaluation report								XX

Annex 2: text of email invitation to participate in focus group

The following text was emailed to a variety of relevant JISCmail discussion lists.

Dear list-member,

I am writing to invite applications to participate in an evaluation exercise that will inform the development of Jorum.

During the first half of 2007, Jorum will undergo a user-evaluation exercise. The aim of this exercise is to review user experiences of the Jorum services (both deposit and use) and to identify reasons for non-participation among the target community. Focus groups and one-to-one interviews will be used to gather the views and experiences of a range of stakeholders with regard to Jorum. The ideal subjects for interviews and focus groups would be people whose experience and knowledge extends beyond their home institutions, for example, members of committees or professional organisations within the UK higher and further education sector or people involved in multi-partner projects. If you can represent the views of one or more of the stakeholder groups listed below and are willing to participate in the evaluation exercise, **please reply to [email address of EDINA administrator] indicating your name, institution, position, relevant experience and contact details**. Alternatively, if you know of somebody else who could fulfil this role, I would be grateful if you would forward this email to them. All expenses will be covered for those participating in the evaluation exercise (including a nice lunch).

STAKEHOLDER GROUPS TO BE REPRESENTED:

- Teaching staff
- Support staff involved as Jorum site representatives and/or technical support representatives;
- Library/information staff and/or VLE managers;
- Learning technologists;
- ILT co-ordinators;
- RSCs; and
- HEA subject centres.

Very best wishes

Leah Halliday

Annex 3: Questions circulated to participants in advance of focus groups

1. What services and websites (inc. or exc. Jorum) do you (or your user/client group) use (or intend to use) to find/deposit/share resources for learning and teaching and what is it about those services and websites that makes them so useful to you?
2. Is sharing of learning and teaching materials (within and/or across institutions) part of strategic thinking at your institution and if so, who initiates the sharing (staff, learning resource centre managers, IT managers etc)?
3. What do you like and dislike about the Jorum interface and functions (e.g. for users, simple searching, advanced searching, saving searches, browsing. For contributors: uploading an object, group area, reserved objects (adding metadata/rights info/classification)? How could these be improved for you or your user community?
4. Which other systems and services do you want to interoperate with Jorum and how effectively do they interoperate, for example, which VLEs do you use and which other systems (such as external search engines/portals)?
5. How important is it to you or your client group as contributor/user that Jorum preserve content and make it available over the long term?
6. Each resource in the Jorum repository has a record containing metadata. These are designed to help users find the resources that they need. How effective are these records at providing the required information? From the fields listed here which are most useful and which least useful? [Choose collection, Simple search fields, Aggregation level, Catalogue reference, Comment by, Contributor, Date reference, Description, Intended for use by, Intended for use in, Keyword, Language of this record, Level of Difficulty, Level of Interactivity, Role of Contributor, Section Name, Star Rating, Technical Format, Title, Type of Interactivity, Type of resource, Type of System].
7. Jorum help facilities include a help function, user guides and user training seminars. Institutions using Jorum must also provide some level of technical support. How easy has it been to use Jorum and to get help when you need it?
8. At present, Jorum accepts for deposit a broad range of materials at different educational levels and different levels of granularity (from single asset to full 'content package'). What are your thoughts about this policy?
9. When you or your user community download content from Jorum, how do they use it?
10. Is there any single thing that would make Jorum substantially more attractive to you as contributor/user than it is now?
11. Are there aspects of culture and practice in your organisation (or other organisations in the community) that present barriers to subscribing to or contributing to Jorum or using the service?
12. Has any aspect of your work changed since you began to use Jorum or are changes made possible by its availability?
13. Is there anything about the Jorum contributor/user licence that makes you reluctant to contribute/use the service?
14. Is there anything you'd like to say about Jorum that you haven't yet had an opportunity to say?

Annex 4: Questions addressed to interviewees

(1) Is there strategic initiative within your institution to share learning and teaching materials and, if so, how is that structured and what services and systems support it?

(2) Jorum currently provides a facility for sharing learning and teaching materials within and between UK HE/FE institutions. It does not accept deposit of commercial content or of content produced by other communities within or beyond the UK. Nor does it facilitate sale of content by the depositing institutions. How well does this model meet your needs for a national service?

(3) Jorum includes packaged learning objects and small assets such as individual images that teachers can use to build their own materials for use in the classroom and for distribution to students. To date, Jorum has not been available to students. How important is it that access to Jorum be restricted to staff?

(4) Access to Jorum is currently available to depositors and users from institutions that have signed the respective licences (there is a separate depositor and user licence). Users are readily identifiable and content that has been downloaded may be traced. Among other things, this provides some assurance that content may be revoked if need be. How useful would an open-access repository for learning and teaching materials be to your institution as potential depositor and user?

(5) The Jorum policy on preservation and archiving is still being developed. How important would it be to your institution as depositor/user or both that Jorum preserve content over the long term?