

# JISC DEVELOPMENT PROGRAMMES

## Project Document Cover Sheet

### CD-LOR Deliverable on Workpackage 3.1:

### Report on Interviews with LO Repository Users

#### Project

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**Community Dimensions  
of Learning Object Repositories (CD-LOR)**



**Report on interviews with LO repository users**

Public summary of internal CD-LOR Report dated 15 June 2006  
CD-LOR Workpackage 3.1 Identifying Solutions: Consultation with Stakeholders

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## Introduction

The Community Dimensions of Learning Object Repositories (CD-LOR) project is funded by the JISC to identify and analyse the barriers and enablers that influence uptake and implementation of learning object repositories (LORs) within a range of different learning communities. To this end, CD-LOR is working with a number of associate and collaborative partners<sup>1</sup>, all of whom have LORs in various stages of development in support of a wide range of communities, and who will provide test-beds for CD-LOR's work.

The premise of the CD-LOR study is that issues that are likely to impact upon the uptake of a LOR are directly related to characteristics of the repository, as well as characteristics of the community it aims to serve. Key repository characteristics (or dimensions) include *purpose*, subject *discipline*, geographic *scope*, educational *sector*, *contributors* of resources, and the *business model* underlying the repository. Key community dimensions include *purpose* of community; *dialogue*, i.e. modes of participation and communication within the community; *roles* and responsibilities of community members; *coherence* of community; *rules*, i.e. implicit and explicit conditions, strategies and processes that govern functioning of community; *context*, i.e. broad organisational and social ecology within which community functions; and *pedagogic approaches* in use within community. CDLOR project is developing a conceptual framework that will integrate these dimensions. The aim of the framework is to guide repository development on a practical level. For the details of this initial work see Margaryan, Currier, Littlejohn, & Nicol (2006)<sup>2</sup>.

Workpackage 2<sup>3</sup> of the initial study focused on drawing out the key dimensions of CD-LOR's associates' repositories as important aspects of the *context* within which the LORs and their communities operate. However, it is also necessary to start exploring the communities themselves. To this end, as proposed in Workpackage 3.1, six interviews with actual users of three LORs were carried out. The aim of the interviews was to start exploring the community dimensions and users' perspectives on barriers and enablers to the uptake of LORs. Research questions that guided the study were:

1. In what ways do the three LORs mediate teaching and learning?
2. Is there a community coalescing around the LORs?
3. What are the characteristics of community that the LOR aims to facilitate?
  - 3.1. What are the modes of participation and communication in that community?
  - 3.2. Are there any institutional strategies or processes to support communities in using LORs?
4. What electronic tools (hardware as well as software) do users utilise in their daily practice for communication as well as for managing their personal information?
5. What are the barriers and enablers in using the LORs?
6. What is the impact of the LORs on teaching and learning?

These questions map onto the community dimensions as follows:

- The dimensions of "purpose" and "roles" are addressed in RQ 1.
- The dimension of "dialogue" is addressed in RQ 3.1.
- The dimension of "rules" is addressed in RQ 3.2.

Context, coherence, and pedagogic approaches dimensions are not addressed in this study. "Context" has been investigated previously, in a scoping study of CD-LOR Associate LORs (Margaryan et al, 2006, Section 3.1.). Pedagogic approaches and coherence are not covered

<sup>1</sup> See: [www.academy.gcal.ac.uk/cd-lor/](http://www.academy.gcal.ac.uk/cd-lor/)

<sup>2</sup> Margaryan, A., Currier, S., Littlejohn, A., & Nicol, D. (2006). *Learning communities and repositories*. CD-LOR Desk Research report (Deliverable 1). Retrieved September 11, 2006, from <http://www.academy.gcal.ac.uk/cd-lor/learningcommunitiesreport.pdf>

<sup>3</sup> See CD-LOR Project Plan: [http://academy.gcal.ac.uk/cd-lor/ProjectPlan\\_V1p0\\_Public.pdf](http://academy.gcal.ac.uk/cd-lor/ProjectPlan_V1p0_Public.pdf)

because these two dimensions were incorporated in the framework later, when some interviews were already completed and others were in progress. Finally, research questions 2-6 do not map directly onto the community dimensions. This is because they are focused on aspects that are not characteristics of a community, but that also have influence on the uptake of LORs.

This report summarises the findings of the interviews and identifies areas for further investigation.

## **Methodology**

In this section, data collection procedures, respondents, data collection instrument and analysis procedures are described.

### Data collection procedure

Initially, it was planned to interview 2 to 3 users from 5 to 6 LORs; target of 10 to 15 users in total was estimated to be sufficient for an initial exploration. In February-March 2006 curators of six LORs were contacted by e-mail with a request to help recruit actual users of their LORs to participate in interviews. Curators of the following LORs were contacted: SIESWE Learning Exchange, DIDET, IVIMEDS, LionShare, UCEL, and Spoken Word Services. Of these, IVIMEDS, SIESWE, and Spoken Word Services are CD-LOR associate partners (i.e. partners who will be implementing solutions to barriers for CD-LOR); the rest are collaborative partners. The text of the e-mail to the curators is enclosed in Appendix 1. E-mail requests were followed up by phone calls to ensure as many responses as possible were obtained.

These six LORs were chosen because they were relatively far ahead in their development, and were perceived by the CD-LOR project team to be the most likely ones to have actual users. Since CD-LOR had budget for consultancy work with the associate partners, curators of SIESWE, IVIMEDS and Spoken Word Services were offered an option of conducting the interviews themselves if it fitted with developmental or evaluation work they were doing or were planning to do in the future.

However, it was not possible to recruit the planned number of users, due, primarily, to the lack of actual users who would have enough experience with using a LOR to comment on the sorts of questions that CD-LOR team was interested in exploring. Thus, only six users of three LORs were interviewed. These included one user of Jorum, three users of Spoken Word Services, and two users of DIDET. These projects represent a range of different types of repositories: DIDET is a classroom-based repository for student-generated resources; Jorum is a UK national repository for sharing resources in a range of different formats across higher and further education; and Spoken Word is an international repository for higher education containing audio recordings from the BBC archives.

In March 2006, users were contacted to schedule interviews. The text of the invitation is enclosed in Appendix 2.

Six interviews were carried out in March-April, 2006. Of these, three interviews were conducted face-to-face (one with a DIDET user and two with Spoken Word Services users), one interview was conducted by phone (with a Spoken Word Services user), and two individuals chose to respond by e-mail (a DIDET and a Jorum user). All three Spoken Word Services users were interviewed by the LOR curator; the remaining three interviews were conducted by the author. Two of the Spoken Word users were interviewed simultaneously.

The face-to-face and phone interviews were audio-recorded and transcribed. The transcripts are confidential due to the wish to elicit honest answers from participants, and hence are not available with this public summary report.

## Respondents

An overview of the respondents is shown in Table 1:

**Table 1. Overview of the respondents (n=6):**

Respondents	LOR	Role	Experience with LOR
R1	DIDET/LauLima	Student	Advanced: 3 years
R2	DIDET/LauLima	Researcher	Intermediate: less than a year
R3	Jorum	Educational Developer	Beginner: just started using it
R4	Spoken Word Services	Teacher (English)	Advanced: 3 years
R5	Spoken Word Services	Teacher (Economics)	Advanced: 3 years
R6	Spoken Word Services	Teacher (Social Work)	Advanced: 3 years

## Data collection instrument

Data was collected using an interview protocol designed by the CD-LOR project (see Appendix 3). The instrument was designed to elicit data on the following key dimensions of communities:

1. *Stakeholders and Roles*, particularly users and other contributors and their roles
2. *Purpose* of using LOR, i.e. what resources are stored and shared, what teaching or learning activities are the LORs used for
3. *Goals* in using LOR
4. *Community*, in particular what community (communities) do users identify with, who do they interact with when using a LOR, and is there a community coalescing around LOR?
5. *Rules*, i.e. implicit and explicit rules, in particular organisational and institutional strategies and processes to support utilisation of LORs, as well as rewards and incentives for using LORs

In addition, data was collected on the following aspects not covered in the CD-LOR's framework<sup>4</sup>

6. *Tools* that users utilise in their daily practice in order to communicate with others in the community as well as to manage their personal information
7. *Barriers* in using LORs
8. *Enablers* for using LORs
9. *Impact* on teaching and learning
10. *General* aspects of using LORs, for example how the users became aware of the LOR, what influenced their decision to adopt it, etc.

Thus, the questions in the protocol were grouped as follows:

### **1) Question related to STAKEHOLDERS and ROLES:**

In using <LOR> do you interact with others? If yes, please tell a brief story of how you interact. Do you interact face-to-face, online, using telephone, e-mail, etc.? (Protocol question 16).

### **2) Questions related to PURPOSE:**

- Could you tell a story of how you use <LOR>? What are the typical steps involved? What are the typical activities for which you use <LOR>? (Protocol question 4)

<sup>4</sup> For example, barriers and enablers are a core component of CD-LOR's investigation; however, they are not part of the community dimensions, hence they are categorised separately here.

- [If respondent is involved in teaching] Do your students use <LOR>? If yes, what tasks and activities do they use it for? (Protocol question 5)

**3) Questions related to GOALS:**

- What were your original goals in using <LOR>? (Protocol question 2)
- To what extent have these goals been realised? (Protocol question 6)
- What are your main drivers for using <LOR>? (Protocol question 7)
- What costs and benefits in using LOR have there been for you? (Protocol question 10)

**4) Questions related to COMMUNITY:**

- Do you consider yourself part of a community or communities? If yes, what community (communities) – e.g. disciplinary, LOR users, department, institution? (Protocol question 17)
- How long have you been a member of that community? (Protocol question 18)
- How do you usually communicate with others in that community? How frequently do you interact and what electronic tools do you use to communicate? (Protocol question 19)
- What are the typical activities in your primary community? What is your role in those activities? (Protocol question 20)

**5) Questions related to RULES:**

- Are you aware of any strategies and processes for supporting uptake and use of <LOR> within your institution/organisation? (Protocol question 12)
- Are there any guidelines or other support to help you use <LOR>? (Protocol question 11)
- How are you recognised and/or rewarded for using <LOR>? How would you like to be recognised and/or rewarded? (Protocol question 21)

**6) Questions related to TOOLS:**

- What other electronic tools do you use in your teaching/learning activities? (Protocol question 14)
- What electronic tools do you use to manage your personal information? (Protocol question 15)

**7) Questions related to BARRIERS:**

- What are the barriers for using <LOR>? (Protocol question 8)
- Where there barriers at the start that have since been overcome? (Protocol question 9)

**8) Questions related to ENABLERS:**

- What is necessary to eliminate the barriers? (Protocol question 9)
- In your view, is it necessary to encourage wider use of LORs? If yes, how should wider use be encouraged? (Protocol question 22)

**9) Question related to IMPACT:**

[If respondent is involved in teaching and/or learning] Has <LOR> had any impact on your teaching/learning? Please explain your answer. (Protocol question 13)

**10) GENERAL questions**

- How did you first become aware of <LOR>? (Question 1 in the protocol)
- What did you need to know about <LOR> before you decided to use it? How did you find these things out? How and by whom were you supported in finding these things out? (Protocol question 3)
- Do you know others who use this repository? Could you give me their contact details? (Protocol question 23)

Data analysis

Analysis involved reducing the data by means of clustering it by conceptual groupings described above. The data on barriers was clustered by conceptual grouping based on the four broad groups of issues - cultural, organisational, pedagogical and technological – outlined in

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the CD-LOR report (Margaryan et al, 2006). Enablers, as well as all other outstanding issues and questions not covered in the conceptual framework were coded separately.

## Results

The results will be presented in two ways. In this section, individual responses within each of the three LORs are summarised. In the next section, the results will be discussed in relation to the research questions outlined in the Introduction.

To enable a more holistic interpretation of the results, each of the three repositories will be briefly described before the interview findings are presented. Specifically, the repositories will be described in terms of their key dimensions outlined in the Introduction – i.e. purpose, discipline, scope, sector, contributors, and the business model. The description is based on Littlejohn and Margaryan, in press<sup>5</sup>.

### LOR 1: Digital Libraries for Global Distributed Innovative Design (known as DIDET)

DIDET is a repository system used to support engineering students' group design projects at the Universities of Strathclyde (UK) and Stanford (USA)<sup>6</sup>. The repository is funded as part of the JISC 'Digital Libraries in the Classroom' programme. The repository is used as a support tool in a product design course in the Department of Design, Manufacture and Engineering Management.

In this course, students are given an assignment for designing and developing a domestic product. External companies set the design briefs and assign coaches to guide students in carrying out the designs. Product design involves three phases: a) information gathering, storing and structuring; b) concept generation; and c) development and prototyping (McGill, Nicol, Littlejohn, Grierson, Juster, & Ion, 2005).

Over six weeks the students work in small teams of four, meeting face-to-face several times per week. Tasks and assessments are designed to encourage students to store and share information online. Resource sharing is supported through the repository system where students can store, share and manage materials. During the initial storing and structuring phase, students collect, evaluate and store materials from a variety of sources to supplement resources created by other students. In the concept generation phase, students are required to collaboratively construct concept maps to justify their design concept. The design phase involves the students populating these maps with information resources. During these two phases, an information specialist guides students in selecting, evaluating, organising and storing information. By organising and structuring information in this way, the students justify and capture their design decisions.

Key repository dimensions of DIDET are summarised in Table 2:

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<sup>5</sup> Littlejohn, A., & Margaryan, A. (in press). Cultural issues in the sharing and reuse of resources for learning. *Research and Practice in Technology-enhanced Learning, Special issue on cultural diversity in learning*.

<sup>6</sup> DIDET [dmem1.ds.strath.ac.uk/didet/](http://dmem1.ds.strath.ac.uk/didet/)

**Table 2. Key dimensions of DIDET repository**

<p><b>Purpose of the repository and types of resources:</b> Support engineering students' group design projects; Student- and teacher-created resources, links to external resources, including external discipline-specific repositories</p> <p><b>Disciplines:</b> Design and manufacturing engineering</p> <p><b>Scope:</b> Classroom-based</p> <p><b>Sector:</b> Higher Education</p> <p><b>Contributors:</b> Students, tutors, industry-based coaches and information specialists</p> <p><b>Business model:</b> Trading model not applicable, but commitment from academic staff necessary, incentives might be required at departmental level to motivate all staff to participate</p>
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As shown in Table 1, two DIDET users were interviewed. The findings are summarised in Tables 3 and 4 below:

**Table 3. Key findings, DIDET, Respondent 1**

Categories	Key findings
Stakeholders and Roles	<p><u>Students</u> in a course (project teams), <u>teachers</u>, <u>system developer</u>, <u>external companies</u></p> <p><u>System developer</u> provides support on use of the system</p> <p><u>Teachers</u> guide and assess</p> <p><u>Students</u> work collaboratively in teams</p> <p><u>External companies</u> give assignments and cooperate</p>
Purpose	<p>LauLima is used primarily as/for:</p> <ul style="list-style-type: none"> <li>- a wiki</li> <li>- uploading files and pictures (some materials have to be digitised prior to uploading into the system)</li> <li>- carrying out a team project</li> <li>- interacting with others in project teams</li> <li>- preparing project reports</li> </ul>
Goals	<p><u>Accessibility</u> of information, including storage, organisation and sharing</p> <p>"It's a way of us putting information onto an area that we can have access to from anywhere"</p>
Community	<p><u>Community identity</u></p> <p>Department and course</p> <p><u>Community of LOR users?</u></p> <p>No</p> <p><u>Interaction with others while using the LOR</u></p> <p>Project team members, sometimes support staff</p> <p><u>Modes of interactions with others while using LOR</u></p> <p>Weekly face-to-face meetings</p>
Rules	<p><u>Institutional strategies and processes</u></p> <p>"I am not aware of any strategies or processes to support LORs in my university"</p> <p><u>Intrinsic rewards</u></p> <p>"We are rewarded for using the system because we use it"</p>

Tools	LauLima Forums within LauLima (for reporting and getting help with technical bugs) Blogs within LauLima WebCT Phones MSN or other instant messaging E-mail
Barriers	<u>Pedagogic</u> (users' skills): <ul style="list-style-type: none"> <li>- digitising original resources for upload</li> <li>- setting up permissions for project team areas ("people forget to do this")</li> <li>- uploading files in the correct format and size</li> <li>- use of wikis (preference for Word)</li> </ul> <u>Technological</u> : <ul style="list-style-type: none"> <li>- ease of use of wiki pages/editors</li> <li>- system is slow when many students use it for the same project through the same access point</li> </ul>
Enablers	<u>User support</u> "I think it [the wider use of LORs] depends on how much help and support you can get"
Impact	<u>No clear indication of impact</u> "I spend time going through the system and making sure it's up to date, so that helps me remember things... it helps organise and structure your thoughts as much as information "
General	<u>Non-voluntary uptake</u> (use of LOR is a requirement for courses) "We are told to use it in class"

Table 4. Key findings, DIDET, Respondent 2

Categories	Key findings
Stakeholders and Roles	<u>Project team, system developer</u> "...used as a tool for the <Y University> Knowledge Information Management project team"  <u>Project team</u> members share resources  <u>System developer</u> provides support "<X> of <Y University> who was integral to the development of the system was my first point of call for any queries. <Z> has also helped with some issues"
Purpose	<u>Storage</u> of presentations, minutes, and research papers " ...use for storage of project documents such as presentations, minutes, and research papers ... it was also established that LauLima would be a good way to create a 'Glossary of Terms' for the project to which all KIM members could edit and contribute".
Goals	<u>Information management</u> within a distributed project
Community	<u>Community identity</u> Research community within the department <u>Community of LOR users?</u> No

	<p><u>Interaction with others while using the LOR</u> Project team members, sometimes support staff</p> <p><u>Modes of interactions with others while using LOR</u> e-mails and other communication tools within LauLima</p> <p><u>Modes of interactions in primary community</u> E-mail, telephone, web conferencing</p>
Rules	<p><u>Institutional strategies and processes</u> "I am not aware of any strategies or processes in my institution to support LORs"</p> <p><u>Intrinsic rewards (?)</u> "Not rewarded for using the system and don't feel the need for recognition or rewards"</p>
Tools	<p>Laulima (with its communication tools, such as e-mail, shout box) Whiteboards Web conferencing WebCT Phone</p>
Barriers	<p><u>Technological:</u></p> <ul style="list-style-type: none"> <li>- access: the system is accessible over internet only</li> <li>- wiki syntax</li> </ul> <p>"Main barrier would be the requirement of Internet access system is only available online. Learning the syntax for creation of wiki pages is not straightforward and requires a little practice."</p>
Enablers	<p><u>Improvement of system functionalities and user interface</u> "Functionality such as being able to use LauLima over a private network as well as over the Internet would be an extremely useful function. A user interface allowing the user to select text fonts and sizes from drop down dialog boxes would be an improvement."</p>
Impact	<p><u>No impact</u> "Has not been used exclusively for teaching and learning therefore no impact has been recorded."</p>

## LOR 2: Jorum

Jorum<sup>7</sup> is a national, interdisciplinary repository available to all tutors (but not learners) within UK Higher and Further (vocational) Education institutions. Funded by JISC, Jorum aims to collect and make available learning and teaching materials created by individual tutors and by JISC funded projects. The repository is based around two inter-related services. The 'Jorum Contributor' service requires each institution or JISC funded project to nominate a person who serves as a 'contributor'. The role of the contributor is to gather and upload resources from colleagues across their institution. The 'Jorum User' service provides tutors from all UK institutions access to all gathered resources. Users can source, preview, download, repurpose and reuse materials within their teaching context.

Key repository dimensions of Jorum are outlined in Table 5:

<sup>7</sup> Jorum [www.jorum.ac.uk](http://www.jorum.ac.uk). 'Jorum' means "a collection bowl".

**Table 5. Key dimensions of Jorum repository**

<p><b>Purpose of the repository and types of resources:</b> To collect and make available learning and teaching materials to all UK Higher and Further Education institutions. A wide range of resources from single files, images, documents and so on, to IMS content or SCORM packages</p> <p><b>Disciplines:</b> All disciplines</p> <p><b>Scope:</b> National</p> <p><b>Sector:</b> Higher and Further Education</p> <p><b>Contributors:</b> Designated contributors in each institution collect resources from tutors; JISC funded projects contribute resources arising from these projects</p> <p><b>Business model:</b> Trading model critical, incentives possibly financial within and across disciplines, requires separate organisation (for example, JISC) or consortium to manage LOR, workflow and digital rights</p>
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As shown in Table 1, one Jorum user was interviewed. The findings are summarised in Table 6:

**Table 6. Key findings, Jorum, Respondent 3**

Categories	Key findings
Stakeholders and Roles	Support staff and teachers <u>Support staff</u> (educational developer?) searches the LOR for suitable materials and recommends them to <u>teachers</u>
Purpose	<u>Sourcing</u> learning materials
Goals	<u>Populating institutional VLE with content</u> Increase amount of <u>self-study materials</u> for students <u>Reducing marking</u> "We are about to implement a VLE and I am looking for suitable content with which to populate it. I am also encouraging the use of more self-access e-learning material. We are also looking for ways to set students work without it adding to the burden of marking."
Community	<u>Community identity</u> Institution, department and ILT community <u>Community of LOR users?</u> No <u>Interaction with others while using the LOR</u> None <u>Modes of interactions in primary communities</u> Interactions are mostly face-to-face, via e-mail and intranet
Rules	<u>Lack of institutional strategies and processes</u> "This is for me to devise and we have not got that far yet" <u>Rewards and recognition</u> No data "Not sure what this question means." <u>Guidelines or support</u> None is available

Tools	Jorum Video resources HTML Moodle Intranet Interactive quizzes Voting systems Electronic whiteboards Discussion forums (to a limited extent) Mind-mapping software Subject-specific software Classroom projectors Data-loggers
Barriers	<u>Pedagogic</u> (fit and quality of resources): <ul style="list-style-type: none"> <li>resources not relevant to curriculum</li> <li>resources not sufficiently interactive</li> </ul> <p>"I have not been able to find much material that is directly relevant to the syllabuses we teach here. I was also slightly disappointed by the text-based nature of some of the resources that did look relevant... I was expecting more interactive content".</p>
Enablers	Increase <u>quantity of resources</u> Improve <u>functionality and interactivity</u> Improve <u>searchability</u> (by level and by subject) Resources should <u>add value</u> Resources should be <u>tailored</u> to particular users' needs  "The quantity of material needs to be increased. Make it searchable by level as well as subject. Ensure that the material offers significant advantages (could be a question of better functionality, interaction) over paper-based materials."
Impact	No data
General	<u>LOR is not being used yet</u>  "We have only just arranged access, so the materials are not being used at the moment. I have located some resources for English Literature and Business which look relevant but have not discussed them with subject teachers yet."

### LOR 3: Spoken Word Services

'Spoken Word Services'<sup>8</sup> is an international repository based at the Glasgow Caledonian University in the UK. The purpose of this repository is to share authentic audio resources across UK and US Higher Education institutions. These resources are BBC radio archives, including interviews, talks, features, documentaries and news coverage of key events. Audio resources are supplemented by text-based materials such as journal articles, reports, legislation documents and relevant websites. Resources have been prepared from BBC archives by repository curators and evaluated by subject-matter experts. Teachers wishing to use these materials search for appropriate resources, which they download and make

<sup>8</sup> Spoken Word Services <http://www.spokenword.ac.uk/>

available to students. The students listen to the audio files to help them carry out learning tasks. Students have opportunity to share ideas, comments, queries and reflections on the audio material via online discussions or other interactive features.

The key repository dimensions of Spoken Word Services are summarised in Table 7:

**Table 7: Key dimensions of Spoken Word**

<p><b>Purpose of the repository and types of resources:</b> Integration of digitised audio into learning and teaching</p> <p><b>Disciplines:</b> All disciplines</p> <p><b>Scope:</b> International</p> <p><b>Sector:</b> Higher Education</p> <p><b>Contributors:</b> BBC archives; Teachers and students within UK and US Higher Education institutions</p> <p><b>Business model:</b> Sources provided and made freely available by the BBC; this model requires staff commitment, and incentives for use within the institutions</p>
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As shown in Table 1, three Spoken Word Services users were interviewed. The findings are summarised in Tables 8 and 9 below. Since two users were interviewed together, their responses will be summarised in one table:

**Table 8. Key findings, Spoken Word Services, Respondent 4**

Categories	Key findings
Stakeholders and Roles	<p>Teacher, LOR curators</p> <p><u>Teacher</u> sources audio files, annotates and transcribes them (or sources a transcript from Internet), prepares a worksheet for students, makes the file and the transcript available to students via her personal website; students then listen to the files, reflect and discuss in class.</p> <p><u>LOR curators</u> provide individual support to users</p>
Purpose	<u>Sourcing</u> audio files
Goals	<p>Provide students with <u>challenging and original materials</u></p> <p>"To get away from standard recorded material and textbooks, which is a bit of an insult to their [students'] intelligence at times, quite honestly, to put it mildly".</p>
Community	<p><u>Community identity</u> No data</p> <p><u>Belonging to LOR users' community</u> Does not feel identity with LOR users community</p> <p><u>Interaction with others</u> None at the moment, but would like to</p> <p>"I'd like to speak to people using the same audio. I'd like to speak to people who want to listen to the same things that I've got."</p>
Rules	<p><u>Institutional strategies and processes</u> No data</p> <p><u>Lack of recognition and rewards</u></p>

	<p>"You see the idea of the repository is only just kind of filtering through. I mean, I don't [get any recognition]...because content is still perceived in terms of you know it has a value in monetary terms whereas what is value is the service you're providing...I'd like to move into a group which is concerned with replicating this type of service in &lt;Country M&gt;. I'd say rather than being rewarded I'd be penalised."</p>
Tools	<p>Repos (Spoken Word Services' repository)          Audio annotation tool (Project pad)          Blogs          Wikipedia          Google</p>
Barriers	<p><u>Organisational and Information Management:</u></p> <ul style="list-style-type: none"> <li>• <u>Lack of continuity</u>              "There are a lot of internal problems at our own university, the fact that the number of students on the specific course oscillates a lot. I mean, I haven't been able to work continuously with the same group of students on the same materials..."</li> <li>• <u>Copyright</u>              "I recently went to the presentation of a book and everybody was running around taking photographs and filming, but nobody was actually recording or even listening to what was being said. [And of course if you want to record events like that and make them more widely available, then there are rights issues to be confronted]. If I want to put this particular recording onto Repos, I've got to get the permission of 3 different people and I can't you know it's just really difficult for me because I'm not a journalist, I'm just a member of the public who happened to be recording. It's a big problem for me 'cause I haven't got the time or resources to chase after..."</li> <li>• <u>Status of teaching</u>              "...It's not considered to be equal to proper linguistic research. I mean I do fool around with technology such a lot and it takes all my time. And it doesn't turn up in a publication...there isn't the kind of recognition that doing something practical has the same academic value as spouting lots of quotations and doing a thick bibliography."</li> </ul> <p><u>Cultural:</u></p> <ul style="list-style-type: none"> <li>• <u>Current teaching practices</u>              "...there is something which makes people unhappy about the idea of a lot of good stuff being free. I don't know why. It's kind of disturbing, the idea that there is 300,000 hours of audio out there and all you need to do is, you know, you've got to find a way of making it useful. Because it kind of throws the parameters of what you generally do in teaching."</li> <li>• <u>Preference for short, visual information<sup>9</sup></u>              "People are not used to listening anymore. You sort of watch television very quickly. [Students] have to listen to their professors but that's enough for goodness sake. That's how they learn, professors talking and once they've got through the lesson, I don't think they really want to listen to anything really interesting."</li> </ul> <p><u>Political:</u><sup>10</sup></p> <ul style="list-style-type: none"> <li>• <u>Access to sensitive information</u>              "...the fact that people have got to listen to the original voices, and this is a</li> </ul>

<sup>9</sup> This issue is likely to be specific to this particular type of LOR focused on audio resources as well as any other LOR that involves audio resources.

<sup>10</sup> Note that this category is not part of the CD-LOR's current typology of barriers. It is of interest to investigate what other types of repositories might throw up similar barriers.

	<p>big political question as well. I don't know if you've heard the latest news that a documentary about the mafia boss from Insano is going to be cut, the original voices of the states witnesses are going to be cut, people don't want always to be able to hear what people say".</p> <p><u>Technological:</u></p> <ul style="list-style-type: none"> <li>• <u>Access from institution restricted by firewall and lack of support from institutions</u>          "We had firewall problems... I know a colleague was really interested in using Repos and he couldn't get round the firewall problem... I solved the problem because &lt;N&gt; [SW project team member] was here and actually did a proxy IP, but our technical staff are not into solving this particular problem... I know there is a lot of interest but you know if you come across this sort of problem once you just kind of leave it..."</li> <li>• <u>Format of resources</u>          "Because the materials are streamed... and they [users] can't download. I imagine that people sitting and listening to something on the computer, you need a lot of time"</li> </ul>
Enablers	<p><u>Create and formalise a community of practice</u>          "If we had more official agreement at University level that would help. You know, the University quite frankly is dragging its heels a lot on this... There has to be something official before you can talk about a community of teachers and learners I think. Otherwise I've got single kind of people who are interested".</p>
Impact	<p><u>Increased student engagement</u>          "...it's also had really, really big benefits because I just remember the faces of the students when they actually hear the voice of a mother who's lost a daughter in a plane crash or the voice...As a teacher just to see people's faces when they are interested in what they are listening to, instead of snoozing. I've done some interviews with students and they have all reacted really positively, they've told me how much they enjoyed it."</p> <p><u>Personal impact</u>          "...Huge emotional impact, huge, absolutely. And what it's also done is to make me realise that each student reacts differently in an individual way to the same kind of piece of listening which is something you don't even realise, you don't really realise what is happening generally, but if you are using this audio with Project Pad you just realise that different people are hearing different things which has been fantastic".</p> <p><u>Added value</u>          Use of LOR helps achieve something that wasn't possible using traditional language teaching materials</p> <p>"It's not there [in traditional language teaching materials] at all, I mean I'd like to give you an example of how not there it is, you know you've just got to hear it to believe it. Several of my colleagues think the same."</p>
General	<p><u>Uptake of the repository</u>          "I actually came to Glasgow, and speaking to the staff at Spoken Word and they showed me how to use it. And then I got the password to have a look at the repos at a distance. It was a little bit daunting at first...just to understand the idea of what a repository can be."</p> <p><u>Use by students directly</u>          "I would like [students] to be able to listen to things via repos, but I haven't done that so far. But I'm now getting to a stage where I need to be able to say to the students 'this audio is available on this site and you can listen to it there in streaming' and they have the tape-script, they have the worksheet and I don't need to worry about where to put all this massive audio material".</p>

**Table 9. Key findings, Spoken Word Services, Respondents 5 and 6**

Categories	Key findings
Stakeholders and Roles	<p>Teachers, LOR curators</p> <p><u>Teacher</u> sources audio files, makes the file available to students via a website or the VLE; students are then invited to listen to the file and have some discussion on it or carry out a specific task in relation to the audio resource (e.g. blog comments or comment on specific issues related to the resource or criticise it). Audio resources are also integrated in a book review exercise, where a radio documentary is used as equivalent to a book. Audio resources are also being used as reference sources for student essays [it is not clear whether these are sourced from the repository by the students directly]</p> <p><u>LOR curators</u> provide individual support to users.</p>
Purpose	<p><u>Sourcing audio files</u> for use for different purposes (see Stakeholders and Roles); in addition, resources are being used not only for content, but for style (e.g. students use the audio resources to learn how to interview)</p>
Goals	<p><u>Mixture of professional and personal interest</u>          “The whole thing was quiet exciting. There’s the obvious fascination...of being able to access the voices of leading figures from the past, which is both a personal scholarly interest and so on...”</p> <p><u>Added value</u>          “...essentially the goal is related to teaching and the learning environment for students, particularly...you could see initially immediately that this offered various kinds of extra dimension to what we were already able to introduce students to...”</p> <p><u>Building a collection of resources for use within courses</u></p> <p><u>Enhance accessibility and use of resources</u>          “...to be able to take advantage of whatever was developing within the project in the way of enhancing accessibility and student use of that kind of material directly relevant to the teaching curriculum that we had”</p>
Community	<p><u>Community identity</u>          Discipline and institution</p> <p><u>Belonging to LOR users’ community</u>          Respondent A: Yes, but not the primary community.</p> <p>“...it is a community, but I still wouldn’t primarily identify myself in that community ahead of the disciplinary or broader institution... That community, apart from occasional contacts with people like &lt;N&gt;, certainly doesn’t really extend much beyond, and &lt;O&gt; I suppose, it’s within this group, it doesn’t really extend much into other institutions.”</p> <p>Respondent B [commenting on the previous statement]: Small but a community</p> <p>“I think that’s absolutely right but I wouldn’t underplay the kind of importance of what that small community is. I think that certainly for me, it’s been a lifeline at all sorts of levels... it’s something to do with validation I think, of actually feeling that you’re not some kind of real weird oddball but there actually are people who say, when you say something ‘yeah actually that’s</p>

	<p>really interesting”</p> <p><u>Interaction with others</u> Currently none beyond the small group at institution, but would like to interact with other users</p>
Rules	<p><u>Institutional strategies and processes for support of LORs</u> No strategies at present</p> <p><u>Recognition</u> “The difficulty is not so much getting recognition. The problem of an approach which says ‘are you recognised for this’, is that it then leads you to start thinking about this as a thing apart, you know, as if it is some great project of yours rather than what you would just normally expect interested and committed teachers to be thinking about as the natural, not natural but appropriate progressive evolution of their approach to pedagogy, you know”.</p> <p>“Recognition you get is...when students get something out of it and when your colleagues that you show it to, you know, express enthusiasm and so you go to, I mean, you know, you might produce the occasional article which &lt;P&gt; and I have done in the past. Or go to conferences to give a presentation or post a session on the project and show some sound and so on and that in itself is satisfying. And it gets you a limited kind of recognition that you are doing something which is at the frontier and you are able to contribute something to the academic community at large. But as for other kinds of recognition I suppose I am at the wrong stage of my career to be worried one way or another about that, if that’s the question.”</p>
Tools	<p>Repos Blogs VLE (occasionally) Video Clydetown (local virtual environment) Discussion boards</p>
Barriers	<p><u>Pedagogical:</u></p> <ul style="list-style-type: none"> <li>• <u>Users’ skills</u> “...certainly an issue...which is the induction of students into the use of the audio. So your feelings initially are you get excited about having this audio and you stick it there for the students and you don’t initially think about...you know....whether...you know... you also have this notion of students as being so...you know...so IT and web familiar that...there wouldn’t be much of an issue in them playing around with this kind of stuff. But that of course is not the case”.</li> </ul> <p><u>Organisational and Information Management:</u></p> <ul style="list-style-type: none"> <li>• <u>Organisational support for innovation</u> “If you are in a department that doesn’t have a particular commitment to e-learning than they can’t, all they see is the E and not the learning and so the focus becomes on the technology rather than actually the pedagogy and the understanding”.</li> </ul> <p><u>Cultural:</u></p> <ul style="list-style-type: none"> <li>• <u>Institutional views on legitimate use of time</u> “I sometimes sit... at my machine with the headphones on and I am listening to audio that’s been collected for me. And people walk past the door and they make remarks about, you know, what I might or might not be doing, but if I were sitting with a journal open on my desk and it wouldn’t be the same comment. So I think there is still a bit of an issue about the perception of where, any form of new technology fits into the...”</li> </ul>

	<p>it's not real academic study."</p> <p><u>Technological:</u></p> <ul style="list-style-type: none"> <li>• <u>Accessibility</u></li> <li>• <u>Ease of use</u></li> </ul> <p><u>Other:</u></p> <ul style="list-style-type: none"> <li>• <u>Critical mass of resources</u></li> </ul> <p>"The major initial constraint is the finding but particularly the ordering and collecting of the actual audio from the BBC. You can understand exactly why there are problems in that but the constraints on the amount of audio that could be ordered and delivered months by months is certainly one of the issues to begin with".</p>
Enablers	<p><u>Encouraging direct use by students by integration with current resources and through improving ease of access</u></p> <p>"To move the resource away from us being the agents between the students and the sound that they use to having a situation that's broadly equivalent to their situation in relation to a library catalogue. Or whatever way they can just treat sound like web sites and library catalogues as just including maybe obviously possibilities of integrations of these things in multimedia collections of various sorts for them to search and obvious way of developing."</p> <p>"The ease of access I suppose relates to the possibility of project pad type software coming really, you know, user effective of the sorts of purposes you might have both individually and in groups in modules. And just the ease of use between media and the MP3 versions of sound as opposed to, you know, listening through the computer or whatever where the sound of that kind can be handled just as easily as other forms of source."</p> <p><u>Encouraging wider use of LORs by:</u></p> <ul style="list-style-type: none"> <li>• <u>Increasing awareness of LORs and what they can do</u>        "It's about widening the understanding actually of what repositories are, where they fit in the overall scheme of things. I think there's a danger that what you have are almost kind of customised versions of Google, you know, where it just kind of exists and people don't actually know how to kind of interact with it and how to make best use of it."</li> <li>• <u>Disseminating good practice</u>        "...Wider dissemination of good practice in terms of the kind of things that this project does, to get a wider understanding in the academic community of how you interact with these knowledge bases...".</li> <li>• <u>Ensuring integration of the LOR with the existing institutional collections</u>        "...possibly one of the next stages for this project is to actually make a much more definitive interaction with what's already in Spoken Word and what exists within the University in the form of other collections... So making clearer links between what's in, for example, the Museum of &lt;Discipline P&gt; or the &lt;Charitable Organisation Q&gt; archive and Spoken Word and a much closer interface between them, but part of that is, what do you do with it and how do you use it and why do you use it and where do you use it, all those things"</li> </ul> <p><u>Institutional support for LORs as part of the web-based resources</u>        "It's always a mistake to treat this kind of thing [LOR] as if it's a discrete thing. Ultimately it's really a part of web-based learning, so if the institution is adequately resourcing the development and the deploying of web-based resources, of all kinds, worth for the teachers and students within the institution then there isn't a huge addition cost".</p>

	<p><u>Building and supporting a community of practice (for teachers using the LOR), by:</u></p> <ul style="list-style-type: none"> <li>• Setting up a web-based environment for the community</li> <li>• Arranging periodic conference calls between the users</li> <li>• Setting up a community blog where the teachers can share experiences of using the LOR</li> </ul>
Impact	<p><u>Personal impact</u></p> <ul style="list-style-type: none"> <li>• <u>Support network not otherwise available</u>        “One of the really key things about Spoken Word for me has been the support network that it offers academic staff. Because I don’t actually think that in the school I’m in, it would have happened at all”</li> <li>• <u>Creating sense of personal validation</u>        “What I get out of being involved with this project is something about validation, it’s something to do with not feeling, you know...everybody’s out of step but our Jock, you know. I don’t think that the things that I do in relation to e-learning or learning generally are recognised within the school that I’m part of, so therefore I rely quite heavily on this project for that sense of personal validation.”</li> <li>• <u>Learning about others’ work</u>        “...I learn huge amounts from eavesdropping in, you know, into other people’s areas, looking at what &lt;R&gt; is doing in terms of his lectures and whatever, looking at the blogs and you learn loads about what other people are doing.”</li> </ul>
General	<p><u>Adoption of LOR through academic and personal contacts</u>        “...became aware of it through academic and personal contacts with the staff who are developing the project in the University.”</p> <p><u>Evolution of original goals</u>        “I don’t think that three years ago I had any notion of the possibilities that are now there. You know the original goals were very, very modest compared to where we are now. It was always just ‘oh you’ll be able to hear the BBC news again’ you know, rather than the ways in which we can use it, the range of opportunities. It’s just, you know as a project, it has come along by leaps and bounds, I think.”</p> <p><u>Adaptability</u>        “...what we have here really is something very different, which is a facilitative set of possibilities that open up and already, although there is at an early stage relatively few people using it, you can see that nobody is using it the same way as anybody else. So what we’ve got here is actually it’s not just adaptable, but it naturally exists as a part of whichever package of approaches individuals are choosing themselves to use.”</p> <p><u>Evolution of the LOR</u>        “..the front end now it’s just so user friendly that I think it would be easy to get students involved in it now in a way that you couldn’t have done three years ago.”</p> <p><u>Sustainability of current user support model</u>        “I do think there is probably an issue as the project begins to roll out into that bigger, wider audience about how you actually interface with your wider public as it were, because we have had the luxury of, you know, a whole team that are kind of at our beck and call in a sense. You know, if there is an issue that we want resolved then there is always somebody to help you resolve it. A small team of five or six can’t possibly sustain that across an academic community.”</p>

In the next section, the findings will be discussed in relation to the research questions.

## Discussion

The discussion in this section is structured around the following six research questions:

- RQ 1. In what ways do the three LORs mediate teaching and learning (typical tasks, goals, types of use, who is involved)?
- RQ 2. Is there a community coalescing around the LORs?
- RQ 3. What are the characteristics of community that the LOR aims to facilitate?
  - RQ 3.1. What are the modes of participation and communication in that community?
  - RQ 3.2. What are the explicit rules that govern the functioning of that community?
- RQ 4. What electronic instruments (hardware as well as software) do community members utilise in their daily practice for communication as well as for managing their personal information?
- RQ 5. What are the barriers and enablers in using the LORs?
- RQ 6. What is the impact of the LORs on teaching and learning?

Each question will be addressed below.

### RQ 1. In what ways do the three LORs mediate teaching and learning?

This question aimed to elicit data regarding the community dimensions of “purpose” and “roles”. As the initial scoping of the LORs showed (Margaryan et al, 2006, Section 3.1.), their stated purposes ranged from “to gather the learning and teaching materials of the institution” to “to enhance and transform educational experience through the integration of digitised audio into learning and teaching” or “to collect and share learning and teaching materials, allowing their reuse and repurposing” (pp. 27-29). But how are the LORs used in practice? What are the typical teaching and learning tasks that the LORs are used for? What are the users’ goals with respect to LORs? Who are the users and what are their roles?

In terms of typical tasks, it appears that the three LORs are used for *storing resources* and documentation for project team work (DIDET) and *sourcing learning materials* for use within courses (Jorum and Spoken Word). There was no indication of LOs being repurposed or reused beyond this level. In terms of users’ goals, *accessibility of information* and *sourcing content* appear to be the main drivers for use.

With respect to the stakeholders, distribution of roles differs across the LORs. DIDET is unique in that it is used directly by teams of students, who are supported by teachers and the system developer (technical support). Among DIDET’s stakeholders are external companies, who give project assignments and who collaborate in assessing the outcomes. In the case from Jorum, the LOR is accessed by an educational developer who then recommends relevant resources to the teachers. Although Jorum will probably be used differently in different contexts, in this particular example it was not used by teachers or students directly. Within Spoken Word repository, the resources are accessed by teachers directly, with the curators of the repository providing individual technical support when needed. Teachers then make the resources available to students via their personal websites or other media. Presently the repository is not accessed directly by students. However, the interviewees indicated that they would like the students to potentially be able to source the materials directly.

### RQ 2. Is there a community coalescing around the LORs?

Among the three studied cases, there is limited evidence of community coalescing around Spoken Word LOR only. Although in all three cases interviewees identify primarily with their departments and institutions, two of the three Spoken Word users indicated that there was a small but fairly coherent group forming around the repository. Interviewees indicated that the

value of the community was in providing collegial support and a sense of personal validation that they did not experience in their departments.

Furthermore, all three interviewees emphasised the importance of formalising and supporting a community of practice for teachers using the Spoken Word resources. It was felt that such a community of practice could be a major enabler for a wider uptake of the repository.

### RQ 3. What are the characteristics of community that the LOR aims to facilitate?

With respect to community characteristics, two dimensions were explored: dialogue and rules.

#### *RQ 3.1. What are the modes of participation and communication in that community?*

As it was mentioned above, all interviewees felt that their primary communities were department and institution. Because of the proximity of community members, face-to-face was identified as the primary mode of communication. Other modes of communication included use of e-mail, telephone and web-conferencing.

#### *RQ 3.2. What are the explicit rules that govern the functioning of that community?*

There can be a wide range of implicit and explicit rules governing a teaching and learning community, for example hierarchies, rules of interaction, various rewards and incentives, institutional strategies and formal processes, curriculum requirements, and so on. In this study we began exploring the current situation regarding some explicit rules that could have impact on utilisation of LORs, namely institutional strategies and processes, as well as rewards and incentives for use of LORs.

With respect to institutional strategies, none of the interviewees were aware of any such strategies existing within their institutions. This is not to suggest that the strategies do not exist, but rather that there might be lack of awareness of such strategies. Two interviewees (from Spoken Word Services) questioned whether such formalised strategies would be useful: in their view, introducing regulatory frameworks would create regulatory behaviours and consequently top-down approaches, which could have adverse impact on creativity in using LORs.

With respect to reward and incentives, similarly there were no explicit mechanisms or models within the institutions that the interviewees were aware of. The majority of the interviewees (4 out of 6) said they were intrinsically motivated to use the LORs, and felt rewarded by the benefits that the use of LORs provided. As one interviewee said: "We are rewarded for using the system because we use it". Interviewees involved in teaching indicated that their primary reward was students' engagement and positive feedback on the materials sourced from the LORs.

### RQ 4. What electronic instruments (hardware as well as software) do community members utilise in their daily practice for communication as well as for managing their personal information?

A range of electronic tools appears to be used routinely. These are primarily institutional VLEs, e-mail, blogs, Google, instant messaging, and discussion fora. Two users indicated that they had used another LOR, although not extensively. Thus all users we interviewed seem to be fairly IT literate and keen to explore new technologies. This of course will not be the case for all potential users; indeed IT skills were mentioned as a barrier for wider uptake of repositories (more will be said about this aspect in question 5). Previous research indicated that the repertoire of tools that people utilise in their practice could impact the way that technology innovations are adopted. Therefore it might be useful to explore further how repositories fit with the tools used within the communities.

## RQ 5. What are the barriers and enablers in using the LORs?

As it was mentioned, the barriers identified by the interviewees were grouped around four types of issues – organisational, pedagogic, cultural and technological. Enablers were not directly mapped onto the issues, as they often addressed generic barriers, or related to two or more types of issues at the same time.

A detailed summary of the barriers is provided in the Results section. Main types of issues frequently mentioned across the three repositories were:

DIDET: The majority of issues identified by the interviewees were *technological* (such as ease of use of wikis, and accessibility of the system); *pedagogic* issues (users' skills) were mentioned by one interviewee only. No organisational or cultural issues were identified.

Jorum: The interviewee highlighted only *pedagogic* issues (such as resources not being relevant to the curriculum and resources not being sufficiently interactive).

Spoken Word: The majority of issues identified by the interviewees were *organisational and info management* (such as copyright, status of teaching, organisational support for innovation). An equal number of *cultural* and *technological* issues were mentioned. Cultural issues involved current teaching practices (this issue can also be categorised as pedagogic), students' preference for visual rather than audio information (this might be specific to this particular type of repository), and institutional views on what constitutes legitimate practice. Technological barriers involved access issues, and ease of use of the repository. *Pedagogic* issues (students' IT skills) were mentioned only once. Two *other* issues - not directly related to any of the four categories – were highlighted. These included reuse of politically sensitive resources, and the need for a critical mass of resources to be available within a repository.

Enablers included:

DIDET: User support (can be loosely mapped as a solution to pedagogic issues) and improvement of systems' user interface and functionalities (can be mapped as a solution to technological issues)

Jorum: Increased quantity of resources, improved functionality and searchability (technological), resources providing added value and being tailored to needs of different users.

Spoken Word: Creation and formalisation of a community of practice of LOR users (organisational), increased ease of access (technological), encouragement of direct use of the LOR by students, as well as range of solutions to encourage wider uptake of the LOR (such as increasing wider community awareness about the LOR, disseminating good practice, ensuring integration of the LOR with the existing institutional collections and institutional web-based resources).

Do the barriers and enablers vary across different types of repositories (as characterised by repository dimensions)? A summary of LOR dimensions, barriers and enablers is shown in Table 10.

**Table 10. Summary of LORs, barriers and enablers**

LOR	Repository dimensions	Barriers	Enablers
DIDET	<i>Purpose of the repository and types of resources</i> : Support engineering students' group design projects; Student-created resources, teacher resources, links to external resources, links to external repositories	1) <i>Pedagogical</i> : - user skills  2) <i>Technological</i> : - ease of use - system functionality	1) <i>User support</i>  2) Improvement of system <i>interface ad</i>

	<p><i>Disciplines:</i> Discipline-specific  <i>Scope:</i> Classroom-based  <i>Sector:</i> HE  <i>Contributors:</i> Students, tutors, industry-based coaches and learning technologists  <i>Business model:</i> Trading model not applicable but commitment from academic staff necessary, incentives might be required at departmental level to get all staff to participate</p>	- accessibility	<i>functionality</i>
Jorum	<p><i>Purpose of the repository and types of resources:</i> To collect and make available learning and teaching materials to all UK Further and Higher Education institutions. A wide range of resources from single files, for example, images, documents and so on, to IMS content or SCORM packages;  <i>Disciplines:</i> Multidisciplinary  <i>Scope:</i> National  <i>Sector:</i> FE and HE  <i>Contributors:</i> Designated contributors in each institution collect resources from tutors; JISC funded projects contribute resources arising from these projects  <i>Business model:</i> Trading model critical, incentives possibly financial within and across disciplines, requires separate organisation (for example, JISC) or consortium to manage LOR, workflow and digital rights</p>	<p>1) <i>Pedagogical:</i>  - low quality of resources  - irrelevance of resources</p>	<p>1) <i>Critical mass</i>  2) <i>Improved system functionality</i>  3) <i>Improved quality and relevance of resources</i></p>
Spoken Word Services	<p><i>Purpose of the repository and types of resources:</i> Integration of digitised spoken word audio into learning and teaching  <i>Disciplines:</i> Multidisciplinary  <i>Scope:</i> International  <i>Sector:</i> HE  <i>Contributors:</i> BBC archives; Teachers and students within UK and US Higher Education institutions  <i>Business model:</i> Trading model not applicable, but requires staff commitment, and incentives within the institutions</p>	<p>1) <i>Organisational and info management:</i>  - copyright  - lack of continuity  - status of teaching  - support for innovation  2) <i>Cultural:</i>  - teaching practice  - preference for visual info  - views on legitimate use of time  2) <i>Political:</i>  - access to sensitive info  3) <i>Technological:</i>  - accessibility  - ease of use  - resource format  4) <i>Pedagogic:</i>  - user skills  5) <i>Lack of critical mass of resources</i></p>	<p>1) <i>Community of practice</i>  2) <i>Direct use by students</i>  3) <i>Increased awareness of LOR</i>  4) <i>Dissemination of good practice</i>  5) <i>Integration of LOR with existing institutional collections</i>  6) <i>Institutional support</i></p>

Some types of barriers appear to be uniform across the three LORs, for example, user skills (pedagogic issue), or ease of use, system functionality and accessibility (technological issues). Consequently, some suggested enablers appear to be the same across the LORs- for example, improvement of system functionality.

However, there is also a range of differences. For example, in the case of Spoken Word which is an international, classroom-based, HE-focused repository that contains resources of a specific type, users indicated an additional type of barrier – which is tentatively termed “political” in this report. In contrast to the former two LORs, users of the Spoken Word appear to face more organisational and cultural barriers, although this could be due to the development stage this LOR is at the moment rather than any of its particular dimensions. Consequently, enablers suggested by the users of this LOR related mainly to organisational and pedagogic aspects.

Thus, although because of the limited data it is difficult to pinpoint direct correlations between types of repositories and the types of barriers underlying their use, there are differences that reflect the context or level of development of these repositories. Further research is needed to explore any underlying correlations as well as to investigate whether the issues are directly related to the characteristics of the community repositories aim to serve.

#### RQ 6. What is the impact of the LORs on teaching and learning?

Interviews of DIDET users did not provide any clear indication of impact. The Jorum respondent did not comment on impact, which could be interpreted as that there has been no impact (the user indicated that the repository has not been used much yet).

Some evidence of impact was found in the Spoken Word case, which was the one repository in this part of the study that had a ready-made, large collection of resources already available (the others are still in the process of developing collections alongside developing a user base). Users indicated impact such as *increased student engagement* (the user commented that this indication is based on the interviews she had conducted with some of her students); *personal impact* (improved understanding of students' needs, collegial support network, creating sense of personal validation, and learning about others' practice); and *added value* (i.e. that the use of the audio resources helps achieve results that were not possible to achieve using traditional language teaching materials).

#### **Further research**

This study was a first attempt to unpack some of the community dimensions and an initial exploration of actual users' perceptions and experiences with using three different types of LORs. Along exploration of the community dimensions, a range of issues affecting the implementation of repositories as well as potential solutions were identified. Also, some initial evidence of impact of LORs within teaching and learning was identified.

However more studies with much larger number of actual users are required to investigate the communities in depth. Such further studies are crucial in order to be able to: 1) find support – or otherwise – for the CD-LOR's main premise; and 2) validate and if necessary refine the integrated framework of community and repository dimensions.

The limitation of this study was that the repositories CD-LOR collaborates with are largely in a development stage and have not been rolled out to significant numbers of users yet. This caused problems with data collection. However, a critical question is: why do repositories have few users? Is it only because they are in the early stages of development? Or is it because the repositories do not take into account user needs, current practice, organisational realities and cultural preferences?

Further studies should in particular explore in-depth the community dimensions of “pedagogic approaches” and “coherence”. Also, “rules” governing the communities should be more closely

investigated in order to unpack the implicit rules, as these could be crucial for implementation of LORs.

Finally, it might be useful to add a further dimension – tools - to the framework. Tools that communities already use in their daily practice – and particularly how the LORs fit with these tools - could be another important characteristic of community that might influence the uptake of repositories.

## Appendices

### Appendix 1. E-mail to LOR curators

Dear <name of the curator> ,

The CDLOR project would like to interview some existing users of your repository. So far we have been carrying out mainly theoretical work synthesising the existing literature on barriers and enablers to uptake and use of the learning object repositories within communities. Now, we want to begin exploring the barriers and enablers from the perspective of actual users of existing repositories. There are few of these around and yours is one of them.

Therefore we would very much appreciate your assistance in helping us contact 2-3 users of your repository to arrange for an interview. Ideally one or two of the respondents would be fairly experienced users of and/or contributors to the repository. The interviews will be semi-structured and will take about an hour to an hour and a half of their time. I would be happy to meet with them personally or arrange a phone or e-mail interview.

We are interested to explore the users' perspectives/experiences in the following key areas:

1. What are the typical tasks the use the repository for?
2. What are the barriers and enablers for them to use the repository?
3. Is there an impact on teaching and learning?
4. In what ways if at all does the repository mediate teaching and learning?
5. Is there a community/communities and if yes what are their characteristics?

Please see the attached draft interview protocol for the specific questions.

We would very much appreciate your assistance with locating and contacting the users. Could you please send me their contact information, if possible by Friday February the 24th.

As you know, CDLOR has a budget for consultancy work with the Associate partners. If it fits with any developmental or evaluation work you are currently doing (or planning to do in the future) and you would be able to conduct these interviews yourselves, that would be of great help to the project, and we can use this budget to pay you. For more details on this please contact Sarah Currier, Project Manager, at [sarah.currier@strath.ac.uk](mailto:sarah.currier@strath.ac.uk)

Many thanks,

Anoush

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Appendix 2. Invitation to users to participate in interview

Dear <user's name> ,

I am contacting you on <curator's name> suggestion that you have used <LOR> and could help the CDLOR project by sharing your experiences/feedback with us.

The CDLOR project (Community Dimensions of Learning Object Repositories) aims to identify and analyse the factors that influence practical uptake and implementation of learning object repositories in support of learning and teaching. You can find more information about the project on our website <http://www.ic-learning.dundee.ac.uk/projects/CDLOR/index.htm>

So far we have been carrying out mainly theoretical work synthesising the existing literature on barriers and enablers to sharing and reuse of resources within learning communities. Now, we want to begin exploring the barriers and enablers from the perspective of actual users of the existing repositories and resource sharing systems. There are few of these around and <LOR> is one of them.

If you have been using <LOR> for teaching and/or learning, we would be grateful if you could share your feedback with us. The interview will take about an hour to an hour and a half of your time. I would be happy to arrange a phone call, a videoconference or an e-mail interview. I would also be happy to send you the interview questions in advance.

I would appreciate if you could let me know your preferred interview format, date and time.

Thanks and I look forward to your response.

Best wishes,  
Anoush

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Appendix 3. CD-LOR User Interview Protocol

1. How did you first become aware of <name of LOR>?
2. What were your original goals in using < LOR>?
3. What did you need to know about <LOR> before you decided to use it? How did you find these things out? How were you supported in this?
4. Could you tell me a story of how you use <LOR>? What are the typical steps/processes involved when you use <LOR>? What are the typical activities for which you use <LOR>?
5. [If the respondent is involved in teaching] Do your students use <LOR>? What are the typical activities for which they use <LOR>?
6. You said in question 2 that your original goals in using <LOR> were..... To what extent have these goals been realised?
7. What are the main drivers for you to use <LOR>?
8. What are the barriers?
9. What is necessary to eliminate the barriers? Where there barriers at the start that have since been overcome?
10. What costs and benefits have there been for you in using <LOR>? [not necessarily financial]
11. Are there any guidelines or other support to help you use <LOR>?
12. Are you aware of any strategies and processes in your institution to support uptake and use of <LOR>?
13. [If the respondent is involved in teaching & learning] Has <LOR> had an impact on your teaching/learning? In what ways?
14. What other electronic tools do you use in your teaching/learning activities? [e.g. VLE, other repositories, discussion boards/lists, wikis, blogs, etc.]
15. What electronic tools do you use to manage your personal information?
16. Do you interact with others when you use <LOR>? If yes, how do you interact [e.g. face2face, tel, e-mail, etc.]?
17. In your work, do you consider yourself as part of a community? [e.g. a disciplinary community, community of LOR users, your department, your institution, etc.]
18. How long have you been a member of that community?
19. How do you usually interact/communicate with others in that community? [e.g. face to face, online, mixed mode, etc.]. How frequently do you communicate? What electronic tools if any do you use to interact?
20. What are the typical activities in your particular community? What is your role in those activities?
21. How are you recognised or rewarded for using <LOR>? How would you like to be recognised /rewarded?
22. In your view is it necessary to encourage wider use of repositories? If yes, how should a wider use be encouraged?
23. Do you know others who use this repository? Could you give me their contact details?