Title: Is there a role for research students in an institutional repository?

Some repository managers' views.

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Abstract:

Although a number of studies have investigated the attitudes of published academic authors with respect to open access (OA) publishing and institutional repositories (IRs), none have considered the views of other institutional stakeholders. Research students, in particular, are a group that could make a major contribution to an IR, both currently and in their future careers. But how acceptable is their work to those responsible for IRs?

The project described here investigates the views of repository managers. A short email survey was carried out, comprising questions about student use of the repository, advocacy undertaken and attitudes toward research student content. Responses were received from representatives of 35 universities in the UK and abroad.

Repository managers were overwhelmingly in favour of permitting the deposit of research student work, albeit under specified conditions. One half of the respondents mentioned allowing, or even encouraging, the deposit of theses and dissertations. The relative newness of many repositories meant that advocacy to student authors was limited, although a number of managers were including the repository as an information source in routine research training sessions.

The paper concludes that there is a need for clear guidance on the quality of repository content; that evidence of use should be sought; and that IR policy should accommodate the needs of all stakeholders.

Key words: Institutional repositories, digital repositories, research students, repository managers, attitudes, open access publishing.

Introduction

In recent years there has been an explosion of interest in 'open access' (OA) publishing. The right to "read, download, copy, distribute, print, search, or link to the full text" of articles which are freely available (Budapest Open Access Initiative (Chan *et al*., 2002)) is seen as increasingly important in the dissemination and progress of academic research.

One of the more favoured options for providing open access to research output is the digital repository, maintained either institutionally or on a subject basis. In the UK alone, some 26 universities have created institutional repositories (IRs), and still more are under consideration. Only recently it has been announced that the Joint Information Systems Committee (JISC) has won a massive increase in funding to support the development of IRs in Higher Education (Library and Information Update, 2005:7).

At the institutional level, there are a number of justifications for creating a digital repository. These include the potential for raising the institutional profile and for demonstrating its "scientific, social and financial value" (Crow, 2002: 6); the facility to store and structure the institution's total intellectual output, including unpublished 'grey' literature; support for teaching and learning through the sharing, re-purposing and re-using of course material; the opportunity to leverage existing investment in information systems (Yeates, 2003: 98); and the enhancement of institutional record keeping (Heery and Anderson, 2005: 5).

The key, however, to a successful IR lies in its perceived value to members of the institution. The stakeholders include both academic and non-academic staff; those involved in teaching or research; and both postgraduate and undergraduate students. Each of these groups contains potential authors and readers of material. The contributions of authors, in particular, are critical to the success of an IR.

It is widely recognised that the technical challenges and the costs of installing IR software are relatively minor issues when compared with the time and effort required to persuade users to populate it with their work (Foster and Gibbons, 2005; Genoni, 2004: 300, Horwood *et al*., 2004: 170). Cultural rather than technological factors limit the use and development of IRs (Hubbard, 2003: 245, Ware, 2004: 116). Some writers suggest that ingrained behaviours, inertia, indifference and resistance to change hamper the adoption of the working practices needed to support the IR (Hubbard, 2003: 246, Ware, 2004: 124).

A number of recent studies have explored the attitudes of published academic authors toward open access publishing and IRs (Rowlands *et al*., 2004; Schroter *et al*., 2005 and Swan and Brown, 2004 and 2005). They have not, however, addressed the views of the other stakeholder groups described above. Even considering only research output, the behaviour of academic staff who have not yet published their work, and the actions of research students, may make a difference to the viability of an IR. The relative newness of these groups to academic practice makes them ideal candidates for early adoption of the new technology.

The present paper derives from a project which aimed to assess the role of research students in an IR. In a previous paper (Pickton and McKnight, 2006) the authors have discussed the issues from the point of view of the research students. They established that research students themselves were enthusiastic about making their work available in an IR. They were especially motivated by the possibility of disseminating their work and receiving feedback and commentary. They fully supported the principle of open access (Pickton and McKnight, 2006).

In the light of these results, it might be expected that research students would be queuing up to deposit their work in their local IR. A survey of the published literature produced no evidence of this. So, in a parallel strand to the project, the views of those responsible for IRs were sought. The objectives of this work were to investigate research student use of IRs (both as authors and as readers), advocacy undertaken with students, and attitudes of repository managers toward research student content.

Methodology

The research tool used was an email questionnaire directed at individuals responsible for IRs. It comprised three short, open-ended questions:

1. What (if any) use do research students make of your repository (either as authors or as readers)?
2. Have you promoted the repository specifically to research students?
3. Do you think there is a place for research student output in your repository?

For the pilot study, a list of IRs was taken from the SHERPA website: <http://www.sherpa.ac.uk/contacts> and an email was sent to the IR project officers for each of the SHERPA development partners (the universities of Nottingham, Edinburgh, Glasgow and Oxford, and the White Rose Partnership comprising York, Leeds and Sheffield universities).

An excellent response rate of 80% was achieved. One minor change was made to the survey: for repositories containing only electronic theses and dissertations (ETDs) the questions would be rephrased slightly.

1. How much use do research students make of your repository (either as authors or as readers)?
2. How have you promoted the repository to research students?
3. Is your repository only for theses or do you think there is a place for other research student output in your repository?

Potential participants were identified from the SHERPA website <http://www.sherpa.ac.uk/documents/rep_distrib.html>, the Eprints institution archives registry <http://archives.eprints.org/index.php?action=browse>, and the Resource Discovery Network <http://eprints-uk.rdn.ac.uk/stats/?action=table>.

UK repositories were the first group to be surveyed. Every listed UK IR was included, a total of 24 institutions. Contact details were obtained from IR websites and emails were composed appropriately for the role of the contact (manager, contact, project officer etc.) and the nature of the repository (institutional, departmental or ETD). Responses were received from 17 institutions, giving a response rate of 71%.

Because of the relative newness of many UK repositories, it was decided that the survey should be extended to more established repositories abroad. Once again, each IR website was visited, but this time only repositories with significant numbers of records were pursued.

The number of repositories contacted in each country is shown in Table 1.

Table 1. IR managers survey: repositories contacted by country.

Country	Number of managers emailed (E)	Number of managers responding (R)	Response rate (E/R) x 100
United Kingdom	24	17	71%
United States	24	15	62%
Australia	6	1	17%
Canada	4	1	25%
Ireland	1	1	100%
Singapore	1	0	0%
Total:	**60**	**35**	**58%**

Results

Responses were received from 35 institutions. Thirty-three of these replies included answers to at least one of the questions.

Use of the repository by research students

Thirty managers responded to the first question; their replies are summarised in Tables 2(i) to 2(iii). In these tables, as in Tables 3 and 4, the figures represent the number of comments made by the managers; note that one manager may make several comments in response to the question, so their reply may fall into several cells. For example, a manager may state on the one hand that their repository was as yet too small for them to comment generally on research student use, but on the other, recognise that research students had deposited peer reviewed material. In this way, the 30 managers were responsible for 63 comments as totalled in the tables. Although some IR managers referred to the type of use that students were making (i.e. depositing as authors or retrieving as readers), not all made this distinction in their answers.

Three overlapping themes recurred in the managers' responses to this question: the amount of use of the repository by research students, the evidence for this use and the type of material in the repository.

i) Amount of use

Fourteen of the comments made by IR managers related to the amount of use made of the repository by research students and, specifically, to the lack of use so far.

Table 2(i). Amount of use of the repository by research students: summary of managers' responses.

Amount of use of repository by research students	Students as authors	Students as readers	Students as either or both (unspecified)
Not enough content in repository / too early to say		3	6
Very little use	2	1	1
None	1		
Total comments:	**3**	**4**	**7**

Over half the managers explained that there was not enough content in their repository or that it was too early to say, for example:

> "We have not really enough content on our IR for research students to make use of as yet" (Respondent 1 (UK)).

Even those who stated the level of use often qualified their response:

> "As readers, as yet, very little or none. As authors, none. Our repository went live in May and is still very small" (Respondent 2 (UK)).

Only one respondent admitted to no use of the IR by students at all.

ii) Evidence for use

Table 2(ii). Evidence for use of the repository by research students: summary of managers' responses.

Evidence for use of repository by research students	Students as authors	Students as readers	Students as either or both (unspecified)
Anecdotal evidence for use	3	1	
No data (e.g. download numbers only, no breakdown by user type)		13	1
Total comments:	**3**	**14**	**1**

Managers were concerned about the difficulty of gathering evidence for the use of their IRs. Although many repository managers collect download counts, and some even make these available online, none of the data collected showed *who* was doing the downloading, so use specifically by research students could not be established. One respondent said:

> "We have download statistics for individual papers, but do not analyse as yet in any great detail where this usage emanates from. A lot of it is from within this institution, that much we know, but whether it is specifically research postgrads or staff or even undergraduates downloading the work is unknown at this stage." (Respondent 21 (Australia)).

Indeed, lack of hard data featured in 14 IR managers' replies – one manager even invited the researcher to develop a program to analyse her IR logs, stating "we'd love to have that information" (Respondent 14 (USA)).

Anecdotal evidence for use was offered by several respondents. With respect to students as authors:

> "Anecdotal evidence from some of the 200+ items (mostly theses and dissertations) deposited by PG students suggest that they are keen to disseminate their research to a worldwide audience" (Respondent 6 (UK)),

while for students as readers:

> "informally I know that lots of theses have been seen this way [via Google] from the students telling me (far more than the physical copies are seen that we used to collect)" (Respondent 18 (USA)).

and

> "It is clear that the electronic is used far more than the paper or microfiche format" (Respondent 31 (Canada)).

iii) Type of material deposited

IR managers made a number of comments regarding the type of material that either existed or would be acceptable in the repository, if authored by research students. These are summarised in Table 2(iii).

Table 2(iii). Types of research student material in the IR: managers' responses

Type of material	Number of comments
Bibliographic data	1
Co-authored work (with academic staff)	3
Grey literature (including talks, papers, conference publications)	3
Material must be sponsored / approved by academic staff	2
Peer reviewed, published material only (or mainly)	3
Same as other university members	1
Theses and dissertations	17
Unspecified 'other research work'	1
Total comments:	**31**

Twenty-two managers wrote about the type of material being deposited in their IR, and made 31 comments overall. Theses and dissertations were by far the most commonly deposited work (with 17 responses). In one institution the deposit of theses is automatic (Respondent 30 (USA)); in another, the institution

> "requires graduate students to submit theses and dissertations in electronic format. The ones that are released to the public are hosted in our repository" (Respondent 27(USA)).

Three repositories accept peer reviewed or pre-published material only. A typical response was:

> The usual policy for [institution] is to host peer-reviewed articles by staff at the [institution]. However we would certainly consider hosting eprints written by research students as long as they have been peer reviewed" (Respondent 12 (UK)).

Some repositories have a policy of accepting students' work only if it is co-authored with a member of academic staff, or at least approved by an academic:

> "our policy has been that content for [repository] must be faculty sponsored, and preferably faculty authored" (Respondent 14 (USA)).

Others accept a broader range of material, including grey literature:

> "research students publish their talks, papers, conference publications…" Respondent 8 (UK)).

iv) Other comments

The results show that, with respect to repository use, IR managers have significantly more information about research students as authors than about research students as readers. This is undoubtedly due to the difficulty of collecting detailed information about the IR readership. In an OA environment, IR managers have much more control over who deposits material than knowledge about who accesses it.

Most repositories have policies regarding who may deposit work, and what type of work they may deposit. In some cases the repositories are too new for these policies to have fully evolved:

> "We're still working with senior management at [institution] to firm up

> what types of material should be deposited in the repository" (Respondent 5 (UK)).

Some institutions have chosen to restrict content in some way (as described above), but others have seen a greater potential, both in terms of providing new services:

> "our primary motive for having an institutional repository is to serve the research needs of our faculty and students. We are particularly concerned with grey and born digital literature; ensuring preservation and access for future research needs" (Respondent 28 (USA))

and as an educational tool:

> "the archive serves a number of other purposes which are relevant to research students: it shows the range of research activities undertaken at [institution] and it encourages both students and staff to be aware of the processes behind academic publishing and scholarly communication, it also brings the issue of copyright to the fore" (Respondent 11 (UK)).

Promoting the repository to research students

The second question in each email addressed the issue of advocacy. The answers are summarised in Tables 3(i) and 3(ii). Two themes were identified: the principle of advocacy (whether it should or does happen) and its practice (how it happens).

i) Is the repository promoted?

Table 3(i). Promotion of the repository to research students: summary of IR managers' responses.

Is the repository promoted to research students?	Students as authors	Students as readers	Students as either or both (unspecified)
Yes, promoted to academic staff and research students (no distinction)	1		2
Yes, promoted to research students specifically (e.g. via research training sessions)	2	1	4
Yes (no further details given)	1		2
Not enough content to promote		1	1
Not yet, but intend to	1	1	2
Not yet, but might when there is a critical mass of papers		1	
No (no further details given)	1	1	7
Total comments:	**6**	**5**	**18**

Of those who had promoted their IR, the majority (seven of the 13 who commented) said they had promoted it to research students specifically; three had promoted it to both staff and students, and three gave no further information. One IR manager (not included in the table) had targeted only academic staff:

> "our priority has been to build up the repository and encourage academics to submit their papers for inclusion … We have held 2 advocacy events in [institution] which were aimed at academics" (Respondent 10 (UK)).

Two managers observed that their IR had insufficient content to justify promoting it to research students, but four said that although they hadn't so far promoted it, they might consider doing so in the future:

> "We are planning on an advertising push in the fall when students return. We've spent the spring and summer building content." (Respondent 28 (USA)).

A large number (nine institutions) had not promoted their repository to research students at all. One manager believed that there was no need for promotion:

> "If we have quality materials, we believe that students will find it and use it" (Respondent 23 (USA)).

Another felt that:

> "the repository is currently accepting peer reviewed articles only so it is more relevant for post PhD researchers" (Respondent 12 (UK)).

ii) Means of promotion

Table 3(ii). How the repository is promoted: summary of IR managers' responses.

Means of promotion	Students as authors	Students as readers	Students as either or both (unspecified)
Links to electronic theses included in library catalogue			1
Via library web site		2	1
Training sessions / seminars / workshops	1	3	3
Presentations			1
Leaflets, posters, newsletters		1	1
Total comments:	**1**	**6**	**7**

The ways in which IRs are promoted are many and varied. One manager commented:

> "we have specifically worked with School Directors of PG studies to discuss strategies to voluntarily collect material from research students (specifically theses). Strategies have included offering free binding of theses, to general awareness/promotion work" (Respondent 6 (UK)) .

Another wrote:

> "we speak about it to research students at seminars on preparing for higher degrees and at thesis writing seminars, we talk to groups

> of research students within individual schools, we talk about the ePrints service in training classes for postgraduate students. There are also leaflets and posters in schools, and we regularly promote the service to staff and students through [institution] news outlets" (Respondent 21 (Australia)).

The IR is frequently introduced to research students during routine research training sessions. Managers have used these to promote the benefits of depositing:

> "I used the session to highlight the issue of copyright (and signing it away) and to encourage the newer researchers to deposit their work. One particular selling point is the potential impact of open access deposit on subsequent citation rate (of interest to all academics not just new researchers / research students)" (Respondent 5 (UK)).

In other training sessions the IR is simply promoted as another resource for retrieval.

The 'IR as resource' theme is echoed in other forms of promotion. For example, several institutions have placed links to their repository on their library website or catalogue (Respondent s14 (USA) and 25 (USA)).

iv) Other comments

Promotion is undertaken with enthusiasm by individuals in some institutions:

> "the head of one of our champion departments has said that he will make deposit mandatory for his doctoral and post-doc students, on pain of losing their travel grants!" (Respondent 2 (UK)),

but as far as research students are concerned, others have yet to get

started:

> "this is something we definitely intend to start doing" (Respondent 9 (UK));

and

> "We publicise [the eTheses repository] at postgraduate seminars on publishing. This publicity is fairly recent and we are considering other ways to promote and encourage its use" (Respondent 24 (UK)).

The repository as a place for research student output

The final question gave repository managers the opportunity to air their views about the principle of research students depositing their work in the IR. Their responses are shown in Table 4.

Table 4. Is there a place for research student output in the IR? Summary of IR managers' responses.

Response	Number of replies
No	0
Deposit with no conditions	
Yes (no further details given)	9
Yes, eventually	2
Yes, for research student publications of any type	5
Yes, research students have the same needs as other researchers and academic staff	1
Deposit under specified conditions	
Yes, for peer reviewed work	4
Yes, for theses & dissertations	5
Yes, if recommended by a member of academic staff or department	1
Yes, in a separate repository	4
No response	
No official policy	1
No direct response to question	4

It is immediately apparent from Table 4 that repository managers overwhelmingly believe that there is a place for research student output in their repositories, but in some cases only under certain circumstances.

i) Deposit without conditions

Of the 17 respondents who felt that there was a place for research student output in their repositories, some were unequivocal:

> "Yes, definitely" (Respondent 17 (USA))
>
> "Absolutely" (Respondent 20 (USA)).

One respondent considered that the IR needs of postgraduate students were no different from those of other researchers:

> "I do think the IR will be a boon to research students - they publish papers and have research output as do post-doc researchers and academic staff. In any case, they're often writing jointly with their supervisors. And they often need to access research by others" (Respondent 4 (UK)).

In another example, repository policy allows previous as well as existing students to deposit work:

> "Yes, postgraduate students are encouraged to participate … and they can continue to contribute work to the repository even after they graduate. We have one ex student who intends to use [repository name] as his research repository throughout his career … The service is open to all [institution] staff and postgraduate students, both past and present (and future, of course)" (Respondent 21 (Australia)).

ii) Deposit with conditions

Although being positive in principle about accepting research student output, five managers qualified their response by stating it must be of a

certain type (e.g. a thesis or dissertation), while a further four said it must have been through some form of quality control (e.g. peer review):

> "Yes, if it meets the criteria we have set for the [repository] service, i.e. material must be published in either a peer-reviewed journal or be a published conference paper, book chapter or monograph. We have also established a separate repository using the DSpace software … which contains material such as grey literature, pre-prints and theses, and we would be happy for appropriate material produced by research students to be deposited here" (Respondent 9 (UK)).

One put the responsibility for quality control onto individual members of academic staff:

> "students' work must be recommended by a member of academic staff and the staff themselves will upload the paper(s) onto the repository" (Respondent 10 (UK)),

while another stated:

> "We haven't got to grips with the quality issue yet but see this as being an issue for our academic schools to regulate" (Respondent 11 (UK)).

Another group of managers would exercise less control over content, but would place the work in a separate repository (four responses):

> " as the ideas of institutional repositories becomes more commonplace I think exploring the addition of student produced research makes sense, though kept in its own collections or in another instance of our current IR software." (Respondent 30 (USA)).

iii) Other comments

Repository managers offered some interesting ideas about the role of research students and their work. One manager commented:

> "in the absence of a national solution for making PhD theses available online … I could see the development of a separate repository (either at the institutional level or, possibly, across [a consortium]) for the deposition of theses" (Respondent 5 (UK)).

Several felt that encouraging research students to deposit their work was important in setting a habit for later on:

> "It is also important to start encouraging researchers to use and deposit in repositories at an early stage in their academic careers" (Respondent 9 (UK)).

Discussion

In addition to directly answering the questions in the email survey, IR managers highlighted some other important issues.

Policy

Many of the repositories surveyed had not long been in existence. As a result, their policies and procedures for accepting material were not fully established. Although, as individuals, the managers were positive about research student involvement, from the institutional point of view, students' work was often not a high priority. In the early days it is usually the academic authors that are targeted first.

However, the very fact that policies have not been confirmed provides an excellent opportunity for the interests of research students to be considered. If research students are welcomed to the IR now, they are more likely, as future academic authors, to embrace the principles and practice of OA. Current IR policy may thus set the foundation for the future publishing behaviour of a whole generation of academics. Policies which accommodate the interests of research students most emphatically should be encouraged.

Repository organisation

There are two options for structuring content in the IR: by document type or by subject area. The IRs surveyed included examples of both. ETD repositories have already been discussed; other repositories limit content to peer-reviewed, published research articles (Respondent 5(UK)), work published by the university (Respondent 22 (USA)), or to records based on bibliographic material (Respondent 7 (UK)). They organise this material by subject, department or other topical grouping.

To a certain extent the content and structure of a repository is influenced by the software controlling it. Thus 'communities and collections' are core to the DSpace software, while Eprints software allows browsing by year, format or department (e.g. Durham University e-prints: <http://eprints.dur.ac.uk/>. Both are user-configurable.

The relative merits of the different types of software are important, but not the focus of this paper. The significant issues are whether the software facilitates differentiation of different types of material – either by document

type (thesis, published research paper etc) or by its subject area – and whether research student output can be accommodated by this structure.

Quality

Everybody agrees that quality is important. Those responsible for IRs have taken various approaches to ensuring the quality of content, but there is still ongoing concern about the issue, especially regarding student work.

One IR manager summed up the problem as follows:

> "There is some concern about adding material that is below the standard set for PhD thesis or scholarly articles. Even with an explanation about the content, search engines may bring users directly to a document and users may miss the explanation that the material is student output. It's my own opinion that most users are more savvy than this and have responsibility to use information appropriately. I think the positives of including student output in institutional repositories far outweighs the negatives, but I know that opinion is not universally shared amongst my colleagues." (Respondent 28 (USA)).

Another IR manager also mentioned the difference in outlook between academics and information professionals:

> "One of the things that I have discovered throughout this project is that LIS staff are far keener to open up access to certain pieces of information than the academics. We see it as disclosure of information within, of course, the legal restraints, but the academics are far more concerned about quality. So LIS staff would like to include preliminary drafts of parts of theses, research papers by

> students, research seminars by students, but this still seems to be a bridge too far for academics" (Respondent 29 (USA)).

Perhaps the answer lies in the construction of appropriately informative metadata. A clear indication of the provenance of work, including its status regarding peer review and the job role of the author, would be useful and effective.

It is obviously important that an institution's quality standards are respected, but it is also essential that any criteria that are applied when regulating content are applied fairly to research students' work.

Single or multiple repositories

One way of satisfying both the academics' desire for 'quality' and the information professionals' inclination towards inclusiveness is to maintain separate collections for refereed and non-refereed material. These collections may be stored together in a single repository, or separately in multiple repositories. A number of institutions maintain several repositories, among them the University of Nottingham <http://eprints.nottingham.ac.uk/>, The University of Pittsburgh <http://www.library.pitt.edu/articles/digital.html>, and the California Institute of Technology (Caltech Collection of Open Digital Archives, <http://library.caltech.edu/digital/>. Presumably the benefit of separate repositories is felt mainly by those who browse the collections via the repositories' native interfaces. Researchers who access repository content via external search engines may not be immediately aware of the provenance of the work.

OAI Harvesting

A major advantage of depositing work in an IR compared with posting it to an individual or institutional website is that the former is potentially OAI compliant and therefore visible to both internet search engines and OAI service providers. Several of the IR managers commented that their content was being harvested by Google (Respondents 5 (UK), 10 (UK), 16 (USA) and 18 (USA)). Although many information professionals might prefer students to start their searches for information in the high quality (and expensive) subscription databases, most students will at some point try searching with Google or another search engine (Pickton and McKnight, 2006). It is therefore an advantage to research students both as authors and as readers to have good quality content in an externally accessible IR.

Conclusion

The purpose of the project described here was to investigate the provision for and role played by research students in IRs worldwide. The email survey of individuals responsible for IRs established beyond doubt that there is a place in an IR for research students' work, even if only under certain conditions. A major concern was for the quality of work; an issue that reflects a broader concern within OA publishing generally (Swan and Brown, 2003: 31).

Although the survey sought to establish the role of research students as both authors and readers, many IR managers were unable to provide hard evidence for students' use of the IR as either. It may not currently be possible to gather information on the characteristics of those downloading material, but IR managers should be able to monitor those depositing their work.

It is suggested that more work is required in this area. Only by collecting evidence for all types of repository use can the effectiveness of advocacy activities be evaluated. Ultimately, such evidence will demonstrate the value of the IR to the institution.

At this relatively early stage in the development of IRs worldwide, it is important that the interests of *all* potential users are represented in IR policy. Research students are the academics of tomorrow, and their inclusion in IR policy now may well influence their publishing practice in the future. If academic institutions are truly committed to the principle of OA then they will welcome the contribution of quality work from all stakeholders.

References

Chan, L. *et al*., 2002. Budapest Open Access Initiative. *ARL Bimonthly Report* [online], **220**. <http://www.arl.org/newsltr/220/boai.html>, [accessed 13.06.05].

Crow, R., 2002. The case for institutional repositories: a SPARC position paper. <http://www.arl.org/sparc/IR/IR_Final_Release_102.pdf>, [accessed 26.05.05].

Foster, N.F. and Gibbons, S., 2005. Understanding faculty to improve content recruitment for institutional repositories. *D-Lib Magazine* [online], **11**(1). <http://www.dlib.org/dlib/january05/foster/01foster.html>, [accessed 26.05.05].

Genoni, P., 2004. Content in institutional repositories: a collection management issue. *Library Management* [online], **25**(6/7): 300-306. <http://thesius.emeraldinsight.com/...>, [accessed 26.05.05].

Heery, R. and Anderson, S., 2005. *Digital repositories review*. UKOLN. <http://www.jisc.ac.uk/uploaded_documents/rep-review-final-20050220.pdf>, [accessed 30.06.05].

Horwood, L., Sullivan, S., Young, E. and Garner, J., 2004. OAI compliant institutional repositories and the role of library staff. *Library Management* [online], **24**(4/5): 170-176. <http://iris.emeraldinsight.com/...>, [accessed 26.05.05].

Hubbard, B., 2003. SHERPA and institutional repositories. *Serials* [online], **16**(3): 243-247. <http://uksg.metapress.com/...>, [accessed 26.06.05].

Library and Information Update, 2005. Jisc gets serious money. *Library and Information Update*, **4**(11): 7.

Pickton, M. and McKnight, C., 2006. Research students and the Loughborough institutional repository. *Journal of Librarianship and Information Science*, **38** (4): submitted for publication.

Rowlands, I., Nicholas, D. and Huntingdon, P., 2004. *Scholarly communication in the digital environment: what do authors want?* London: Centre for Information Behaviour and the Evaluation of Research. <http://ciber.soi.city.ac.uk/ciber-pa-report.pdf>, [accessed 16.06.05].

Schroter, S., Tite, L. and Smith, R., 2005. Perceptions of open access publishing: interviews with journal authors. *British Medical Journal* [online], **330** (7494): 756-759**.** <http://bmj.bmjjournals.com/cgi/reprint/330/7494/756>, [accessed 16.06.05].

Swan, A. and Brown, S., 2004. Authors and open access publishing. *Learned Publishing* [online], **17**(3): 219-224. <http://docserver.ingentaconnect.com/...>, [accessed 27.05.05].

Swan, A. and Brown, S., 2005. *Open access self-archiving: an author study*. Truro: Key Perspectives Limited. Available online at: <http://www.jisc.ac.uk/uploaded_documents/Open%20Access%20Self%20Archiving-an%20author%20study.pdf>, [accessed 10.06.05].

Ware, M., 2004. Institutional repositories and scholarly publishing. *Learned Publishing* [online], **17**(2): 115-124. <http://docserver.ingentaconnect.com/...>, [accessed 26.05.05].

Yeates, R., 2003. Institutional repositories. *VINE: The Journal of Information and Knowledge Management Systems* [online], **33**(2): 96-100. <http://hermia.emeraldinsight.com/...>, [accessed 26.05.05].