Vision, Impact, Success:
mandating electronic theses.

Case studies of e-theses mandates in practice
in the UK Higher Education sector

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Contents

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Introduction

These case studies form part of the 'Influencing the Deposit of Electronic Theses in UK HE' project[1], commissioned by the JISC and led by UCL. They were designed to explore the practicalities of introducing and administering an institutional e-thesis mandate, and to draw out the benefits and challenges of mandates for the institutions that adopt them.

Each of the four institutions who made up the case studies was chosen because they offered a glimpse into the reality of a mandate at every stage.

- The University of Sussex has just introduced a mandate, and staff there offered the benefit of their experiences of creating the systems and processes that support the new policy.

- Aberystwyth University spent some time exploring what kind of mandate would be most effective, and their story shows how to get the best from the consultation process.

- Brunel University has been developing its e-theses collection since 2006, and has been reaping the rewards, both in terms of research impact and benefits to scholarship.

- The University of Glasgow was one of the earliest adopters of e-theses in the UK and its work showcases a mature service that is very much a part of the institution.

Each of these institutions had experiences in common, and each faced similar questions from students and supervisors. In highlighting different aspects of best practice in each case study, the aim is to demonstrate an effective approach to meeting the challenges of e-theses. While these challenges can seem daunting, these case studies show that they can be overcome by a combination of communication, education and balanced policies.

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[1] http://www.ucl.ac.uk/ls/etheses

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A research vision in action: introducing e-theses at the University of Sussex.

Background

As of October 2009, DPhil theses at the University of Sussex must be submitted both in traditional print form and as a PDF file, which is then uploaded to the University's institutional repository, Sussex Research Online. In practice, this meant that the first wave of theses affected by the change in policy became available online during the summer of 2010, and that Sussex post-graduate research students are exploring the arrangements put in place by the university to help them.

The University's research vision makes a strategic commitment to "Developing the research potential and impact of postgraduate research students". [2] Professor Robert Allison, Pro-Vice Chancellor for Research explained how the e-theses policy supported that goal: "Making doctoral theses available in our institutional repository not only showcases the excellent work being done at Sussex but also increases the visibility of individual theses, potentially leading to greater citations and raising the profile of the author."

The route to electronic thesis deposit

The University of Sussex began the transition to e-thesis deposit in early 2008. The initial proposal was taken to committee in May 2008, and was ratified in November of the same year.

Early support for the move came from Professor Richard Black, who was then Director of Graduate Studies in the School of Social and Cultural Studies and from the Library. The creation of the Sussex Doctoral School also helped to keep the issue on the agenda with the Research Committee.

A key factor behind the strong support from the library for the initiative was its existing relationship with the British Library's EThOS service, which harvests e-theses data from Sussex Research Online. This meant that there was a crucial role for the repository in promoting Sussex theses to the world.

> "As a research intensive university, committed to developing the next generation of researchers, we are keen to ensure the work of doctoral students and postdoctoral staff is accessible to the widest possible audience."
>
> *Professor Robert J. Allison.*
>
> *Pro-Vice-Chancellor (Research), University of Sussex*

Once the decision was taken to adopt e-theses, the university moved fast. The process was handled jointly by the Doctoral School, the Library, the Student Progress and Assessment office and IT services. It was accepted that marking was best still conducted using print copies of each thesis, but that the final, approved version should be archived centrally in digital form, whilst the print copy would

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[2] http://www.sussex.ac.uk/research/researchstrategy

be retained by the awarding school. This 'hybrid' approach made it relatively easy to build a consensus behind the new policy.

Making it happen

The practical reality of changing to a policy of electronic thesis submission and archiving was one of cross-campus, co-ordinated effort. Changing the university regulations and getting the structures and support in place for the new system were essential to making it workable.

At the outset, it was decided as far as possible to replicate the procedures that were in place for handling print theses. A shared drive was created to enable the quick transferral of theses to the library, and an electronic ticketing system was used to track individual theses through the system. Once in the library, the library cataloguing team create a record for each thesis, just as they did for print copies, but the record is now uploaded into the repository with the full text.

> "The benefits are simple – we're offering up a hidden gem and giving worldwide, instant access to a resource that used to sit in a basement"
>
> *Chris Keene.*
>
> *Technical Development Manager, University of Sussex Library.*

The system was tested with large PDF files to check it could handle the load, and the repository platform software is being upgraded to enable better integration with the library catalogue. The EThOS toolkit was used to create deposit agreements and policies and the team looked to other universities with established collections of e-theses for examples of best practice. For example, the practice of adding a coversheet page to the thesis PDF was adopted following the example of Southampton University, amongst others.

A new induction process was designed to include the change to electronic submission. The postgraduate students' handbook was changed to reflect the new requirements of preparing an electronic thesis. The pro forma training in effective research, offered by the Doctoral School, was also adapted to ensure that the early guidance offered to new students was reinforced throughout their research.

There were some additions to the processes around submission. Once an e-thesis is handed in, there are checks to be undertaken around embargoes and copyright. If a student requests an embargo for their work, then their contact details are kept on record to ensure that they can be consulted once the embargo period comes to an end. If a thesis contains material covered by third party copyright then the student must seek and acknowledge permissions before the thesis is made available online. Evidence of copyright permissions must be handed in alongside the thesis, and materials are checked by the copyright officer in the library.

Now that the policy and infrastructure are up and running, the benefits are just beginning to show. The electronic archiving of theses has saved a lot of space in the library. The first wave of theses deposited under the policy are entering the repository, and are benefitting from the increased visibility that it offers, and the repository has been boosted with a reliable flow of large, high quality, open access PDFs coming in.

"Communication is King"

Communications lie at the heart of many of the challenges identified at Sussex. These include getting word out about the change in policy, explaining the benefits of e-theses and allaying any fears or concerns that students and supervisors may have and ensuring that guidance about issues like third party copyright reaches authors and administrators.

One key piece of advice is to keep in mind that an e-theses policy is a cross-campus endeavour and to succeed needs buy-in from the research and assessment offices, the library, IT services, schools, supervisors and, of course, students. The better the communication between all the stakeholders, the better the transition and systems will work. As one respondent remarked, "You can't communicate enough!"

Communicating the policy to researchers is essential, as is preparing them for its practical implications. For example, training in how to produce an electronic copy of your thesis is built into the pro folio training through the Doctoral School, and is now seen as part of being an effective researcher.

One thing that is apparent from the experiences of students at Sussex is that getting the message across early is vital. Those currently in the first years of their research are *au fait* with e-theses, but communicating the details to the third and fourth years has proved to be tougher. Some are not fully aware of what is required until it comes to the submission stage. The reality of the change crept up on the first students to hand in under the policy, inevitable since they started their research before the policy was mooted. Reports from the first cohort to hand in though are encouraging, the problems were described as 'deal-able with': with a little help and advice in checking copyright or turning a document into a PDF.

It is wise to consider flexibility in the early years of the policy to help smooth the transition and avoid placing researchers under unnecessary pressure. However, the single most important factor in bringing in an e-theses policy is communication. As Chris Keene observed "Communication is king – get it into the induction, but keep pushing the information every chance you get."

Making a mandate work: consultation at Aberystwyth University.

Opting in or out

When Aberystwyth University set up their institutional repository, CADAIR, in 2006 it chose to institute an e-theses mandate the following year. It was felt that this was the best way to support postgraduate students and the repository, but when the policy was reviewed in January 2009 there was a consensus that the implications of the policy were just beginning to be felt across the range of disciplines at Aberystwyth.

While some disciplines were delighted to be able to benefit from having e-theses in an open access repository, others were encountering complex queries from students and supervisors. Members of creative disciplines where the thesis often takes the form of an extended artistic work raised particular concerns around intellectual property and online publishing, for example.

 In order to allow more flexibility and to enable the university to scope the extent of these concerns, the Research Degree Board decided to change the policy to one in which, while students still had to submit an electronic copy of their work, making their work available via CADAIR was made optional (an opt-in mandate). Under the original policy, it was compulsory, in the absence of an accepted reason to withhold work from the archive, to deposit all theses in CADAIR (an opt-out mandate).

Looking back on this period, Dean of Postgraduate Studies, Professor Colin McInnes reflects on the rationale for the changes:

> *'Whilst recognising the advantages of this scheme, it was also important for us to understand the reservations of some colleagues and of some disciplines. The PhD continues to develop and the 'one size fits all' approach is a thing of the distant past. For some disciplines, these advances produce challenges for this scheme, while for others concerns originating from more traditional methodologies (e.g. over reproducing other source material) continue to loom large. These are often legitimate concerns. There are also some concerns which may be the product of a fear of the new and the unfamiliar. It is therefore important that we develop an understanding across the University of what the scheme is, when an opt-out might be appropriate, and equally when it might not be necessary.'*

The university monitored 2009 deposit rates and the impact of theses that were deposited, examined practices at other institutions, paying particular attention to those of comparable size, status or with similar research profiles, and gathered available research into electronic theses.

Perfecting the policy

As of January 2009, doctoral students at Aberystwyth University were offered the opportunity to choose to have the full text of their thesis included in CADAIR. This choice was offered during the submission process, which still required that an electronic copy be submitted.

The period in which this policy was in place was valuable to Aberystwyth on two counts. It gave the university a chance to 'pilot' the mandate across the institution, gathering experience along the way,

and it gave Information Services staff and the repository manager time to gather evidence about e-theses practices at other institutions to feed into the discussion process once the policy came up for review.

While the opt-in policy was in place, repository staff faced a substantial communications challenge. The new policy had to be publicised and explained to students, supervisors and administrators and documentation and procedures had to be updated. Many students were confused by the distinction between mandatory electronic submission for examination and optional electronic submission to the repository.

During the time when the opt-in policy was in place, there were marked reductions in rates of deposit in some disciplines. Some departments continued to deposit Masters Dissertations and PhD theses, while in other departments the online presence of their students fell behind. Staff adopted a policy of requesting the deposit in CADAIR of metadata, abstracts, introduction and bibliographies for those theses where the author did not want the full text available online. This served to mitigate unequal coverage to some extent, and ensured that content in CADAIR continued to reflect the breadth of activity at the university.

Dr. Nicky Cashman, the manager of the CADAIR repository, was directed by the Pro-Vice Chancellor for Research to investigate best practice at other HEIs, especially those with a history and tradition similar to that of Aberystwyth. The next step was a survey of more than fifty HEIs, which revealed that only eight did not have a mandate, and of those who did, 75% had an opt-out mandate. This figure carried particular weight at Aberystwyth, given that most of those HEIs with opt-out mandates were of a similar size and age to the university.

Dr. Cashman also gathered existing research into e-theses, and assembled a strong case in favour of an opt-out mandate as best practice. It was also clear that this would offer the best 'visibility' both for researchers and for the university and would also serve to maintain Aberystwyth's place in the emerging consensus. By taking the findings of this research out into the university community and focussing on face to face meetings and discussions, she was able to uncover and address the basis for many legitimate concerns that may not otherwise have been foregrounded in the mandate consultation process.

The case for an opt-out mandate was largely built on the basis of this combination of research and personal advocacy, and took two strands, both evidence-based. The first was to examine the concerns that were being raised, to dispel those that were based on misconceptions and to establish robust procedures for managing those which remained. In this way, the benefits of e-theses could be gained, while risks were minimised and monitored.

The second strand was to show Aberystwyth's place in the national and international higher education landscape. A global view suggested that aligning Aberystwyth with those institutions that had successful e-theses programmes was the best way to put the universities postgraduate research 'on the map'. A commitment to e-theses could be used to show off both the work being done at Aberystwyth and the infrastructure that the university had built to increase the visibility of postgraduate research.

The positive side-effects of the advocacy and research carried out during this period extended well beyond the university campus. Whilst a consensus grew on campus, encouraging buy-in to e-theses and ensuring that the university could get the best from and for its postgraduates, the extensive consultation and networking undertaken by repository staff strengthened relationships within the

Welsh Repository Network and across the UK. Taking advocacy of open access e-theses into the wider repository community brought a great deal of support and helped to raise awareness of the work being undertaken at Aberystwyth University.

A mandate for, and from, the majority

In February 2010, the result of the consultation process were reported the research degree board for a re-assessment of the mandate. The Copyright Manager and the Head of Information Services presented a case for an opt-out mandate, supported by Dr Cashman's research findings. Together, the delegation was able to answer concerns with authority and to demonstrate the potential benefits for the university. Consequently, the board voted in favour of an opt-out mandate, insisting on two provisos. These were that appropriate documentation must be put in place to guide staff and students through the new processes and students should be properly informed of the implications of the new policy.

The development and communication of new guidelines, documentations and workflow processes has now taken over as the priority for CADAIR staff, a process that has been helped considerably by the cross-campus relationships that were built up during the consultation process. The experience of staff at Aberystwyth serves to emphasise the importance of consultation, listening and responding to concerns, and communicating face to face wherever possible. This process meant that the university could make a decision based on an accurate understanding of the issues and the feelings of its own community and build a genuine consensus behind the benefits of e-theses.

Now that Aberystwyth University theses are available online, its postgraduate researchers can take advantage of these benefits, with increased visibility and increased impact. Two outstanding examples of the benefits that can accrue to authors from this impact come from the experiences of Dr Will Slocombe and Dr Malte Urban. Dr Slocombe got a book contract with Routledge on the basis of his thesis. Routledge were asked if they had any objections to his theses appearing in CADAIR and they were happy for it to be there.[3] Dr Malte Urban was approached by a US university for permission to use his thesis as a teaching text as a result of its global dissemination in CADAIR.[4] These early successes demonstrate the potential of e-theses to boost the standing of authors and the university and offer an endorsement of the consensus behind the renewed mandate.

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[3] Dr Slocombe's thesis is available at: http://cadair.aber.ac.uk/dspace/handle/2160/267
[4] Dr Urban's thesis is available at: http://cadair.aber.ac.uk/dspace/handle/2160/182

"Getting Brunel's research out there": demonstrating the impact of e-theses at Brunel University.

Meeting demand

The demand for electronic theses was a significant driver of Brunel University's open access evolution. In 2004, there was already a prototype 'repository' within the School of Information Science, Computing and Mathematics which housed Masters Dissertations and clearly demonstrated the feasibility of the repository concept at Brunel.

Developments were also influenced by developments at other institutions, both internationally and at home. Virginia Tech[5] had set up their online thesis repository initiative, ETDs@VT in the 1990s, instituted a mandate in 1997 and had impressed staff at Brunel with both the number of theses that they had made available electronically and the high rate of downloads. Early adopters of e-theses in the UK, such as Cranfield University were also an influence, as was the emergent EThOSnet project.[6]

Brunel University Research Archive (BURA) emerged from this process as a means of meeting the demand within the university for an online thesis repository. Before its launch in 2006, the nascent service was widely publicised and one interested alumnus requested that his thesis be included. The thesis was scanned, which meant that there has been an e-thesis presence in BURA from very early on.

E-theses have led the way for open access at Brunel throughout its evolution. The e-theses mandate was adopted in October 2008, anticipating the institution-wide mandate that all research output from the university should be put in the repository, a mandate which took effect in January 2010.

Brunel's Pro-Vice Chancellor for Research, Professor Geoff Rodgers, was a keen supporter of the project from the outset, and emphasised the strategic benefit to the university and to doctoral researchers of open access e-theses as a means of getting Brunel's research 'out there'. This high level support, together with the experience and enthusiasm of Brunel's own e-theses pioneers did a lot to ease the passage of the e-theses mandate from a proposal to reality.

The emphasis at Brunel, during the discussions leading to the e-theses mandate, was on the archiving and accessibility of theses. The examination and assessment of theses, and the award of doctorates, were wholly unchanged. Whilst there was little resistance to the change from students and none from departments at the university, the e-theses group was keen to ensure that all the possible pitfalls of the change had been thought through, and over several meetings sought to pre-empt potential difficulties in workflow or the handling to material.

Once the e-thesis mandate was approved by senate in 2007, it was met with a widespread positive response. Students were relieved to be able to submit on a disc rather than having to pay to get their work bound and some students voluntarily chose to submit electronically ahead of the formal mandate

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[5]http://scholar.lib.vt.edu/theses/
[6]http://www.ethos.ac.uk/

coming into effect in October 2008. The response from departments has been described as not so much 'why should we?' as 'how can we?'

Compliance with the mandate has been high. Indeed, during the first six months of the mandate, a degree of flexibility was allowed and there were few objections raised by Brunel students.

Despite the publicity surrounding the new mandate, some students did not contribute. It transpired that this was not because of any particular objections but just because they 'omitted to submit'. This has being tightened up with a checking process now in place. Since deposit in BURA is embedded in the regulations, an award can be withheld if the thesis not deposited. Thankfully, this sanction has not had to be used yet.

The biggest challenge for Brunel was planning the transition to e-theses well, and doing so far enough ahead of time for the workflow to be smooth from the outset. While every effort has been made to ensure that embargoing access to theses is not used as 'a panacea against all ills', students are offered the option of a 3-year embargo if they have a publication or patent pending.

Improving impact: evidence so far

John Aanonson, BURA and Research Manager at Brunel University Library, wrote papers for the Graduate School Committee on how the first year of the mandate had gone. By tracking the first e-theses to enter BURA, John sought to assess the early indicators of any changes in the impact of Brunel theses. They all displayed high download statistics, ranging from 93 downloads to 614. These figures were taken as a clear positive indicator of improved visibility and dissemination. By following the impetus to be among the fore-runners with e-theses BURA has ensured the widest possible audience for Brunel theses and established itself as a research tool.

The evidence for this impact, and for the success of the e-theses mandate, is shown in the high hit rate on e-theses in BURA. Each of Brunel's e-theses is downloaded on average more times than the other types of research output in BURA. There has been a huge surge in downloads recently, with downloads for March 2010 alone reaching 764,444.

E-theses have produced positive results for all the stakeholders at Brunel. The library has benefitted from implementing and maintaining BURA as a valued service. It was noted that a large factor in the visibility of the repository is the fact that it includes theses, "which is what people want."

Students continue to benefit from much wider dissemination of their research work than was ever possible with print copies. This extended reach means that more people are aware of their work and can contact the student to pursue their interest in the thesis. Routine checks for plagiarism, using Turnitin software have revealed that Brunel students have gained both publication and citations from their theses. The immediacy of electronic dissemination reinforces this impact advantage. Students pass their viva, hand in the disc containing their thesis and their work goes online almost immediately. The speed of this process is a credit to the staff at Brunel who handle e-theses, and is a significant factor in optimising the currency of the work displayed in BURA.

Brunel accepts thesis deposit in electronic format only, and, unlike book chapters or journal articles which are published elsewhere, when it comes to theses the university is the publisher and keeper of

its theses in perpetuity. Brunel has accepted that role and undertaken to keep the theses available and maintained and as such, the university is particularly mindful of the need for long-term preservation of its theses collection.

Scholarly researchers: effective, ethical, electronic

While BURA functions as a showcase for the breadth of research being undertaken at Brunel, it also demonstrates its quality. Brunel has taken the view that, in large part, this quality derives from the scholarly discipline of its researchers. By preparing a thesis with an eye to its eventual publication via BURA, students are encouraged to adopt beneficial scholarly practices.

While students should be adept at using correct citations, and be aware of the ethical implications of failing to do so, the additional training and checks that have been provided to help them prepare their thesis for online dissemination have reinforced their practical skills in this branch of scholarly practice.

The Library holds voluntary training sessions with the Graduate School on copyright and how to cite and quote properly to ensure accidental plagiarism is never a risk. As a part of embedding good copyright practice in workflows across the university, the role of the copyright officer has been expanded to a full-time dedicated post within the library, incorporating responsibility for e-theses training and compliance. Brunel also provides web pages with comprehensive information.

E-theses at Brunel are only embargoed if immediate access would harm the chances of a publication or a patent resulting from the work they contain. They are never edited or redacted in any way, for example to remove material covered by third party copyright. This approach is based on the principle that students writing a thesis at Brunel are writing for publication from the outset, and as such should have written in order to avoid such a necessity. In this way, the university ensures that there are not two versions of its theses, a 'real' and a cut-down 'public access' version.

> "Here at Brunel University we have been making electronic versions of all our new PhD theses freely available through our on-line repository BURA since 2007. This change has helped us to develop our students' understanding of electronic archiving as a key ingredient of both effective dissemination and the research process. The change has also revolutionised access to our students' research work and increased its impact and visibility."
>
> *Professor G. J. Rodgers,*
>
> *Pro-Vice-Chancellor (Research)*
> *Brunel University*

Preparing a thesis with an eye to open access also helps to inculcate the discipline of self-archiving in early-career researchers. This habit not only benefits BURA, in terms of its size and coverage, but helps to prepare researchers for the reality of working in an increasingly open access research environment.

Embedding success: Open Access at the University of Glasgow.

Building expertise

The University of Glasgow was one of the earliest adopters of e-theses in the UK. Partly in response to such developments as the Scottish Declaration on Open Access[7] (which recommends that these be made available online) and the Networked Digital Library of Theses and Dissertations in the US, it started work in 2002 on the DAEDALUS project which aimed to create open access repositories for all research outputs from the university.[8]

While the project was seen as part of a broader advocacy of open access, in which the library and the university were working with new generation of scholars and encouraging them to think in terms of OA from the beginning of their careers, giving the original research material in theses another outlet was also regarded as a benefit for scholarship more generally.

The Glasgow e-theses service was launched in 2004, and deposit of e-theses in the service was mandated in 2007. While theses are still marked, and corrections checked, using print copies, the final version is made available online, and the doctorate is only awarded once the thesis is in the repository. The service continues as a distinct entity, separate from the Glasgow Institutional Repository, Enlighten, which has enabled it to maintain focus and build its own dedicated guidance and support for authors.

From the very beginning: embedding best practice

Although the shift to e-theses did require some cultural changes, not least in terms of workflow both within departments and across the university, the aim of the team has been to create a unified, consistent approach to handling e-theses. In order to do this, it was crucial for best practice to be embedded at every stage of the process.

One tenet of Glasgow's e-theses policies is that it treats both electronic and print theses in the same way. Embargo policies at Glasgow give a good example of what is implied by this approach. Procedures for embargoes were standardised as part of the implementation of the e-theses service. Students can obtain a three year embargo, but any embargo must be approved at the point of submission by their supervisor.

Since embargo issues have generally been worked out by the time a thesis reaches the library, staff can concentrate on administering the decisions that have been taken by the schools and supervisors. Authors can apply to the Graduate School for an extension of the embargo once the initial three year limit expires, and so library staff endeavour to maintain contact details for authors of embargoed thesis in case of any queries. Embargoed theses are also stored separately from the main repository. There is no 'dark archive' on the Glasgow E-Theses server, instead theses are stored offline. This 'air gap' ensures that there is no chance of embargoed theses being leaked.

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[7]http://scurl.ac.uk/WG/OATS/declaration.htm
[8]http://www.lib.gla.ac.uk/daedalus/index.html

Copyright checks remain the responsibility of the student, since they are best placed to know which items in their thesis will need permissions, and where material has been sourced. The library advises students to keep records of permissions obtained, but if the author cannot obtain permissions for all the material contained within their thesis, then the university will accept an edited version with uncleared third party copyright content removed. A complete electronic version must also be submitted and is stored in the same manner as an embargoed thesis, and only the edited version is made publicly available.

Despite the potential complexity of this area, most of the queries about intellectual property that arise are general, rather than thesis specific. The wording of copyright regulations ('substantial part', for example) tends to confuse authors, but most have little difficulty in assessing the need to seek permissions ahead of submission. Students' rights over their work are emphasised in copyright warnings on the cover sheet that the library adds to each thesis and so far this system has worked well.

One common concern that students have voiced about e-theses is that by placing their work online it increases the risk that it will be plagiarised. This concern has not been borne out at Glasgow. Staff receive very few queries about work being plagiarised, and have found that students are instead keen to ensure that they are not plagiarising the work of others accidentally: most 'plagiarism' queries are actually about correct citation practices.

Making theses accessible to search and text mining means that plagiarism can be much more apparent, and the presence of a good bank of scholarly material online that could potentially be fed into plagiarism detection software goes a long way towards allaying the fears of authors. In one case, an instance of plagiarism was detected as a result of the thesis being available online, and its presence in the repository at Glasgow was crucial in proving that it had been plagiarised.

The fact that e-theses have been absorbed into the workflow of the whole institution has meant that students have many sources of support. Campus IT services run courses offering training for students to prepare their thesis, in using Microsoft Word to produce the final document, or converting files. Whilst a centrally maintained bank of consistent and comprehensive information and guidance has helped to reassure supervisors and students alike, campus wide involvement has enabled focussed advocacy for different audiences and research constituencies. This balanced approach has meant that, even while the onus lies on students to prepare an e-thesis as part of achieving their doctorate, reported concerns have diminished steadily over time.

Glasgow Theses: a mature service

The level of expertise on offer to authors and supervisors has played a major role in addressing issues with e-theses. Glasgow has built up extensive online guidance, linking to external resources such as the Freedom of Information Scotland Act, and containing good advice on editing a thesis to remove third party copyright material. There are even guides to what typeface or paper to use. These have evolved from the earliest days of the service, when the library was troubleshooting issues, and developed into a full-institution infrastructure.

The fact that procedures and resources are openly available, and the process has been designed to be as undemanding as possible means that most queries can be addressed with the existing guidance

resources. Some people will always be unaware of the extent of the information that is available but when such queries come in, staff can simply direct enquirers to an appropriate resource.

Building on the early consultation process, the e-theses service now has an extensive network of liaisons in all departments. By maintaining a good list of named contacts, with both faculty and administrative staff, the service has developed a good understanding of how people actually work with theses. This understanding is reinforced by an individual approach to each query and has generated a very positive relationship with all the stakeholders in Glasgow's e-theses, the overwhelming majority of whom are happy to work with the service and make a real effort.

Of the issues that remain to be addressed, it is striking that many are universal. Combining additional non-text material, for example datasets or different media files, within a thesis can still pose technical challenges. Similarly, there have been issues caused by the sheer size of files in some cases, a problem that is growing in the era of data-intensive research. As older theses are digitised, copyright and confidentiality issues that have largely been dealt with when it comes to born-digital theses re-emerge, a problem facing all those HEIs seeking to digitise the hundreds of thousands of theses that are currently only stored in print. Preservation is a particular concern with e-theses, but also for all repositories and all digital objects.

Even allowing for such factors, 90% of theses can be uploaded to the repository with no problems or queries, and most only take up to thirty minutes for a cataloguer to deal with. The workflow is consistent, with predictable peaks and troughs in demand, which means that the service can manage fluctuations in submissions easily. This has contributed to a steady growth in the volume and impact of Glasgow E-thesis Service, which now contains theses dating back as far as 1930. As of autumn 2009, the most downloaded thesis from the collection had been downloaded more than 37,000 times, a figure which underlines the potential reach of a successful electronic thesis.