9.) FOLLOW THE USERS:ASSESSING UK NONPRINT LEGAL DEPOSIT WITHIN THE ACADEMIC DISCOVERY ENVIRONMENT

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Introduction

It is a truth universally acknowledged that the lone search box is what all users prefer. It simplifies information seeking and retrieval by freeing users from restrictive terminology or 'library-speak' and by unifying a thundering herd of disparate resources, all accessible, into a single result list (Boyd et al. 2006, Lown et al 2013, Guarjardo et al. 2017). Information seeking is simplified in the sense that users do not have to navigate different interfaces or think too deeply about search terms and search strings. Businesses developing software and especially web-based products have heeded the popularity of the apparent simplicity of search afforded by the likes of Google. They, and those they sell to, have become more data-driven, or in a mostly numeric sense, user-driven (Rodden et al 2010, Fabijan et al 2017). The more customers discover and interact with their content and services, the more data gleaned, and the more competitive, profitable, and responsive these companies can be (Fabijan et al 2017). Within the discovery-access-assessment environment, this process describes a continuous feedback loop of systems-based communication -inputs and outputs- among customers, staff, and managers (Markey et al. 2009).

Academic libraries, in their turn, have pursued the web-based unified search environment. They have added discovery layers to local library catalogue and management

systems, providing access to popular research, as well as esoteric collections and resources. However, academic library resources and collections are not all completely web-based. Moreover, some digital collections may not be able to compete with subscription-based digital resources in 'the familiar metrics of user experience', including page views, repeat unique users (Rodden et al. 2010 p2395), and more specifically for libraries, usage metrics. These metrics can range from 'basic user surveys to the usage tracking of physical journal issues and monographs to library loan statistics' (Glanzel and Gorraiz 2014 p. 2161). Some resources, such as the UK Non-Print Legal Deposit (NPLD) collections, come with access and use restrictions that run counter to digital discovery and academic user expectation of it, proving a challenge for UK academic legal deposit libraries (Gooding et al 2019b). The challenge in part has been identifying their place in the unified digital discovery environment. And, if they do not figure in any significant way in this environment, is there a place for them in a library assessment based on use metrics?

These challenges stem partly from an initial emphasis on NPLD technical implementation across the six legal deposit libraries. Evaluating UK NPLD access and use has admittedly not been a priority of legal deposit libraries. Since *The Legal Deposit Libraries (Non-Print Works) Regulations 2013* (2013) mandating the collection of electronic resources, they have focused more on technical and procedural implementation, of necessity at the beginning of this complicated process (Gibby and Brazier 2012), but at the expense of collecting and analysing quantitative and qualitative data that focus on access and use **(**Gooding et al 2019b). For example, the Bodleian Libraries at Oxford University, an academic legal deposit library whose discovery environment and full programme of library user assessment illustrate various points in this chapter, has concentrated on NPLD-focused user assessment predominantly through its participation in the AHRC-funded project in 2017-2019, *Digital Library Futures (DLF): the impact of e-legal deposit in the academic sector* (Gooding et al.

2019b, see also elegaldeposit.org). DLF was the first user-focused study which analysed how NPLD eBooks, eJournals, and a UK web archive are accessed and used by researchers through a mixed methodology of qualitative and quantitative data collection.

In this chapter we explore the role that NPLD collections play or can play in library discovery and its assessment. What NPLD collections demonstrate is that a purely numeric or metrics approach to library use provides a limited view of user interaction with library resources, electronic and otherwise. The academic library digital environment is wholly distinct from the consumer or business web environment. It more truly represents discovery in that users are not just confined to simple search, but are also able to seek information and ideas, from resources as well as colleagues, without the interference of intrusive personalisation, advertisement, all the noise and distraction of the wider web (Schofield 2015). It is a 'digital third space' (Pinfield et al. 2017 p52). In this distinct electronic environment combined with the physical library space, essentially a hybridized information environment' (Schmersal 2018), academic libraries offer their user communities the full range of resource from print to electronic, and some like NPLD which fall somewhere in between. Moreover, there is no single method of information-seeking: users have their own individual ways of searching and discovering, their own priorities and values, as well as kinds of resources, print or electronic, they prefer (Guajardo et al. 2017). In a library 'culture of assessment', a regular and flexible mixed methodological approach can track users in their journey from discovery to assessment. The librarians play their part by feeding the results of assessment back into this library feedback loop, a process critical to understanding how staff, users, and collections work together (Lakos and Phipps 2004, Farkas et al. 2015). This loop provides a rich understanding of the whole information space and consequently the value that NPLD collections can bring to it. A place can be found in the library feedback loop if NPLD collections are viewed through the lens of

the hybridised information space, a more varied methodological approach to quantitative and qualitative analysis, and a recognition of what makes these resources a truly unique offering.

In Pursuit of Discovery: NPLD in the Library Search Environment

Library Discovery: From Card Catalogues to Library Service Platforms

A search that will return NPLD eBooks and eJournals[1] begins with the library catalogue or search portal. Local and third-party search in academic libraries has undergone radical transformation: from the days of the card catalogue through to one large local database of content on an electronic catalogue to the current digital environment consisting of web- and cloud-based library systems providing access to a range of institutionally owned and third-party resources. Users no longer expect to move to different terminals in order to access commercial databases. Now, a range of content is available from one library dedicated terminal or even from personal laptops in and outside of the library. And, in the midst of all these digital resources, print materials, whether archival, reference, or circulating, are still important to study and research. Indeed, academic users access a diverse range of materials, especially when studying in libraries (Lopatovska and Regalado 2016).

Whether referring to the retro card file or the integrated library system (ILS)[2], the library catalogue, the foundation of locally-owned content, is designed mainly for the look-up search: searching for known items or precise bits of information from a central server.

[1] The Legal Deposit UK Web Archive, which will be considered separately below, cannot be searched through the discovery portals at the academic legal deposit libraries.

[2] "An automated library system usually consists of a number of functional modules, such as acquisitions, circulation, cataloging, serials, and an OPAC (Online Public Access Catalog). An "integrated" library system is an automated system…in which all of the functional modules share a common bibliographic database" (Lopata 1995).

However, 'library technology [tracking] alongside the prevailing technologies available in the general business and consumer sectors' (Breeding 2015 p. 6) has expanded from simple search of locally-owned resources to unified information seeking and retrieval across a diverse range of purchased, licensed, and repository publications oftentimes necessitating separate underlying systems (Dempsey 2008). For example, in common with most academic libraries, the Bodleian Libraries provides access to the catalogue of printed holdings and to its electronic resources via a resource discovery platform, known as SOLO (Search Oxford Libraries Online), comprised of two Ex Libris products: its Integrated Library System (ILS), Aleph, and discovery platform, Primo. Most of the College and non-Bodleian University libraries also provide access to their catalogue holdings via SOLO, so it functions as a 'one-stop shop' for readers to locate physical and electronic resources in the collegiate University. SOLO also provides a circulation system for the lending stock and enables readers to request books from the off-site storage facility to a reading room. All readers can click through to electronic books and journals from a SOLO search on a library computer in a reading room; members of the University can also access electronic resources from anywhere with an internet connection using their 'Single Sign On' (Shibboleth)[3].

In addition to full computers for readers, 'quick check kiosks' are also provided in each library. These limited access terminals are intended to function as a public access catalogue so that readers who just want to locate a physical book in the library can find the relevant shelf mark without needing to log in to a computer. These computers do not allow click through access to electronic resources and time out after a period of inactivity.

[3] https://help.it.ox.ac.uk/internal/sld/shibboleth (Accessed 20.07.2019)

SOLO is an example of the library service platform (LSP)[4], the result of a combination of supplier feedback, beta testing, early implementation and development in partnership with academic libraries. This development builds on customisable solutions which academic libraries were offered to combine library and third-party resource access along with unified search, such as OpenURL Link Resolvers and Electronic Resource Management Systems (ERMS) (Breeding 2015, Thomsett-Scott and Reese 2012). In addition, Google offers libraries a way of making their resources discoverable through Google Scholar with its Google Scholar Library Links tool[5].

This unified digital environment provides the single search box that users presumably prefer. However, the discovery platforms used by academic libraries also offer advanced and faceted or filtered search reflecting the range of library collections and pitched at the information seeking capabilities of the academic user (Sadeh 2013, Kim 2011a). For this reason, academic libraries have sought a search environment conducive to the more exploratory requirements of research, in other words the acquisition of knowledge as opposed to basic information on any given subject (Athukorala et al 2015). LSPs combined with discovery tools, from the same or different vendors, provide just this kind of environment for exploratory search with options for skimming through titles and abstracts and reading more deeply across resources and over extended periods to acquire knowledge and mastery of a subject.

[4] "The library services platform includes knowledge bases and bibliographic service from which local collections are drawn or defined. The model of the integrated library system assumes a reliance on external resources for the metadata involved in collection description and management" (Breeding 2015 p.9)

[5] "Library links are article-level links to subscription full text for patrons affiliated with a library. This program works best for electronic resources, such as journal and conference articles. To sign up, you'll need an OpenURL-compatible link resolver, such as SFX from Ex Libris, 360 Link from Serials Solutions, LinkSource from EBSCO, or WebBridge from Innovative Interfaces…The vendor [of link resolver] will normally ask you to fill a registration form that contains your subscriber IPs and the text of the link. They will then augment this information with your electronic holdings, and make this data available to our automatic indexing system" (Google Scholar Library Links https://scholar.google.co.uk/intl/en/scholar/libraries.html (Accessed 30.07.2019))

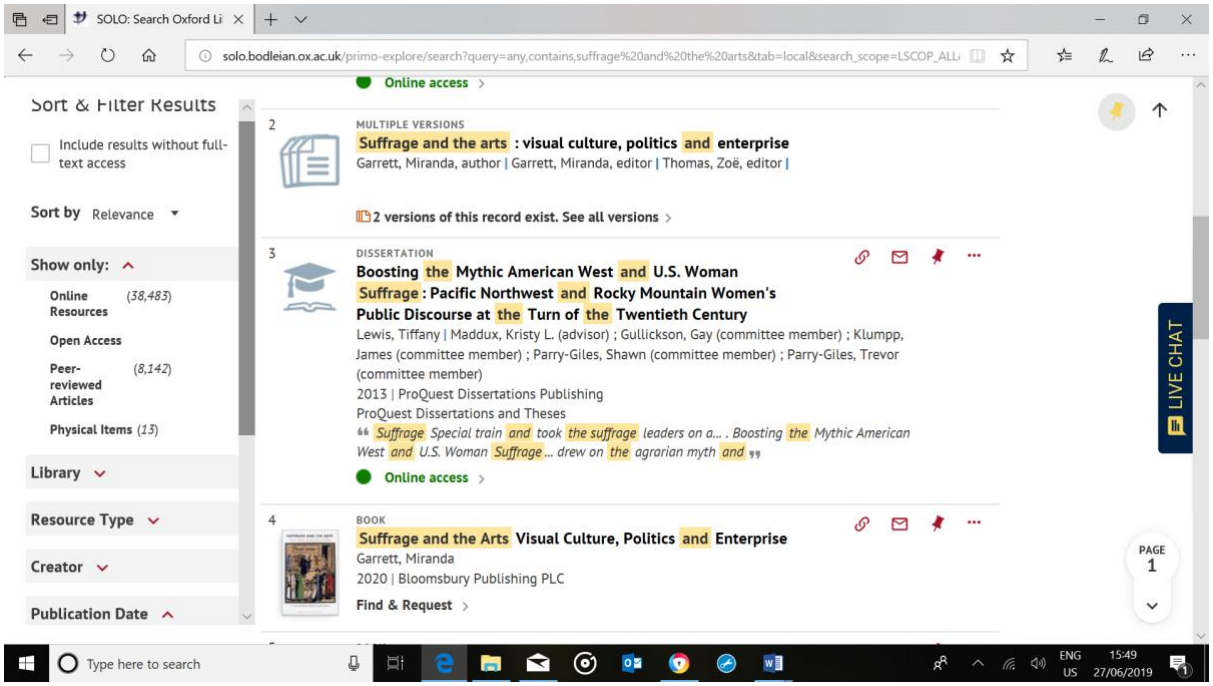


Image 1: SOLO Search Results Page with Search Filters (accessed 28 April 2019)

The effort extended by the Bodleian and other academic libraries to provide access to a wide range of resources illustrates their response to user expectations in the digital environment. Indeed, the DLF research with Bodleian users revealed their appreciation of ease of use, convenient access, and storage for repeat uses (Gooding et al. 2019b).

UK Non-Print Legal Deposit in the Academic Discovery Environment

In this digital discovery environment, what happens to unique collections perhaps hidden within the crowd of content? Collections that, while for the most part discoverable remotely, are not retrievable outside physical library premises? The UK Non-Print Legal Deposit (NPLD) collections are one such example: eJournals and eBooks are collected, and websites are harvested as part of a regulation that also prescribes for access and use.

In practice, what this has produced is a divergence between how this material is searched, accessed, and used relative to the 'bought' or subscription collections of the legal

deposit libraries. The metadata for NPLD eJournals and eBooks is discoverable through a search in the library catalogue within the library and remotely regardless of device. However, they cannot be accessed or retrieved remotely; users must not only be at the library but also at a designated terminal to have access[6]. Moreover, there is the further limitation of one user per title per designated library terminal (part 4 regulation 23 of 2013 Regulations). However, in terms of discoverability, it is a collection that is integrated with other collections of eBooks and eJournals in the library catalogue.

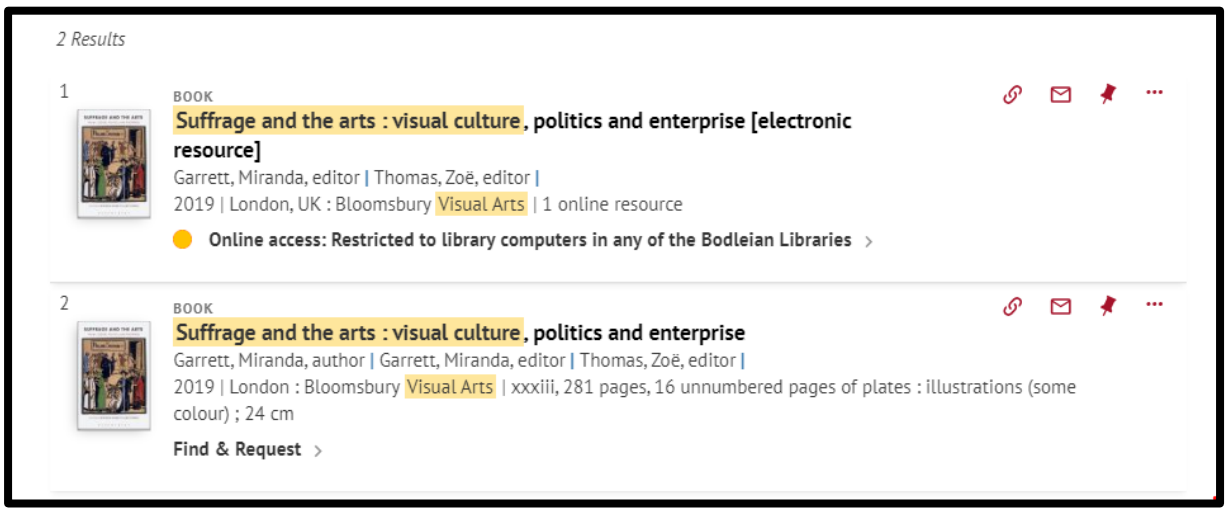


Image 2: Two Bodleian Libraries SOLO records: the first is for an NPLD copy, and the second for a print copy from the Library collection. (accessed 28 April 2019)

The UK Legal Deposit Web Archive, however, differs from NPLD eBooks and eJournals in some significant ways. It is a unique collection of millions of websites automatically harvested from the UK web. It differs from what was once known as the Open UK Web Archive launched in 2004 which is a permissions-based collection of about 50K sites which can be remotely

[6] Some legal deposit libraries have restricted access to a limited number of designated terminals, while others, like the Bodleian, have provided designated access through most public access terminals in the library.

searched and accessed[7]. The UK Legal Deposit Web Archive, by comparison, contains over 500Tb of data (Gooding et al. 2018). Both archives can be searched from a single web interface.

Unlike NPLD eBooks and eJournals, metadata for the UK Legal Deposit Web Archive's sites is not integrated with other collections in the legal deposit libraries' catalogues: it is accessed via a separate interface. Without an obvious link (to the user) to this website as well as a description of this unique resource, it cannot be considered discoverable. Moreover, depending upon the library, the link is not always visible to the remote user, who may not realise it is another option for research within the library. The exception to these strictures is the British Library (BL), where web archive metadata has been added to the BL catalogue, enabling remote search and discovery although not remote access. Whether the academic user can discover web archive materials through remote or onsite library searching, lack of access means that there is no opportunity to learn about and use this unique collection.

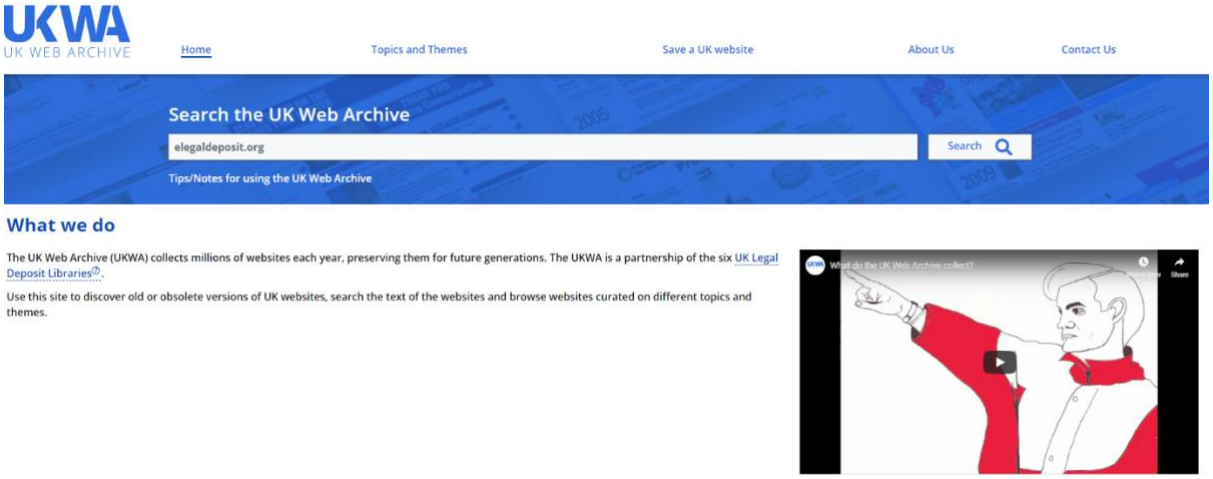


Image 3: UK Legal Deposit Web Archive (accessed 28 April 2019)

[7] Both the Legal Deposit Web Archive and the Open UK Web Archive have been combined to form the UK Web Archive (https://www.webarchive.org.uk/)

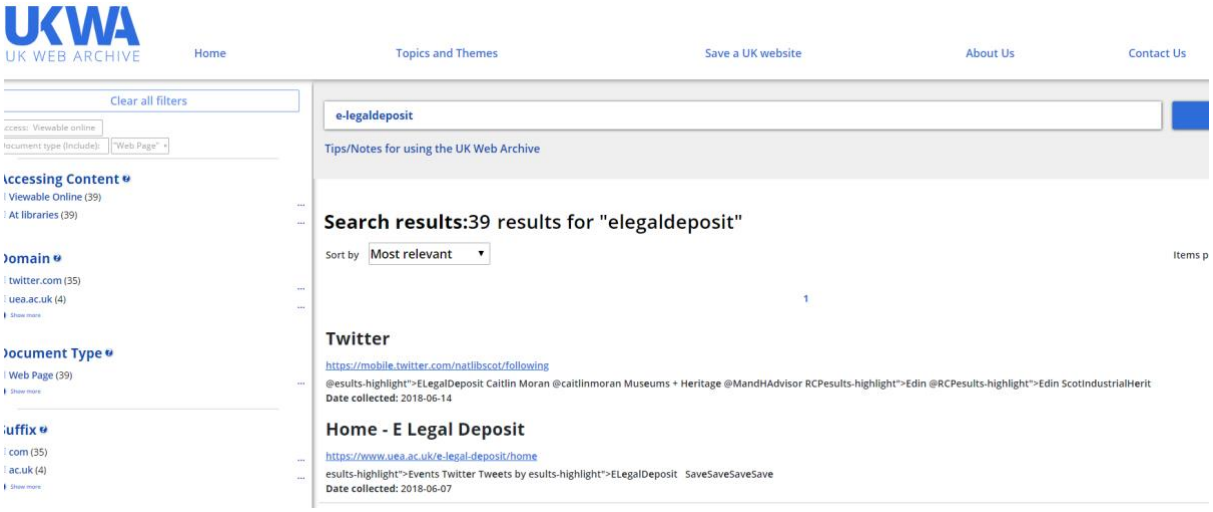


Image 4: Search Results from the UK Legal Deposit Web Archive (accessed 28 April 2019)

These restrictions, as well as others such as print-only use, are dictated by legislation (Act 2003, Regulation 2013) and so no matter the effort put in by libraries to unify search, access, and retrieval, this collection will, for the foreseeable future, remain separate from the results of those efforts.

In the case of electronic resources, the user expects not just remote discovery but also remote access (Gooding et al 2019b, Kim 2011a). Ultimately, digital discovery of nonprint legal deposit materials fails at the first hurdle of discovery systems: the promise of quick and easy access and use. By regarding them almost exclusively through the use metrics of page views, accesses, and print requests, perhaps necessary for proving return on investment (ROI) (Murray et al. 2016), legal deposit libraries leave NPLD collections out of the routine local library user and service assessment, and consequently out of the feedback loop.

Follow the Users: Library Assessment in the Discovery Environment

Library Discovery by the Numbers

Rodden et al. (2010) discuss the analytical tools available to the Human-Computer Interaction (HCI) community to measure use of software and products. However, they do caution that these 'standard web analytics metrics may be too generic to apply to a particular product goal or research question' (p. 2396). Academic library user assessment has followed the same pattern, afforded by the more advanced systems that can supply large-scale metrics at the touch of a button.

Library assessment or performance measurement has traditionally been data-driven in its own way even in the olden days before electronic systems: through the collection of such quantitative data or library use statistics as books circulated, number of registered users, footfall, enquiries made, all to support internal evaluation of services, collections, and performance (Nicholas 1997, Glanzel and Gorraiz 2014). Electronic and especially web-based systems and resources have provided more data, for example users' interaction with the systems and resources, as well as tools for quantitative analysis. The investment in these systems combined with budget considerations and competition with web-based information resources means that assessment increasingly focuses on proving value to academic administrations, primarily in the form of contribution to student academic success (Chen et al 2015), as well 'their parent institutions' teaching, learning, and research missions' (Hurst et al. 2017 p. 571).

In terms of ROI, the results of gathering systems-based access and use statistics, even when basic user surveys are included, have not been necessarily encouraging. Some studies

reporting the lack of use of academic library website resources have questioned whether library investment in discovery has been worthwhile, especially if interfaces remain difficult to use (faceted search v single search box again?) (Kim 2011a). One supplier of library management systems opines the lack of development in the most important areas, one being the flexibility to handle non-bibliographic content. He attributes this to the librarian's penchant for the inflexible MARC tags and a pre-occupation with back-office customisation (Beastall 2015). As if these challenges were not enough, research suggests that academic libraries are not necessarily the first port of call for their users, whether they be undergraduates or researchers. In *Does Discovery Still Happen in Libraries?,* Roger Shonfeld (2014) summarises results from 2014 Ithaka S+R Survey which asked US academic library directors to respond to the following statement: 'It is strategically important that my library be seen by its users as the first place they go to discover scholarly content' (p.3). Shonfeld points out that the number agreeing to this statement has been in decline (albeit modest) since 2010, although 'library directors seem to perceive continuing value in being seen to serve as the starting point' (p. 3). Those in agreement have continued to decline in a more recent Ithaka Survey in 2016. In fact, 'library directors are increasingly recognizing that discovery does not and should not always happen in the library' (Wolff-Eisenberg 2017). Both Shonfeld and Wolff-Eisenberg observe that library directors' attitudes are evolving regarding discovery and that they understand how important commercial resources and peer networks are, sometimes quicker and less restrictive. Indeed, these findings confirm ongoing research on user expectation and information seeking behaviour, originating from Human-Computer Interaction (HCI) studies (Marchionini 1997; Agarwal and Poo 2007; Savolainen 2018).

There are no surprises, though, for where discovery is happening, or at least where it begins. Shonfeld is not alone in reporting that a preponderance of research starts with a browser search. Google not only provides apparently unfettered search and access across resources,

bibliographic and non-bibliographic, but it is more responsive to a basic approach to searching. This approach reflects how users actually search or want to search: 'rather than expecting the user to develop search strategies, Google accommodates a trial-and-error approach' (Sadeh 2013 p215) which accommodates the user's own method of searching. So, while vendors and librarians alike grapple with making library systems more responsive to library and user expectation, users and especially academic research users are heading straight for Google and Google Scholar which now offers direct access back to library resources without reference to library discovery tools or platforms (another type of feedback loop?).

In this 'return on investment' climate driven by data collected by web-based systems, NPLD collections and their access restrictions would appear to be resistant to 'proving value' during assessment. Indeed, prior to the DLF project, only systems-based data in the form of library use (number of items accessed) had been collected across the six legal deposit libraries and disseminated by the British Library for the NPLD collections. The general feeling among staff had been that the numbers were low (Gooding et al 2019b, p18). It can be argued that NPLD collections after all are not much different than print reference or archive collections in terms of discoverability and accessibility: findable through catalogues remotely but only accessible on site. Because they are electronic, though, user expectations are raised to the level of all electronic resources available on the web and indeed through the library's own digital environment.

The more users interact with content in the discovery environment, the more data libraries have upon which to base decisions about technology tools and content, even library space (Chen et al. 2015 p. 1). NPLD collections, with their access and use restrictions, are left out of this quantitative feedback loop because of comparatively low access numbers (Gooding et al 2019b). The propensity by library staff to not look beyond the numbers and consequently not grapple with the distinct nature of the NPLD collections means that their users do not know

what to make of them. The current routine assessment process for NPLD collections, consisting solely of systems-based access and use statistics, certainly does not support an understanding of the value of these resources.

Not Just a Numbers Game: Library User Assessment in the Hybridised Academic Environment

Library Assessment by Users

If discovery is not happening solely in libraries, or if they are not the first port of call for researchers, then does that mean the investment in discovery has not been worth it? Has Google really '[broken] libraries' information monopoly' (Kim 2011b p.9). A different kind of assessment is required to understand that, while libraries may no longer have a monopoly, they can still be considered major players in the information economy. This different kind of assessment is more user-focused, not dismissing quantitative data but that it 'should be triangulated with findings from other sources, such as usability studies and field studies, which leads to better decision-making' (Rodden et al. 2010 p.2396). Moreover, and especially for NPLD collections, quantitative data collection should move beyond the out-of-the-box library use metrics.

The growth in number and type of academic users suggests that academic libraries still have a significant stake in the information environment. The Bodleian Libraries, for example, supports the learning and research needs of 7,000 academic staff, 12,000 undergraduates, and 12,000 postgraduates (following both taught and research programmes). The 28 libraries that form the Bodleian Libraries comprise most (though not all) of the centrally-provided University libraries, and include major research libraries, libraries attached to faculties and

departments, and the historic Bodleian Library. There are also libraries in all of the 38 colleges[8]. All libraries in the collegiate University provide physical resources and study space, but the Bodleian Libraries provides electronic resources for the whole system. As a National Research Library, the Bodleian Libraries provides access for academically-affiliated and independent researchers to its printed collections, archives, and manuscripts, and electronic resources in its reading rooms. Half of the 60,000 readers who use the Libraries each year are external Library Card holders, comprising those formerly affiliated with the University (alumni) as well as a significant number from the wider community.

This number and range of distinct user communities with access to library resources require an understanding beyond basic use metrics. To try to quantify these communities and their interactions with library resources not only misrepresents library use, but also misses the unique offering of academic libraries. These metrics also do not provide an understanding of the academic user whose information-seeking behaviour cannot be reduced to a single metric. Remote access is important, but academic users frequent and use their libraries for multiple reasons. Providing users with 'quick-check kiosks' for searching locally-owned print books for example, as does the Bodleian Libraries, indicates a basic acknowledgement of varied information-seeking behaviours on library premises.

The Hybridised Third Space

Libraries have begun to recognise the value of looking beyond numbers, being more user-driven by employing User Experience (UX) techniques (Killick & Wilson, 2019). In the process, they have developed a more nuanced view of what is happening in their physical as well as digital spaces. Indeed, a careful study of information-seeking on library premises reveals more complexity. In a study of user behaviour in four academic libraries in New York

[8] For more information about the organisational structure of the University of Oxford, see http://www.ox.ac.uk/about/organisation (Accessed 20.07.2019)

City, Lopatovska and Regalado (2016) observed ‘students [using] a wide variety of print and digital resources and tools often simultaneously’ (p.393). This behaviour combined with the more social aspects conducive to the library space resulted in users ‘spending considerable amounts of time in their libraries’ (p.395). In other words, it is not just ‘the space’: if it were, students would all be in cafes, internet and otherwise. The attraction of the academic library space is the range of resources, not just electronic, available. A study by the second author of the use of the physical Bodleian Libraries (Wilson & Ovenden, 2016) revealed that, yes, in a 21st Century research-intensive university, even when consumption, production and dissemination of information is electronic (such as in the disciplines of science, technology, engineering, mathematics and medicine) there is a need for a physical library to support teaching, learning and research. The research underscored students’ dependence on the library to provide a space that was safe, with no distractions, little noise, and with books. Not only were books, and specifically textbooks, used within the space, but also a range of other resources including electronic resources, course notes, grey literature, and for medical students, anatomical models. The student wish list for the science library included:

> Be quiet, Be welcoming, Be comfortable (temperature, light, ventilation, ergonomic furniture, water, nice toilets), Have desks appropriate for work (large desks usually; small individual desks for revision), Have excellent IT, Facilitate working alongside peers – companionable silence, Enable them to stay all day (café, lockers, lounge), Be accessible (wheelchair use; standing desks) (Wilson 2018 Slide 20).

This list demonstrates users truly invested in a space that is most conducive to research and study. It is also important to note here not just the range of resources required, but the specificity depending upon discipline. Other studies have confirmed different patterns of use as well as resources across academic environments (Gooding et al 2019a, Kim 2011b). For example, one study reports that humanities users have a preference for print and therefore are

more inclined to use library resources than business users who required more timely resources and so used commercial websites (Kim 2011b).

The range of resources and information-seeking behaviours points to what Schmersal (2018) identifies as a 'hybridized information environment' (p.62). In his singular comparison of information-seeking theological students to pastoral nomads, Schmersal recounts observations similar to the aforementioned studies about the library space as distinct: 'the physical library space also facilitates direct, unmediated, face-to-face interactions between scholars and librarians. Moreover, the design of the physical library itself, the "aura" of a formal, quiet space with minimal distractions, is itself an important part of the service we provide' (p.68).

It is probably not surprising, given that his subject is theology libraries and students, that he goes on to describe the 'solemnity and sacredness' (ibid) that physical books confer upon an environment. But this is all of a piece with the repeated desire in this study as well as the Bodleian study (Wilson & Ovenden, 2016) and others for a place devoid of distraction, which academic libraries are able to provide both in their physical and digital spaces. In addition, Schmersal (2018) points out that the digital discovery environments of academic libraries are particularly adept at allowing students 'to most fully and efficiently exploit an overabundance of resources within the confines of limited time and attention' (p.63).

What has the physical library space to do with NPLD materials? If assessment is purely based on access and use in the digital discovery environment, then NPLD collections do not meet users' expectations of what electronic resources are and how they should behave. If the academic library is then to be regarded purely as the sum of its electronic resources and systems, then NPLD collections cannot figure in proving return on investment. However, if the academic library is understood to provide a discovery environment that is both digital and

physical, if library users do indeed value the library for the variety of resources it provides onsite, then NPLD collections, a hybrid resource, does have a place in this hybridised, third space. But libraries must be willing to expand their user assessment programmes, their routine feedback loops, to include not only a range of qualitative and quantitative methods but also to delve deeper into the datasets they own. This approach provides for a more substantial knowledge, a 'better [understanding of] how students, faculty, and other researchers adapt to our dimorphic information environment and suggest ways we might assist them in doing so' (Schmersal 2018 p. 63).

Library Assessment: Mixing the Methods

Understanding how their users behave not just in the digital environment but within this hybridised environment can only be achieved through a more mixed methodological approach to user assessment. For example, Lopatovska and Regalado (2016) used a variety of methods including 'ethnographic methods to collect data on the directly observable artifacts and behaviour of the library users' (p. 384). 'Naturalistic observations' were combined with semistructured interviews with students of the participating institutions (ibid).

This kind of adaptation of methods to user behaviour can inform all levels of library offering and provides an understanding that highlights the library's value to the university. By choosing to use this data as a basis for decision-making, libraries can allocate and assess with a degree of confidence.

All libraries, not only academic libraries, are helped by statistical gathering as it can prove value and return on investment or proof against 'intensified contextual pressures' as a recent SCONUL report stated (Pinfield et al 2017, p. 4, see also Aabo 2009). It is therefore not surprising that libraries have concentrated considerable resources in systems specifically designed to furnish this proof (Schonfeld 2014). User-focused assessment, however, seeks to

learn what users are doing not only inside the library discovery environment, but more importantly outside of it. In other words, libraries must engage with the larger digital environment to be better informed about activity, or the activity they would like to foster, within their own digital walls. In this 'culture of assessment' (Lakos and Phipps 2004, Farkas et al. 2015), librarians and users are not just stakeholders, but partners in according instrumental value[9] to resources and services.

For example, the Bodleian Libraries undertakes assessment for three standard reasons: to drive service improvements; to inform decision-making; and to underpin advocacy. As the University library, the Bodleian Libraries started to build a user assessment culture in 2012, with the creation of a new post 'Head of Assessment', a position created to develop a culture and processes for measuring the effectiveness of library services and for supporting data-informed, evidence-based decision-making related to services, collections, technology, and facilities.

A wide range of mixed assessment tools and techniques are used to gather data (both qualitative and quantitative), measure performance, and understand user needs and experiences. In the last three years, assessment activities have included:

- A triennial Reader Survey for all members of the collegiate University and external Bodleian Card holders, using the LibQUAL+ protocol[10];
- Exploration of usage trends over the last 5 years of all services provided by the Libraries;
- Usability testing of interfaces of Bodleian Libraries' provided online services, such as the Institutional Repository;

[9] "The question of impact in cultural heritage generally distinguishes between intrinsic value (the value something has in and of itself), and instrumental value (the value something has because it helps to achieve or get something)" (Gooding et al 2019b p.15).

[10] "LibQUAL+ is a web-based survey offered by the Association of Research Libraries that helps libraries assess and improve library services, change organizational culture, and market the library. The survey instrument measures library users' minimum, perceived, and desired levels of service quality across three dimensions: Affect of Service, Information Control, and Library as Place". https://www.libqual.org (Accessed 20.07.2019).

- Focus groups with undergraduates, postgraduates and academic staff on their needs from physical library spaces;
- Return-on-investment analysis to communicate the value of the Libraries;
- Co-design with students of a new interface for the Libraries resource discovery system;
- Local surveys of preferences for extending opening hours of a library;
- Diary Study of new postgraduate students in their first term on their doctoral programme;
- Evaluation of the impact of public engagement activities, such as exhibitions and museum education programmes, on those who participate;
- Committees on Library Provision and Strategy (CLiPS), the formal mechanism for gathering feedback. These subject or Library focussed committees meet every term, and comprise representatives from academic staff, students and librarians.

This mixture of methods that incorporates various feedback helps the Bodleian in identifying its user communities and their distinct information behaviours. Moreover, the results of all the completed assessment activities have prompted change in policies, procedures, and practices at the Bodleian Libraries, either directly, or as a result of combining a number of results in order to synthesise a holistic understanding of the library's research environment.

For example, the Radcliffe Science Library research (Wilson 2018) employed a mixture of research methods, both quantitative and qualitative, to understand whether or not there was a requirement for a physical specialist library. A range of research methods were employed including usage date (entry and headcount), free-text comments from the Reader Survey (LibQual+), a literature review, specific survey, focus groups, and UX methods. The UX methods focused on how people actually behave in the space and their emotional response to the space and included 'Anthropological techniques: Observation (14 periods over 8 locations), Journey mapping, Touchstone tours, Love letters / break-up letters, Interviews – structured and unstructured'[11] (Wilson 2018 Slide 21).

[11] For more information about UX techniques, see uxlib.org and Killick & Wilson, 2019

The use of quantitative data in this research as a way of adding context to other qualitative data harks back to Rodden et al. (2010) and their 'triangulation' of data types (p.2396) in order to arrive at a truer picture of what users make of products. However, while libraries may have branched out in terms of their user assessment techniques, quantitative methods have been relatively confined to out-of-the-box technology tools supplied by discovery and systems vendors. Library datasets, including NPLD collections, are not just a source of numeric information, but can also provide a way of 'observing' users in their information-seeking and retrieval behaviour, supplying another view of library use. For example, library systems log analysis and web analytics, including the appropriate measures for personal data protection, are the digital equivalent of observational research methods in reading rooms: counting and categorising books requested, books left on desks at the end of the day, books checked out of the library. Using an 'automatic classification matching tool', Gooding et al. (2019a) looked at 'what insights into users of digital library collections [including the Bodleian Libraries] can be derived from automatic classification matching' (p.1). This tool illuminated how retrieval data classified by subject can be used in conjunction with other related information about users and libraries to develop profiles or personas of behaviour.

The Bodleian 'culture of assessment' as well as the studies cited point not only to the various ways users access library resources, but also to the diverse methods that can inform academic libraries of their information-seeking and retrieval behaviours. These methods reveal and highlight the academic library as a 'hybridized information environment' (Schmersal 2018), not just a digital third space, but simply a third space spanning the analogue and digital worlds. It provides an arguably neutral (or at least non-commercial) environment for research, collaboration, and socialisation (Codispoti and Frey 2007). This way of understanding users' behaviour would suggest that NPLD collections can have a place in both the physical and

digital academic library discovery environment. Not only do the collections provide a different type of resource, but they can also support academic legal deposit libraries in their drive to understand and serve their distinct communities of users.

NPLD: A Hybrid Resource for a Hybrid Environment

In order for academic users to appreciate the contribution of NPLD collections to the discovery environment, librarians must first understand that contribution. This understanding can be developed by using the various methods of collecting and analysing data in the library feedback loop as part of a culture of assessment as described by Lakos and Phipps (2004). In such an environment, librarians can see the value of NPLD collections through an analysis of space and collections, as well as the appropriate and flexible data gathering methods.

NPLD and the Third Space

The NPLD collections of eJournals, eBooks, and web archive exemplify an in-between or a hybrid resource: looking like electronic material but acting like archival or reference print resources, with attending access and use restrictions. Taking these properties on board in combination with the various user behaviours pointed out by Lopatovska and Regalado (2016), Warwick et al. (2008) and Schmersal (2018), there is much that NPLD collections have to offer academic users. What they require, as highlighted by Schmersal (2018), is assistance and direction from librarians in order to perceive the value of such singular collections.

For example, studies confirm a preference in general for printed or print materials among academic users, especially for extended, concentrated reading that is free of distractions (Aharony and Bar-Ilan 2016, Lopatovska and Regalado 2016, Wilson 2018). The fact that NPLD collections, especially e-journals, allow for printing matches this reading behavior.

Indeed, according to Gooding et al.(2019b), certain valuable use cases are supported once access restrictions are overcome:

> For those willing to travel to libraries, NPLD does support certain aspects of what researchers want to do: respondents said that when they discovered sources they preferred to print, save, or read them right away. NPLD resources are designed to allow reading and printing, and it is therefore likely that researchers who overcome their unwillingness to use fixed terminals are reasonably well served in this regard (p21).

Academic users routinely inhabiting the library space where, as with the Bodleian Libraries, NPLD access is spread across most public access terminals, will serendipitously find these collections. They may initially be using their laptops, but if the NPLD resource meets their requirements they have ready access. Indeed, the success of this multiple terminal access is demonstrated in the systems-based use statistics across all six legal deposit libraries where the Bodleian Libraries rank second after the British Library for use of NPLD eJournals and eBooks (Gooding et al 2019b p. 19).

NPLD as a Unique Offering

One user requirement may be the 'importance of the material' factor as discovered by Warwick et al (2008). When a resource is seminal or even the only copy available, discovery and format restrictions do not apply and academic users will go to extreme lengths to access restricted resources, whether they be print or NPLD. NPLD collections are a third option here, available in digital form and printable, if a resource is neither available in print or from the electronic subscription collection. Lopatovska and Regalado (2016) go so far as to state that 'libraries should continue providing access to print and digital collections to satisfy students' needs in both types of resources' (p.393).

Indeed, NPLD collections support the identification of academic libraries as that third space, analogue and digital. According to Delaney and Bates (2015):

> The library should focus on what people aspire to not the tools. Instead of saying "the library has 40 databases which you can access via the catalogue," they could be saying, "we provide you with information Google cannot find," because this is where the value lies (p.35).

Primarily, librarians should focus on what is unique in their collections, not just in promotion but also in user assessment which can often serve as a form of promotion of those collections. As demonstrated in the DLF findings, the UK Legal Deposit Web Archive is just such a unique collection, in its breadth and depth of UK holdings. In DLF staff interviews it was described as 'a crown jewel' and a 'gold standard' (Gooding et al. 2019b p.17). However, research survey respondents reported never having heard of the Web Archive and never having used it (p. 20). Part of this response is certainly attributable to the fact that it cannot be accessed through a simple catalogue search, either onsite or remotely at the academic legal deposit libraries. Indeed, the Web Archive is a prime example of how a unified search environment, the single search box, cannot always represent the complexity of academic library print and electronic collections (Boyd et al. 2006, Lown et al 2013).

However, the fact that respondents reported rarely using any web archive at all for research or otherwise demonstrates that the limited usage of the UKLD Web Archive cannot be explained entirely by access and interface problems and restrictions. When these responses are cross-referenced with the literature on web archives, a wider issue for the academic community emerges: researchers do not regard web archives as a resource for their work (Winters 2017, Gooding et al. 2019b). In this instance, widening the feedback loop to include consulting the wider research community as well as routine horizon scanning provides an understanding of the use of web archives and how the UK Legal Deposit Web Archive fits into

the wider digital research environment. This understanding in turn supports the development of a more targeted promotion of the Web Archive to support 'researchers…to acquire new skills and develop new methodologies if they are to get to grips with web archives as a source' (Winters 2017 p. 240).

NPLD as a User Assessment Dataset

As noted by Gooding et al., there have been other consequences of excluding NPLD collections from holistic usage reporting:

> NPLD collections were not embedded into the culture of institutions in the same way as other resources: not only did librarians not feel they could recommend them but did not have the same robust knowledge base about NPLD collections as the rest of the services that fell under each library's remit (Gooding et al. 2019b p. 26).

We have maintained throughout this chapter that the purpose of user assessment for libraries is not just to produce quantifiable data, but to produce data that creates a holistic understanding of how and why academic users seek and retrieve information. Because NPLD collections have not been part of this process, information services librarians cannot see how the materials could relate to users seeking information. An assessment culture that encompasses a flexible and mixed methods approach not only affects users, but librarians as well. It teaches librarians that whatever enters 'the system', a new collection for instance, must immediately be recognised and evaluated. In this way, 'learning environments' are created for librarians where 'customer "feedback loops" … and appreciation of the need for assessment as an everyday, reflective, systematic activity are commonplace' (Lakos and Phipps 2004 p. 358).

In this assessment culture, librarians have the opportunity to adopt more creative approaches and methods, ones that can unlock the value of NPLD collections. For example, NPLD eBooks and eJournals comprise discrete datasets that can illustrate larger themes and

issues within information seeking and retrieving. In the previous section we discussed their analysis through automatic classification matching by the DLF project using the Python-based tool, Subjectify (Gooding et al. 2019a). In this research not only have NPLD collections been useful in illustrating academic domain-specific information seeking, but they also demonstrated with the aid of Subjectify 'user behaviour at scale' (p.5). In a library setting, this information can be used along with other data to support library collection development and management, as well as bibliographic training, strategy, and policy-making. For example, domain-specific use data, gathered from subscription and NPLD collections, can contribute towards library training modules, matching course materials and recommendations from lecturers and instructors (Kim 2011b). Moreover, as a subject of 'methodological approaches', NPLD collections can 'contribute directly to our understanding of information sources in the digital humanities' (Gooding et al. 2019a p.1).

Conclusion

While it may be true that the academic library no longer has an information monopoly, ceding ground to the likes of Google Scholar, it still has a critical role to play for its varied communities of users. Investment in digital discovery tools has meant that it can offer a non-commercial scholarly digital environment for research. But the academic library is more than its digital environment. The academic library environment can be considered a unique hybridised information space, an information space which cannot always be approached by way of the single search box.

Because of their regulatory access and use restrictions, NPLD collections appear at first glance, and indeed according to the numerical usage statistics across all legal deposit libraries provided by the British Library, as if they have little to offer academic users. However, this is

to approach their assessment in too narrow a way. As regulatory access and use restrictions may not change in the forseeable future, legal deposit librarians must guide users in an understanding of what role NPLD collections can play in their research.

The academic third space is dependent upon its users and librarians to give it definition and value, as well as to demonstrate return on investment to academic senior management. The Oxford University Radcliffe Science Library's users directly addressed the doubts over whether a physical library is just as important as a digital library (Wilson & Ovenden 2016). However, these voices would not have been heard were it not for a holistic user assessment culture:

- Following the users through discovery and access of the unique range of academic resources;
- Identifying the specific communities, their information preferences and behaviours when interacting with the resources;
- Using the data from these activities to plan and deliver services 'in ways that maximize[s] positive outcomes and impacts for customers and stakeholders' (Lakos and Phipps 2004 p. 352).

This culture allows for a greater understanding of users, in order that allocation of resources and services can be customised based on user needs and not on broad assumptions. Assessment must have a purpose derived not only from the generic academic library environment, but also from the individual academic library's environment. The use and efficiency of collections and services are to be measured against that purpose (Farkas et al. 2015). This purpose, as followed through the feedback loop tracking discovery, access, and assessment, offers librarians a better understanding of how collections and services, especially NPLD material with its access and use restrictions, can be promoted to users. In describing the assessment feedback loop, Lakos and Phipps (2004) advise: 'it is imperative for libraries and librarians to be educated about 'systems thinking,' about the dynamic relationships between expectations and inputs, about

seeing the big picture, about thinking outside the box' (p. 358). NPLD collections, as demonstrated in this chapter, certainly benefit from 'thinking outside the box'.

Instead of waiting for the regulations to change or for time to pass, librarians themselves can learn through targeted assessment how and where to be more proactive in developing ways for the collections to be exploited for the users' benefit in the present. In this way, they can mould user expectation of NPLD collections, demonstrating that they are a resource which exemplifies the third space and illustrates that library collections are indeed richer than a single search box can convey.

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