

Improving access to e-resources for users at the University of Derby: enhancing discovery systems with Library Plus 2.0

The Library at the University of Derby recently collaborated with EBSCO Information Services to co-create unique search interfaces and introduce a series of innovations aimed at improving the user experience. These innovations included a range of clearer icons linking through to full-text journal articles and abstract-only resources subscribed to by the Library, apps linking to additional online resource content and a fresh interface design and style. Billed as Library Plus 2.0, the project aimed to significantly improve the accessibility and visibility of the Library's online resources, while providing an enhanced user experience shaped through consultation and engagement. This article looks at the impact of the Library Plus 2.0 changes and identifies improvements for future implementation. The work contributes towards the Library's digital strategies and the continual enhancement of our core systems.

The author presented this work at the University of Derby's 13th Annual Learning & Teaching Conference in July 2018.

Keywords

Discovery systems; EDS; HE libraries; e-resources; accessibility; user experience; UX

Context – discovery at the University of Derby

The Library at the University of Derby provides access to print and online resources, information technology and learning spaces (including 24/7 provision) for around 21,400 students across five site libraries. It sits within the newly created Centre for Student Life which includes the Library, Careers & Employability and Student Experience, with a shared philosophy of delivering transformational learning and scholarship and meeting the needs of our students, researchers and academics through co-creation, inclusivity and collaboration. It supports and underpins our institutional Strategic Framework that shapes the direction of the University, focuses on a student-centred approach to service and embraces a digital culture for the 21st century.

Since 2013 the Library has invested in the development of EBSCO Discovery Service (EDS), branded within the University of Derby as Library Plus. It provides a 'one-stop-shop' approach for users, enabling them to search and retrieve subscribed and open access content from within the Library's online collections. These include academic databases, online journals, e-books and Library catalogue book records through shared-systems integration. It is designated as one of the Library's essential or 'core' systems and has been accessed 699,133 times (number of sessions) in the 2017–2018 academic year: an increase of 17% from the previous year.¹

In 2015 a second EDS platform – branded as Discover – was introduced exclusively for students at Buxton & Leek College, a further education (FE)/higher education (HE) College that is now part of the University of



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2 Derby. The implementation of Discover took a different approach to Library Plus, allowing opportunities to work directly with EBSCO in creating unique customizations and features within the EDS framework that would work for a specific audience (in this case, 16–18 year-old FE students) and be tailored accordingly to the learning and teaching process. The Discover project allowed us to think ‘outside the box’ and understand more about the mechanisms and workings of our systems.

The Library worked again with EBSCO in 2016 to co-ordinate the replacement of the legacy Electronic Journals A-Z platform with Full Text Finder. This new holdings platform – branded as E-Journals Finder – allowed us the option of integrating directly with Library Plus (as opposed to a traditional stand-alone model).

Aims of the 2.0 project

While these projects made considerable improvements to the user experience, we wanted to go further and took the decision to re-evaluate our original discovery platform. Library Plus is an essential component in our learning and teaching strategy and is well used by our students. However, the platform had largely remained the same since its original launch and, inspired by the work we had done with Discover, we wanted to enhance the user experience significantly.

‘We also wanted... an enhanced experience for users, exploring what was possible in terms of customization and visual design’

The aims of the project, referred to as ‘2.0’, were to improve accessibility and visibility of the Library’s resources and make them fully discoverable within Library Plus. We also wanted to create an enhanced experience for users, exploring what was possible in terms of customization and visual design. To achieve these aims, we worked in partnership with EBSCO to create and implement a series of customizations specifically for Library Plus. Upon completion, the 2.0 project would be launched across the institution through a series of initiatives including social media communication and promotional events. Finally, we wanted to be able to measure the initial impact of the project (through usage metrics), reflect upon the work and identify improvements that we could make to take our discovery platforms forward into the future.

Pre-2.0 – early improvements

Initial changes to the search interface of Library Plus were made prior to the 2.0 project from August 2016. These were primarily based around feedback submitted to the Library Enquiry Services Team (typically by e-mail or phone), the E-Resources Team (via e-mail) and the Academic Services Team from information literacy sessions or in person at our Subject Information Point. There were two key issues raised by our students that stood out.

Firstly, students (especially undergraduates) were often frustrated that their search results brought back records with no full-text access. To manage these expectations better, the Library introduced a two-tiered search approach: in the basic search, users would only retrieve results that provided access to full-text journal articles, full-text e-books and links to book records via our Library Catalogue; in the advanced search, users would retrieve all of this plus additional results where no full-text was available (with records containing only an abstract or basic citation details and no link to full-text content). The two-tier search achieved a balance between two different sets of users: our undergraduates who often require a simpler search functionality (influenced by Google’s universal search) and immediate access to content using the basic search mode and our postgraduates, researchers and academic staff who require a greater depth of literature and ‘discovery’ via the advanced search mode.

Secondly, students also found the icons that link directly to subscribed content confusing. The original Library Plus icons (many of which were standard within EDS) included three separate descriptions of full text (‘PDF Full Text’, ‘Linked Full Text’ and ‘HTML Full Text’), several variants for e-book suppliers, and a lengthy catalogue icon (‘Display Full Library Catalogue Record’), shown in Figure 1.



Figure 1. Non-customized icons

These were replaced by two customized green block-style icons – ‘Get Full Text’ and ‘Go To Catalogue’ – which link directly to full-text articles and catalogue records respectively. A third icon, ‘Not Available In Library’ appears in abstract-only results in the advanced search, indicating that the specific content is not accessible via the Library (Figure 2).



Figure 2. Customized icons

It was especially important to capture student feedback in the initial planning of the two-tiered search and customized icons. During the summer of 2016, Library staff consulted with students based at the University’s Kedleston Road, Markeaton Street and Britannia Mill sites to ask for their opinions on whether they preferred a two-tier search approach or whether the search functionality could remain the same. We also presented students with a selection of potential new icon designs and asked them to choose their favourites. We ran the same exercise with Library staff from different areas of the service (Academic Services, Enquiries Service, Facilitators, Loans Service, Acquisitions, and E-Resources). The pre-2.0 project improvements influenced the direction in which we would take Library Plus in the future.

‘A collaborative partnership with our supplier was crucial’

New for 2.0 – innovations and recent changes

The innovations for the 2.0 project were intended to build on the success of the two-tier search model and customized icons. The design and implementation process began in the autumn of 2017 through to completion in March 2018. A collaborative partnership with our supplier was crucial to the success of this project and the E-Resources Team were in regular contact with the Technical Team from EBSCO during this process.

Prior to the 2.0 project, EBSCO met with members from the E-Resources and Academic Services Teams to demo examples of best practice at other institutions (both academic and corporate) and this was helpful for us to identify ideas which could be implemented within our own discovery set-up. Following the meeting, EBSCO created a test profile based on our suggestions and utilizing best practice in HTML 2.0 web design.

- 4 The most significant change was the visual look and feel of the interface. Previously, the search boxes were very small and there was a lot of empty space filling the screen (Figure 3). Now the interface has a much more dynamic look with a bigger search box and a brighter colour scheme (Figure 4).



Figure 3. Basic Search homepage and search box pre-customization

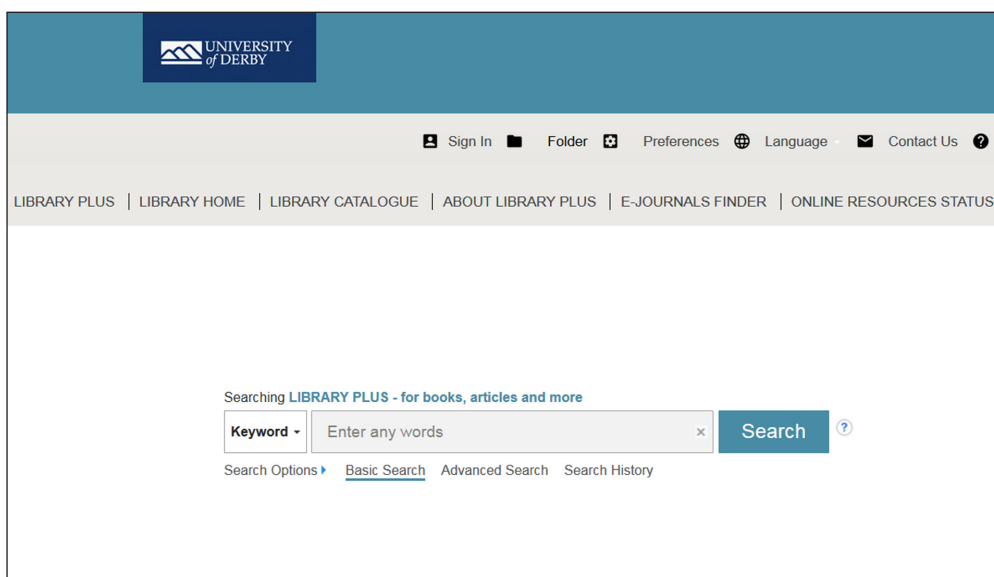


Figure 4. Basic Search homepage and search box following customization

A new addition is the 'search indicator' – a blue line that identifies when a user is in basic or advanced mode and switches between the two (Figure 5).

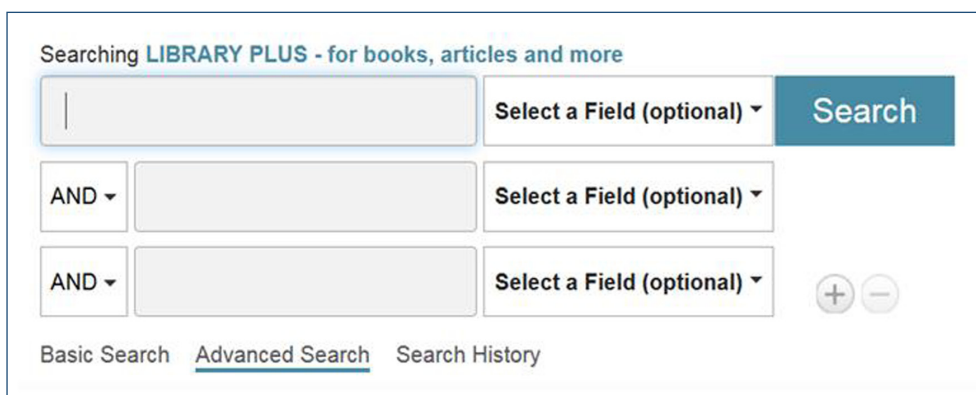


Figure 5. Advanced Search box with 'blue line' indicator

The banner (with links to different pages) remains in place at the top but the graphics are bolder and clearer than before. The new-style template continues into the search results page (Figure 6).

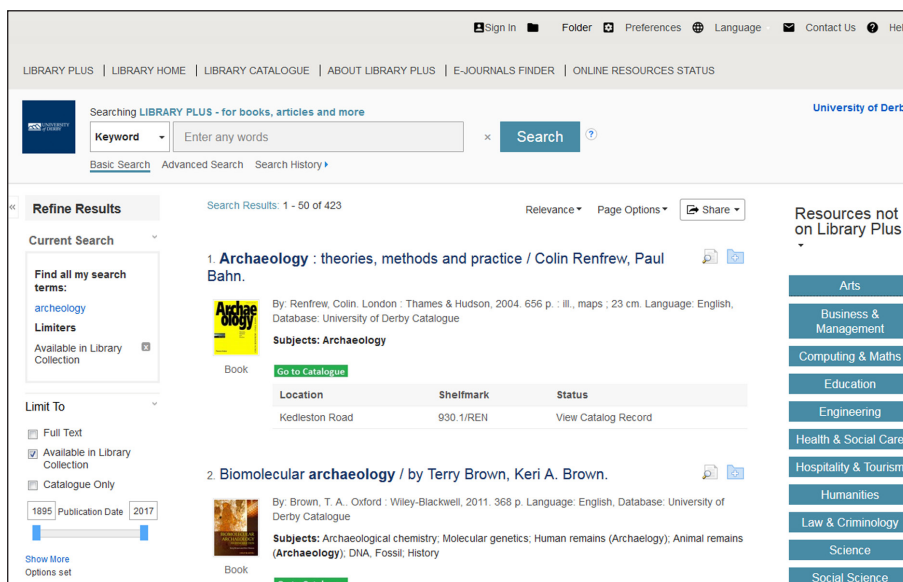


Figure 6. Basic Search results page

The second major innovation, on the right-hand side of the results, is a series of customizable apps or widgets grouped under the heading 'Resources not on Library Plus' (Figure 7). These icons are grouped by subject area and link to filtered pages from the Indexes & Databases list (part of the Library's LibGuides), either directly or by a drop-down menu (where the subject area is broader in scope) as shown in Figure 8.

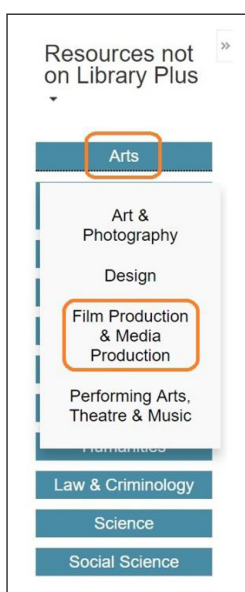


Figure 7. 'Resources not on Library Plus' apps

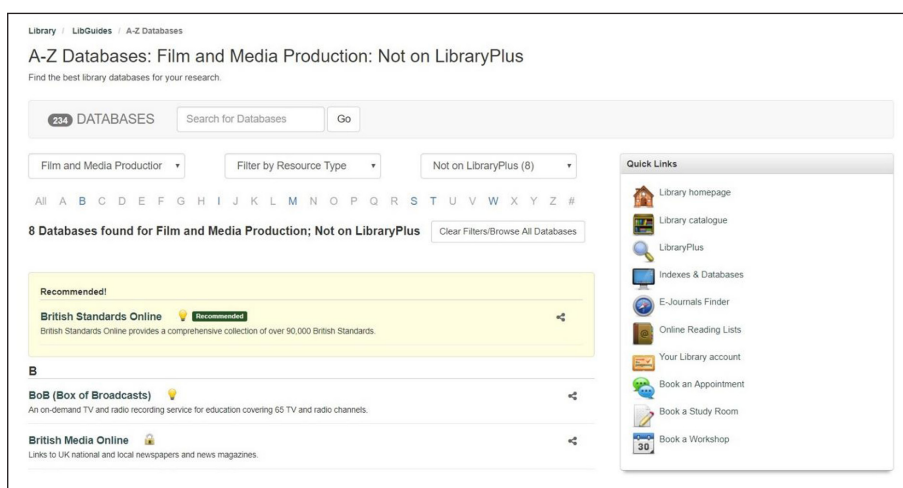


Figure 8. Film and Media Production resources 'Not on Library Plus'

6 Some providers will not enable their metadata to be sourced within Library Plus because of competitor and publishing restrictions. This causes frustrations for some users and can adversely affect the discovery experience. This is a common issue for academic libraries; for example, Koury and Brammer noted similar challenges with EDS at their institution,² and on a global level, Zhu and Kelly have reported on the challenges faced by vendors and librarians alike to resolve the gaps in content across different discovery services.³ With the creation of these icons, we were able to manage user expectations more effectively, allowing them to have access to these important databases while using Library Plus as their starting point for search and discovery of resources.

A third development was the introduction of a new icon linking directly to databases that only provide abstracts or non-full-text content (such as technical standards, conference proceedings, etc.). The new icon, 'View Abstract' is currently being rolled out on a limited basis and is only available through the advanced search mode (Figure 9).

'challenges faced by vendors and librarians alike to resolve the gaps in content'



Figure 9. 'View Abstract' icon in Advanced Search

As part of a continuous programme of improvement for its customers, EBSCO has rolled out some additional features. Auto Complete (also known as 'Popular Terms') and Auto Correct provide Google-style functionality while typing in search terms. A separate 'Publications' list is an example of the integration with E-Journals Finder, bringing back a list of relevant titles for the user while searching (Figure 10).

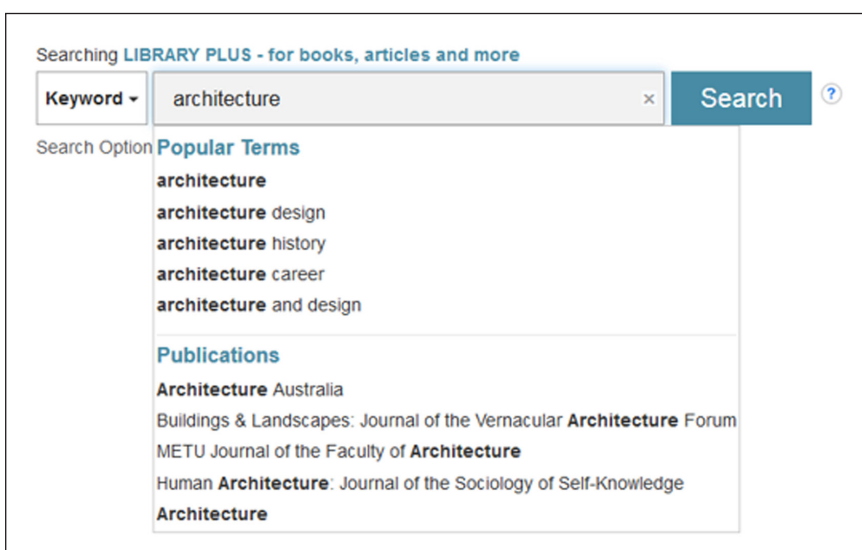


Figure 10. 'Popular Terms' and 'Publications'

Branding and promotion 2.0 – disseminating change

The impact of the 2.0 project necessitated a more consistent approach in how we branded and promoted Library Plus across our site libraries and the wider institution. Our central focus was a newly designed logo or 'tile', which had already been deployed as part of a

7 series within the University's student portal 'UDO' (a separate project co-ordinated by IT Services) and would already be familiar to students using the UDO mobile app. By using an established design recognized across the whole institution rather than creating separate 'library-only branding', we ensured a consistent approach and avoided different visual identities that could have caused confusion for users (Figure 11).

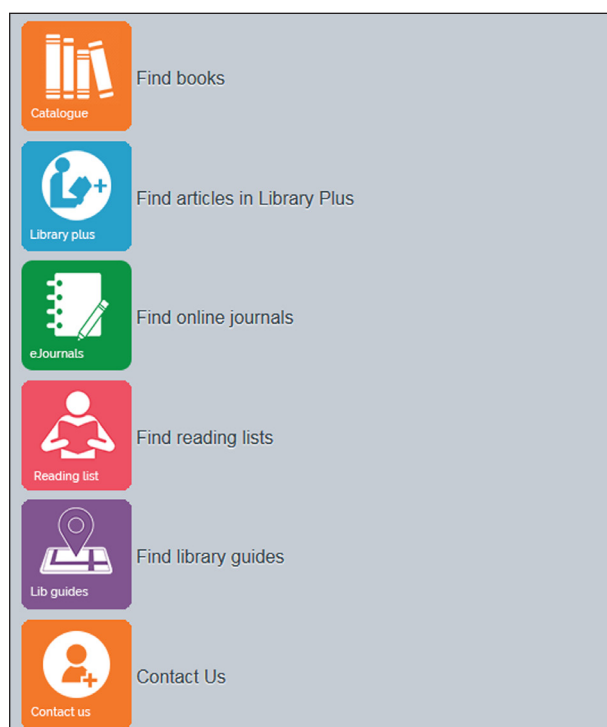


Figure 11. Library 'tiles' used within the UDO app

A promotional campaign was also important for raising awareness of the improvements and disseminating them to colleagues, academic staff and students. Advance notice of the changes (and any subsequent developments, including launch events) was achieved through e-mails to Colleges and departments, Library representation at College meetings by the Academic Services Team, the University's internal communications channels and the Library homepage. We also used the @DerbyLibraryUni Twitter account as a method of engagement,⁴ with timed tweets informing students of the new features and linking into themes based around the colours of the Library Plus icons (red, green and blue), shown in Figure 12.



Figure 12. Twitter promotion using the coloured icons

Engagement and outreach to staff and students was also an important component of the promotional campaign. The 2.0 project was officially launched in the third semester after Easter with a series of promotions across our sites. The improvements were demonstrated 'live' in the University Atrium, complete with a selection of Library Plus-themed sweets, badges and distinctive clothing to match the icons (Figure 13). The event was well received, with 41 visitors in total engaging with us during the day. Similar promotions were done at Britannia Mill Library and at the Markeaton Street campus (as part of a weekly Pop-Up

8 Library initiative). Awareness and training sessions for Library staff were also held at our Kedleston Road and Buxton campuses.



Figure 13. Twitter promotion for the Library Plus 2.0 launch day

Measuring the impact of 2.0

The Library continued to monitor usage for Library Plus in the months prior to and immediately after implementation. Typically, we report on four separate metrics: sessions (number of times a user logs into Library Plus), search clicks (number of searches), full text clicks (number of full-text articles accessed) and abstract views (number of abstracts viewed). A snapshot of usage data for Library Plus was captured for the period beginning March–August 2018. This was not intended to provide a full assessment (as it only covers the pre- and post-implementation periods), but it would show some initial indicators of impact resulting from the 2.0 project improvements. Tables 1–4 show data for each individual metric across March–August 2018, comparing usage against the same six-month period in 2017. The relevant increase/decrease in activity was recorded as a percentage.

There was a significant increase in usage during the period in each of our standard metrics. For sessions reported in May 2018, we observed an increase of 69% on the previous year (Table 1).

Sessions	March	April	May	June	July	August	Total
2018	76,498	82,425	65,749	33,769	29,377	18,852	306,670
2017	71,688	69,415	38,963	30,533	22,242	17,770	250,611
Approximate difference (in %)	7%	19%	69%	11%	32%	6%	22%

Table 1. Monthly Sessions usage in Library Plus (snap-shot taken between March–August 2018)

For search clicks, there was a 59% increase in May and a 39% increase in July, again on previous years (Table 2).

Search clicks	March	April	May	June	July	August	Total
2018	200,115	217,169	175,373	89,973	81,307	49,762	813,699
2017	191,413	180,744	110,099	79,244	58,488	47,492	667,480
Approximate difference (in %)	5%	20%	59%	14%	39%	5%	22%

Table 2. Monthly Search Clicks in Library Plus (snap-shot taken between March–August 2018)

For total full text views, we reported increases of 87% in May, 23% in June and 45% in July (Table 3).

Total full text clicks	March	April	May	June	July	August	Total
2018	22,957	25,276	20,188	9,333	9,381	5,246	92,381
2017	20,804	21,852	10,801	7,569	6,482	5,675	73,183
Approximate difference (in %)	10%	16%	87%	23%	45%	-8%	26%

Table 3. Monthly Total Full Text Clicks in Library Plus (snap-shot taken between March–August 2018)

Finally, the total number of abstract views reported significant increases of 33% in March, 45% in May and 204% in July (Table 4).

Total abstract views	March	April	May	June	July	August	Total
2018	108,847	100,856	77,810	39,579	90,905	21,934	439,931
2017	82,132	85,450	53,514	35,719	29,920	27,056	313,791
Approximate difference (in %)	33%	18%	45%	11%	204%	-19%	40%

Table 4. Monthly Abstract Views in Library Plus (snap-shot taken between March–August 2018)

When analysing the results, May and June were the months that showed the greatest increases. August is traditionally a quiet time of year and while session views and search clicks showed modest increases, full-text clicks and abstract views were reduced. These initial findings are encouraging and illustrate an increase in user engagement with Library Plus across all reported metrics. The Library's promotional activities may partially explain the increase, reinforcing the need for active and regular campaigns across the year (rather than one-off events). However, we would require at least 12 months' data in order to measure the effectiveness of the 2.0 project changes.

'initial findings are encouraging ... across all reported metrics'

Lessons learnt

With the new features in place for almost six months, it was time to take a step back, reflect upon what we had learnt from the project, what had worked for us and what we could have done differently.

Having a comprehensive project plan (incorporating design, testing, implementation and promotion stages) was crucial to the success of the project. In particular, the scale of the 2.0 project required a different approach to promotion using social media and internal communications in a way that had not been done before. While the Library has increased the profile of its official Twitter account with heavy promotion of the 2.0 project and other user services (most recently Online Reading Lists), there is less engagement in terms of numbers compared to other Twitter feeds associated with the University and the Union of Students (Derby's official student body). It is evident that engagement with social media is beneficial in the long term: examples of best practice are evident across other institutions⁵ and we need to follow their lead. There are opportunities to learn from internal and external partners in using social media to reach their target audiences and disseminate key messages, for example, by retweeting and sharing key information across Twitter feeds. We could also look at using other platforms for user engagement such as Instagram. Capturing feedback on systems performance will also be important and we will consider online polls to ask users about the improvements they would like to see (preferably, once a new idea has been officially launched).

Staff attendance at our promotional events was lower when compared to student engagement, although this can be partially explained by the regular communication facilitated by Subject Librarians at college and departmental level, for example, updating academics with new developments at College Quality Committees and Programme Committees to keep them in the loop. Some staff may also do their own independent research or teach information and research skills themselves, therefore not always necessitating a face-to-face visit within the Library space.

The importance of different Library teams working collaboratively to deliver service improvements and facilitate effective cross-team working cannot be underestimated.

Although the E-Resources Team were able to provide technical knowledge, contacts and led on the implementation, the Academic Services Team worked more closely with academics, and delivered over 1,200 sessions last year (including inductions, in-class sessions, workshops, appointments and drop-ins). Training on Library Plus was an integral part of many of these sessions. The Enquiries Team also brought a different perspective when dealing directly with students and resolving queries. Sharing knowledge across the teams helped develop an understanding of differing needs and will ultimately enable us to establish a better service.

From a technical perspective, the wider implementation of the 'View Abstract' icon beyond the initial trial has presented some challenges. Some databases still struggle in differentiating between full text and non-full text content in their metadata, resulting in a mismatch of icons to records (for example 'Get Full Text' icons being assigned to non-full text records). While some usability sessions were conducted prior to the 2.0 project, there might be some worth in undertaking further studies (preferably after 12 months' usage has been collated) and it would be useful to look at approaches undertaken by other universities, for example, using focused discussion groups to understand more about user experience.⁶

'Sharing knowledge across the teams ... will ultimately enable us to establish a better service'

Future recommendations – 3.0 and beyond

Identifying ideas and enhancements for the future is important in ensuring that our systems evolve and go beyond user expectations. The relaunch of the University website has already presented an opportunity to create a new Library Plus search app within the Library homepage. We have discussed with EBSCO the feasibility of creating an alerts app within the discovery set-up to inform users of systems failures or scheduled maintenance work. We have added a link to our Online Resources Status page at the top of the toolbar, but an integrated app updating in real time would be the next step forward (Figure 14). Further integration of communication and social media apps into the discovery interface will also be considered: Sprague Library's use of Twitter feeds within their EDS platform is another example of best practice.⁷

Linking and integration with shared systems within the Library remains a key priority. Currently we link to Library catalogue records (from Capita Prism) via the 'Go To Catalogue' icon and there may be scope to create or develop further icons in order to enhance the user experience. The 'Not Available In Library' icon could be expanded to show options for obtaining items outside the Library's collections, for example, inter-library loans sourced from the British Library. We could also investigate integrating our online reading lists software into the discovery interface via a separate 'Reading Lists' icon.

ONLINE RESOURCES STATUS Book your Open Day

Any of the Library E-resources which have scheduled downtime or problems with availability are listed below.

University online systems	All staff and students (on and offsite) may experience intermittent issues accessing all University online systems from 13/06/2018 at 11.00pm – 14/06/2018 at 6.00am due to essential maintenance work.
Dawsonera	We are currently experiencing intermittent problems with Dawsonera titles when someone tries to download. Either the download is slow (and depending on the browser you may not see any progress icon), or the download hangs and times out after several minutes. The problem has been reported to Dawsonera whose IT team is investigating further. Reading online should not be affected.

Ongoing

The Library apologises for any inconvenience.

Figure 14. 'Online Resources Status' section of Library web pages

Although not captured directly within the sessions, accessibility of e-resources from the perspective of students with disabilities is becoming a key issue for us (and across the HE sector). We will need to work closely with EBSCO and other suppliers to offer appropriate advice for using alternative formats and read-aloud software within Library Plus. Systems compatibility feeds into this discussion and how the Library adapts its existing systems to link with third-party applications, browsers, operating systems and mobile devices.

The 2.0 project is a significant step forward in the way that we use discovery systems at the University of Derby. With a mixture of new and innovative features and a co-ordinated promotion strategy, it is recognized as a key part of the Library's digital infrastructure. Going forward, our challenges will be to enhance our systems and engage with users to ensure continuous improvement and best practice. All of this will sit within the context of the University's Strategic Framework as we seek to deliver student-facing services and establish a digital culture. It is anticipated that discovery tools will continue to play a vital part in this process, delivering real impact for our users and empowering them to succeed in their studies.

'accessibility of e-resources from the perspective of students with disabilities is becoming a key issue'

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Abbreviations and Acronyms

A list of the abbreviations and acronyms used in this and other *Insights* articles can be accessed here – click on the URL below and then select the 'full list of industry A&As' link: <http://www.uksg.org/publications#aa>

Competing interests

The author has declared no competing interests.

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