IN Volving Users to Successfully Meet the Challenges of the Digital Library: A 30 Year Personal Reflection

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Challenges of the digital library conference: FGV, Rio de Janeiro, Brazil, 19th – 20th August 2014
Contents of presentation

• Relevance of User Experience (UX) and Evidence Based Librarianship (EBL) for meeting challenges of digital library

• Personal experience in addressing the challenges of the digital library


• Lessons learned: managing evaluation, collaboration, dissemination, pragmatism
Users Experience (UX) and the digital library

Every aspect of the user’s interaction with a product, service, or company that make up the user’s perceptions of the whole. (UX) design as a discipline is concerned with all the elements that together make up that interface, including layout, visual design, text, brand, sound, and interaction. (UX) works to coordinate these elements to allow for the best possible interaction by users. (Usability Book of knowledge, n.d.)

• UX must be integrated into all aspects of a library (Schmidt, 2011)

• No guarantee that the complex needs of digital library users may be the same as librarians perceive them to be

• Insight, understanding and awareness into users’ behaviour needed so relevant services can be provided
Evidence Based Librarianship (EBL) and the digital library

EBL “seeks to improve library practice by utilising the best available evidence in conjunction with a pragmatic perspective developed from working experiences in librarianship. The best available evidence might be produced from quantitative or qualitative research deigns” Eldredge (2002)

• First stage is crucial – identifying focussed, relevant significant and answerable practice based question
• Second stage – searching for data / evidence to answer question
• Third stage – evaluating the evidence / data and coming up with the answer
• In survey of US directors of libraries (499 response) – those confident of strategy to meet the changing needs of users were those who gathered evidence and had other forms of assessment (Long & Schonfeld 2014)
Personal experience of UX and EBL and the challenges of the digital library: work as a library practitioner

<table>
<thead>
<tr>
<th>Time and place of work</th>
<th>Level of digital library provision</th>
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</thead>
<tbody>
<tr>
<td>1977: Librarian, Highland Health Science Library, Inverness, Scotland</td>
<td>None apart from terminal available over 250 km away where requests could be made for online searches</td>
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</table>
| 2014: Head of Planning and Resources Loughborough University Library, England | • Providing over 37,000 e-journals  
• Library app  
• Access provided to over 150 databases  
• Over 200 pcs in Library  
• Online resource discovery tool  
• Library web pages, YouTube, Facebook, Tweet, blog used to communicate with users  
• Extensive digital literacy programmes  
• Institutional repository with over 12,000 full text items  
• Around 10,000 e-books |

1998 How are UK academic staff and researchers using digital library services?

2007 Do academic staff just need access to e-journals?

2013 How are academics using digital library services?

2014 What bibliographical software do researchers prefer to use?
Personal experience of UX and EBL and the challenges of the digital library: IMPEL2 project

- Was Co-Director of the IMPEL2 (Impact on People of Electronic Libraries). IMPEL2 as 1 of 50 projects that made up UK’s electronic libraries (eLib) programme.

- Overall focus was the human and organisational aspects of the digital library. Main intention was to be "basis for more informed decision-making and provide a clearer picture of the role of academic libraries…" (Edwards, Day & Walton, 1998).

- Included 5 separate projects including one which was one of first to explore the digital library users’ experiences (Jackson, Bartle & Walton 1999).
Example 1: 1998: how do academic staff use digital resources?

- Purpose was to explore how university academics use electronic resources
- Data gathered from 55 semi-structured interviews, postal survey of 4000 UK academics across 17 universities and 11 subject areas with 1,340 responses (33.5% response rate)
- ‘Digital resources’ was interpreted as CD-ROMS, Internet, OPAC, BIDS (electronic databases) E journals and e-mail

Frequency of use of digital information by academics in 1998

- Use varies by type of resource
- Compared to 2014, small use of Internet
- 40% never used e-journals

<table>
<thead>
<tr>
<th>Source</th>
<th>0 times</th>
<th>1–10 times</th>
<th>1–25 times</th>
<th>26–50 times</th>
<th>51–100 times</th>
<th>101–200 times</th>
<th>201–300 times</th>
<th>300+ times</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD-ROMs</td>
<td>15.1</td>
<td>37.2</td>
<td>18.1</td>
<td>12.4</td>
<td>8.4</td>
<td>4.6</td>
<td>1.7</td>
<td>2.4</td>
</tr>
<tr>
<td>Internet</td>
<td>9.4</td>
<td>16.8</td>
<td>13.8</td>
<td>14.3</td>
<td>13.9</td>
<td>14.4</td>
<td>6.7</td>
<td>10.6</td>
</tr>
<tr>
<td>OPAC</td>
<td>36.0</td>
<td>12.9</td>
<td>10.4</td>
<td>16.4</td>
<td>9.8</td>
<td>7.6</td>
<td>4.1</td>
<td>2.9</td>
</tr>
<tr>
<td>BIDS</td>
<td>39.1</td>
<td>24.1</td>
<td>16.4</td>
<td>10.2</td>
<td>5.5</td>
<td>3.2</td>
<td>0.6</td>
<td>0.9</td>
</tr>
<tr>
<td>Elec. journals</td>
<td>41.3</td>
<td>28.2</td>
<td>12.5</td>
<td>8.0</td>
<td>4.4</td>
<td>2.2</td>
<td>1.3</td>
<td>2.1</td>
</tr>
<tr>
<td>e-mail</td>
<td>6.0</td>
<td>4.1</td>
<td>2.7</td>
<td>3.2</td>
<td>6.0</td>
<td>10.4</td>
<td>14.4</td>
<td>54.2</td>
</tr>
</tbody>
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Academics’ access to networked computer for accessing digital resources in 1998

- 16% academics did not have access to a networked pc at work
- 4% had no access at all to networked pc
- Less than 1% had modem access at home to networked pc

Table 4. Access to a networked computer

<table>
<thead>
<tr>
<th>Access via</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desk-Top</td>
<td>1129</td>
<td>84.3%</td>
</tr>
<tr>
<td>Shared Office</td>
<td>155</td>
<td>11.6%</td>
</tr>
<tr>
<td>Home (via a Modem)</td>
<td>8</td>
<td>0.6%</td>
</tr>
<tr>
<td>No Access</td>
<td>48</td>
<td>3.6%</td>
</tr>
</tbody>
</table>
Whether academics refer to electronic information sources more than print resources

Variable depending on subject: e.g. computing strongly preferred electronic, humanities/English strongly prefer paper
Example 2: 2007: do academic staff just need e-journals?

  http://jodi.tamu.edu/Articles/v01/i03/


- On-line questionnaire was used to gather the e-journal data for this study covering five broad areas of use:
  - frequency of use, importance attached, barriers, individuals’ location when accessing e-journals, training needs.

There were 225 completed responses (15% response rate)
Brown, J, Lund, P and Walton, G (2007), *Use of e-journals by academic staff and researchers at Loughborough University*. Loughborough University Library. Available from:
http://www.lboro.ac.uk/media/wwwlboroacuk/content/library/downloads/surveyresults/ejournal_survey.pdf
84% viewing them either daily or weekly.

“E journals have transformed my life and I can only encourage even greater investment in a wider range of titles”

“Personally, I would happily have no print versions at all, if I could have more papers available online”
Example 4: 2014: how do academic staff use digital resources?

Interviews with 15 academic staff about how they use University’s digital library services because in 2012 found that -

<table>
<thead>
<tr>
<th>Academic Services</th>
<th>Importance Levels</th>
<th>Satisfaction Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-journals</td>
<td>1st (2012)</td>
<td>3rd (2009)</td>
</tr>
</tbody>
</table>
24% academic staff use digital Library daily

Academic staff using Library less (i.e. 4% never visited Library in 2012)
Actions resulting from interviews

**Resource discovery tool:** introduced additional functionality including browse searching, improvements to the display of variant editions of works, the exporting of records to bibliographic management software, and improvements to navigation

**e-books:** participated in a couple of national/international purchasing models projects, reviewed e-book suppliers and trialled new supplier

**electronic databases** reviewing the visibility of databases to promote usage and gave feedback to publishers on the structure and complexity of their interfaces.

Do researchers prefer RefWorks, Mendeley or EndNote?

(224 responses so far: data collection ends 31st August 2014)

Mendeley seems an easy and practical tool for my research area. I believe that the university would benefit from this service and they could provide more storage (different plan for Mendeley) for the researchers bibliography.
Reflections on using the UX and EBL in meeting the challenges of the digital library
Managing the digital library UX evaluation

• Invest time and money into coming up with the right question and how to collect right data

• Make data collection ongoing so it is available when needed (*Just In Time* is not good enough)

• Have right skills in library workforce for data collection and analysis

• Need for project management with timescale and tasks identified

• Have process in place to translate findings into recommendations and then actions.

• Ensure progress on recommendations is monitored and eventual success levels evaluated
Reflections on using the UX and EBL in meeting the challenges of the digital library

Benefits of collaboration

• Benchmarking comparisons can be completed with other digital library providers at regional, national and international levels

• Staff development opportunity is provided if a library team is set up to oversee the work.

• Partnerships with users themselves (such as students, researchers and academics) are ideal opportunities to capture the UX

• But…collaboration increases the complexity and also makes coming up with common approach challenging
Reflections on using the UX and EBL in meeting the challenges of the digital library

Importance of dissemination

• Need to have culture of dissemination otherwise EBL is very difficult

• Wider dissemination: time consuming and challenging vs. career development opportunities, skills acquisition and feelings of pride/achievement

• Social media is ideal for communicating key findings, outcomes and actions to the wider world

• But also need well-structured and presented report (with concise executive summary)

• Present their work at a suitable conference and also seek to publish in professional and/or research journal.
Reflections on using the UX and EBL in meeting the challenges of the digital library

Importance of pragmatism

• Validity and reliability of the evidence used can be lead to major disagreements between practitioners and academic researchers.

• But…delivering digital library services alone is time consuming, never mind thorough UX evaluations.

• Unless dedicated funding, methods have to be chosen which are relatively quick to both administer and analyse.

• Interviews and observation methodologies are effective but they are costly in both data collection and analysis.

• Need effective approaches to gather both qualitative and quantitative data which are not labour intensive.
15 years ago, IMPEL2 study explored UX in digital libraries. Some things have changed since then:

In 1998, over 40% library users never accessed e-journals and only 50% regularly checked e-mails

Some things have not changed:
In 1998, peoples indicated that they were concerned with risk of plagiarism, the quality and quantity (too much) of information available, speed of access, commercialization of the Internet and inadequate searching techniques

The challenge for digital library providers is to know the user

“We must discover what our customers want and build on that rather than attempting to lead them to towards a future which they think is irrelevant” (Law 2010)
Acknowledgements

Slide 1: Digital library loans get government backing Guardian 23rd March 2013


Slide 3: the future, whose to say where (and in what reality) we will search for our information? Photographer: HacksHaven
Photographer URL: http://www.flickr.com/photos/hackshaven/with/4832309018/
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Permission: Creative Commons Attribution-NonCommercial-ShareAlike 2.0 Generic

Slide 4: Rooster GNN9th March 2014 Digital Repositories and the Fight to Make Research Accessible

Slide 18: Nation's first all-digital, bookless library opens in Texas 15th September 2013

Slide 20: Northeast India's first online digital library opened 29th June 2013