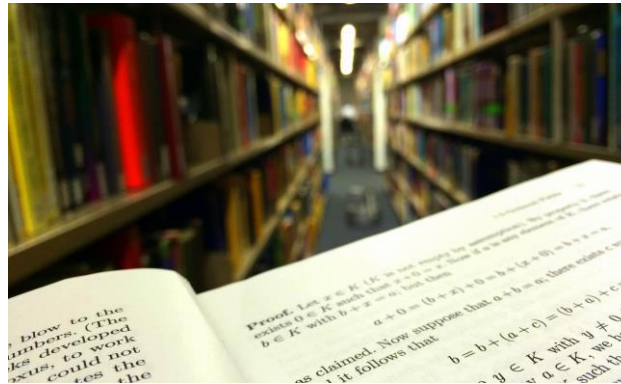


Dr Graham Walton, Head of Planning and Resources, Library and Honorary
Research Fellow, Centre for Information Management, Loughborough
University, UK
j.g.walton@lboro.ac.uk



Challenges of the digital library conference: FGV, Rio de Janeiro, Brazil, 21st August 2014

Should the library give up **all** library space and only supply digital information?

BiblioTech in Texas did: USA's first bookless public library opened in 2013



Should the library give up **most** library space and only supply mostly digital information?

Strathclyde University (Scotland) did: Found were adding 1 kilometre shelving per year and had high heating + lighting costs. Gave up 50% library space to academic departments (Law 2010)



Should the library develop its digital library at the same time as developing its physical space?

Loughborough University Library (UK) did: changed its space: 2005, 2007, 2010 and 2014



Loughborough University Library

Loughborough University



Contents of presentation

- How technology has influenced physical library space over the years
- Library as 'place'
- Library space and strategic support for learning and teaching
- Library space and strategic support for research
- Case study in developing physical space: making the case and evaluation
- Challenges of the physical library and the digital library: what are the questions?

How technology has changed library physical space

Time period	Technology applied within library setting	Impact on space
Up until late 1950s	No technology applied apart from minimal experimental uses.	Library physical space very little changed
1960 - 1970	Microform	Microfilm and micro format readers
1970- 1980	Online databases for Library staff to use for cataloguing.	Library staff space needed to access databases (shared)/ more micro formats
1980 - 1990	Online catalogues appear/ Free standing CD-ROMs allowed end user searching for the first/ Microcomputers make an impact	Card catalogue ditched/ some staff have PCs/ Free standing dedicated CD-ROM workstations
1990 - 2000	Internet and World Wide Web invented and applied. Modems superseded by fast connection.	Fast connection speeds gives remote access to large files/ Print indexes and abstracts discarded as delivered online/ No longer necessary to come into the Library to access resources
2000 - 2010	Wireless access /Increased digitization of journals and books/ Google, Amazon etc. offer alternative services/ Laptops become more powerful	More space available as reference collections no longer needed/ e-journals very successful so paper journals discarded/ E books allow space to be freed up/ Information / learning commons
2010 -	Increased capabilities of hand held devices	Library services no longer need as many front line desks

Library as 'place': is the library still the centre of the university?

- Library main place on campus where intellectual community found. Integrate ICT to become centre for critical, reflective and collaborative thinking (Freeman, 2005)
- Library brand/ symbol: library seen as more than building to store books. *'is one of those places where...it kind of has that gravitas, that identity. Usually it sends a message of somewhere secure to go ...to actually study'*.
-
- Third space: area where social gatherings take place as well as the social gatherings that occur in the first space (home) and the second space (work). It is typified by accessibility, purposefulness and its capacity for informal gatherings (Oldenburg)

Pressure for new library space to be different to 'old' library space

- *'Major purpose of an academic library is to support the ...mission of its parent institution'* (Moran 1992, p. 1157).
- *'It is by realigning libraries with institutional missions that the paradigm for the future will be found'* (Bennett 2005, p. 23)
- Choice is to *'completely re-think how we design and configure our Library or we can accept where we are and build new old libraries'* (Watson 2010, p. 49)
- *'Library must be viewed with a new perspective and understanding if it is to fulfil its potential...in moving with that institution into the future'* (Freeman 2005)

Changes in learning and teaching that impact on library physical space

Good teaching **was** about passing of knowledge by teacher but been replaced with the student centred approach where the emphasis is on construction of knowledge through shared situations

- Knowledge-driven economy has ensured a demand for more qualified, highly skilled, creative and flexible workforce
- Skills in knowledge economy replaced the emphasis on factual knowledge by emphasis on critical thinking and complex problem solving
- Three key learning styles: learning through reflection, learning by doing and learning through conversation (Bransford et al 2000)
- Appreciated that there are variations in student learning styles with individual preferences for learning which has resulted in a move towards student centred teaching.

Students expectations about Information and Communication Technologies in their learning (Beetham & White 2013)

- robust and ubiquitous Wi-Fi across campus locations
- access to institutional devices alongside their own, especially desktop computers and printers
- the capacity easily to connect their own devices to the university network and to have (e.g. helpdesk) support in using their own devices and services on campus
- access to a range of learning spaces with robust Wi-Fi, storage facilities, desk space, power sockets

Different range of learning spaces identified for learning and teaching (AMA 2006)

Group teaching/ learning space: traditional format of lecture rooms being challenged. Learners to see each other and have learner-centred tables to encourage group work. Equipment to film proceedings

Peer-to-peer and social learning spaces: traditionally seminar rooms but now more informal gathering spaces (in cafes, libraries, group room, shared access computer rooms). Sophisticated hardware and software so that exceeds individually owned computers. Range of desks and chairs to cope with short and long stays

Learning clusters: groups of learning spaces designed for different learning modes including interactive and group learning spaces, social learning spaces

Individual study spaces: typically in library areas, computer rooms and study rooms to support active solo study and writing/ creation. More ICT introduced with better ergonomic and environmental conditions. Power and data are essential. Quiet acoustics and good air quality.

Changes in research that impact on library physical space

“Academic libraries can retain their position as critical partners in the research enterprise by anticipating, understanding and addressing the challenges and opportunities inherent in new research practice” (Bourg, Coleman and Erway 2009)

- Open access publishing
- Cloud computing
- Online social networking
- Cross disciplinary research teams
- Policy developments and funding body mandates
- Increases in scholarly outputs in many fields
- Ability to share large amounts of research data
- Rise of digital humanities (where computing technologies used in kinds of questions that are traditionally humanities)

Researchers and library physical space: 1

Various studies of researchers' use of library space been completed (Carroll 2011; Beard & Bawden 2012, Gannon-Leary, Bent & Webb 2008;Corrall 2014)

- Nature of their work means that they can feel isolated and are increasingly requesting space to support interaction (generation and sharing of new and creative ideas)
- They still value private study environments but aspire to blended and flexible spaces that can be adapted to their needs. A single convenient location that offers different (and conflicting?) requirements is something that would be valued.
- Library space is less valid for postgraduates as they have their own space
- Silent study space is the most important for them compared to group and communal areas

Researchers and library physical space:

2

- Postgraduates would like the library to provide space that has excellent computing facilities, adequate silent space and group areas that are separate from main spaces
- Doctoral and post-doctoral staff/ early career researchers who may not have their own offices are key audiences for library space
- Facilities are typically access controlled to exclude undergraduates with the space being used to support interdisciplinary data intensive research
- Services are offered in partnership with other university services including grant writing, research conduct, copyright and open access publishing.

What do the changes in learning teaching and research mean for library physical space (based on Freeman 2005)?

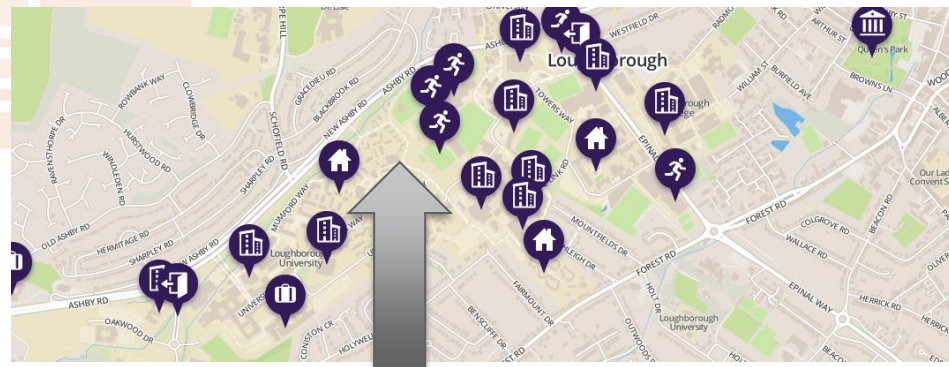
- IT becomes the catalyst that transforms the library into a more vital and critical intellectual centre.
- IT is a utility like light and heating
- Library strength is to combine new and emerging IT with traditional knowledge in a user focused, service rich environment
- Library space must be flexible, accommodate evolving IT and usage as well as become a lab for new ways of teaching, learning and research
- The premise should be 24 hours access, with critical services and technology provided and located when and where they are needed'
- The Library must include flexible spaces that 'learn' as well as traditional reading silent rooms that inspire scholarship

Loughborough University Library



Loughborough University

- Top 15 UK university
- Single campus 162 hectares
- Research intensive
- 15000 students



University Library

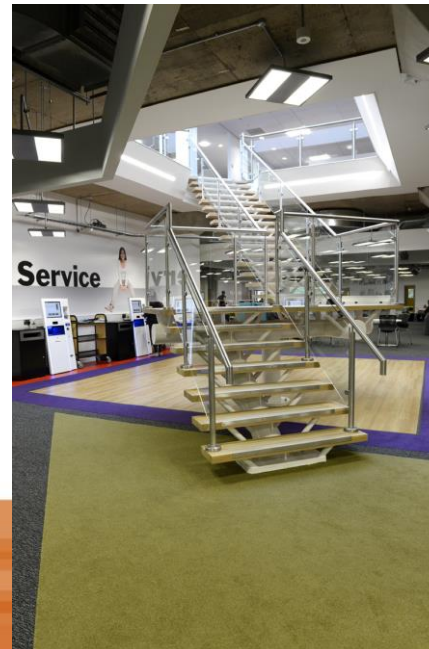
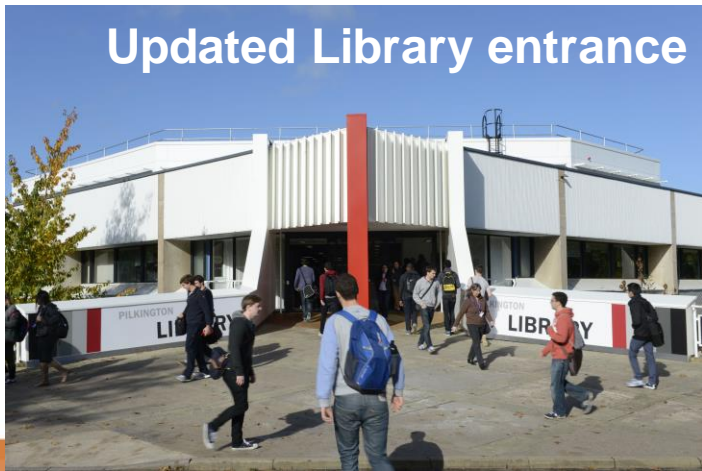
- 4 floors, 9161 sq m.
- 1375 study spaces
- 500,000 books
- 85 staff

University Library

Loughborough University Library invests extensively in digital library provision: £2,100,000 (\$3,504,879) in 2013/ 2014

- Provides over 37,000 e-journals
- Library app developed to allow mobile access to services
- Access provided to over 150 electronic databases
- Library Online Public Access Catalogue replaced by resource discovery tool
- Around 10,000 e-books
- Library web pages, Facebook, Tweet, blog used to communicate and market services to users
- Extensive and detailed digital literacy programmes delivered to students
- Institutional repository overseen and managed with over 12,000 full text

In 2013, £4.8 million (\$8,066,773) invested in refurbishing Loughborough University Library building



University Library



**Different spaces for
informal learning and
accessing technology**



Group study space to allow students to use University and own devices



Traditional Library spaces maintained



Persuading University to release funding for physical space in the digital age

- Need to produce strong business case to show to university that would be Return on Investment
- Economic recession where expenditure continually being challenged and reduced
- Question about need for physical library in context of digital library

Providing evidence that the UX would be considerably improved if the building was refurbished

Library users are dissatisfied with the number, range and quality of the study spaces provided

Students experience difficulties in accessing a networked PC in the Library

Library building space attracted negative comments from its users

In terms of study spaces per student, Loughborough University Library compares very poorly with competitors

Library has increased its study spaces as much as it can, there are no further options

When selecting a university, prospective students and their parent increasingly see the provision of a spacious, modern university library as a key quality indicator

The Library building is heavily used and the level of use is increasing annually

Researchers and postgraduates have identified the need for an effective silence space

The Library has a very high profile as most students use the building

Evaluation of learning space through ethnography



Researcher spent 40 hours undertaking non-participant observation in Social Learning Space

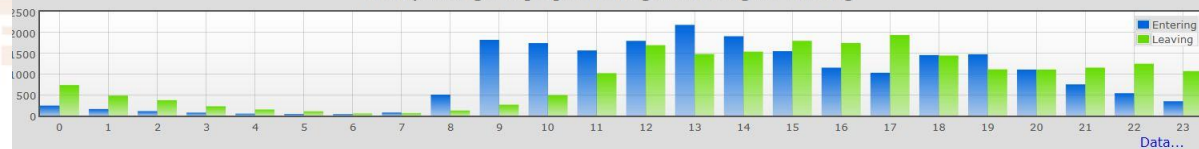
Eight broad themes were identified:

- collaborative study
- individual study
- intrusions and interruptions;
- SLS as a social space
- SLS as a public/private space
- use of technology
- Diversity
- Library staff/Library materials

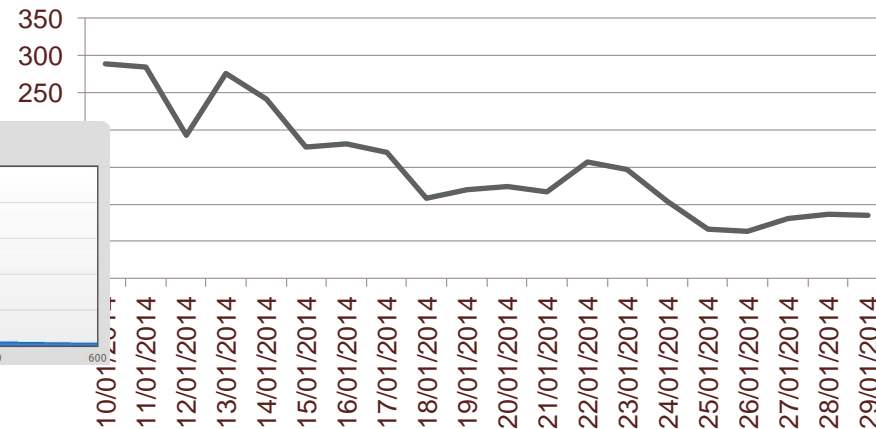
[http://ukanthrolib.wordpress.com/.](http://ukanthrolib.wordpress.com/)

Evaluation using metrics from controlled access

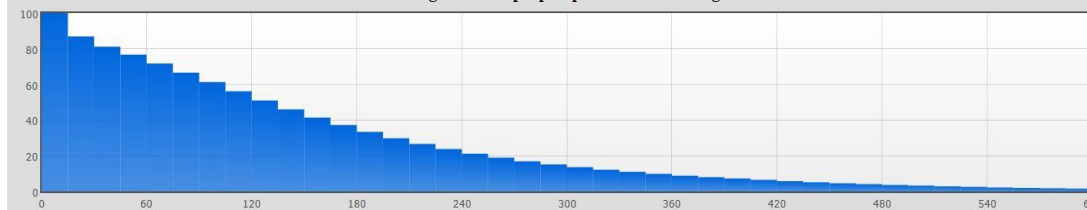
Hourly averages of people entering and leaving the building



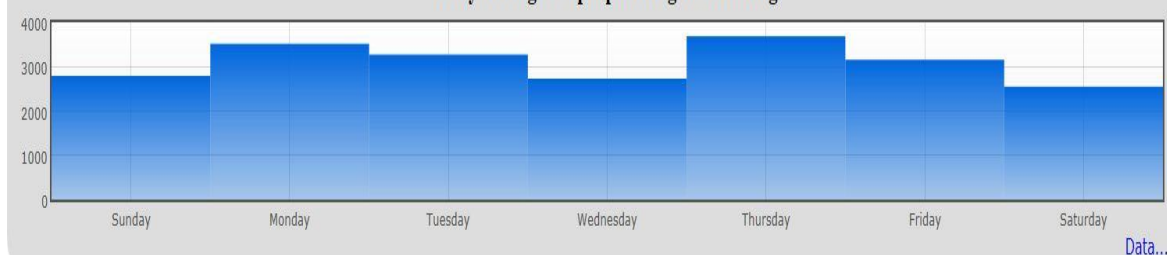
Number of students in Library at 2.00 a.m.



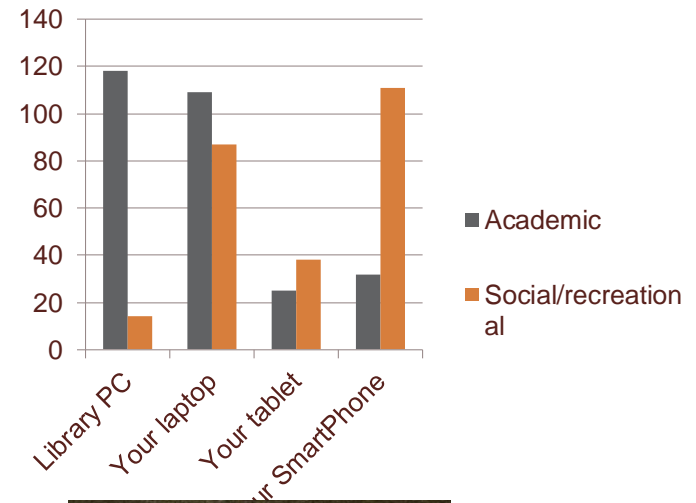
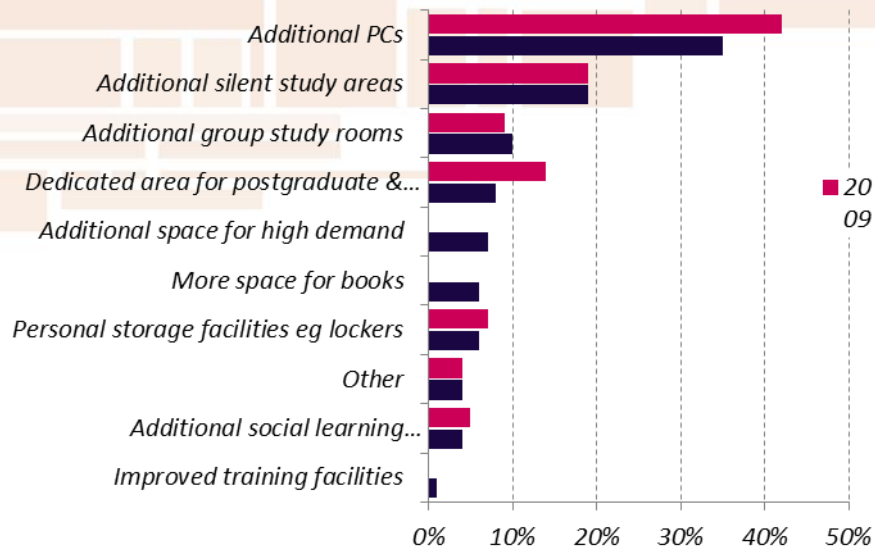
Length of time people spend in the building



Daily averages of people using the building



Evaluation using surveys



What do you like about the Library's SLS?:: Open and spacious./ / Open plan layout/ There is a lot of space available to work. / Open and plenty of space/ Open and plenty of space/ Spacious group study rooms/ Big space /Its spacious Spacious./ Spacious/ amount of personal space/ The open space/ amount of workspace/ Open plan – feels more spacious/ Nice open space/ open space/ Spacious/ More space to work./ Spacious/ Lots more space/ Good work space./Space capacity /Adds additional working space. /Spacious /More workspace. /More reading space /



Lessons learned in evaluating physical space

- Has to be done systematically and regularly
- Value in using range of approaches for richness and triangulation
- External evaluations are particularly useful
- Metrics only give part of picture
- Have to be practical in approach



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Loughborough Uni PR @lborouniPR · 16m

92% of students satisfied with learning resources @lborouniversity compared with 85% nationally #NationalStudentSurvey #WhyLoughborough

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What are the questions about physical space to be answered the challenges of the digital libraries?

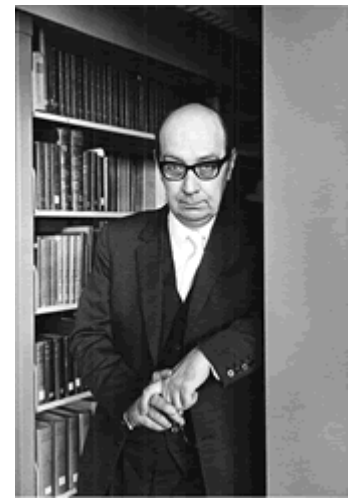
‘We have to work with uncertainty and complexity and chart a course into our digital future which is appropriate for our own institution and for the mission it seeks to achieve’

(Lynne Brindley, formerly Librarian, British Library)

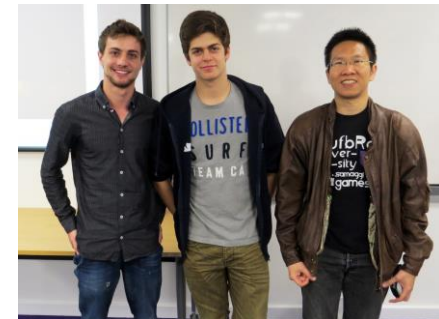
- What services and facilities should be offered in libraries?
- Should there be controlled access to library space?
- Should user groups like researchers/ academics have their own dedicated library space?
- Will the library manage its own space or will it become a joint partnership with others?
- How should staffing be provided in the library space?
- Should certain activities be in the library or elsewhere?

*By day, a lifted study-storehouse; night
Converts it to a flattened cube of light.
Whichever's shown, the symbol is the same:
Knowledge; a University; a name."*

Philip Larkin, Librarian, University of Hull
Collected Poems (1988)



Winning picture in competition for
Loughborough University Library Facebook
welcome page



Felipe Weigel, Erasmus Student
Brazil (centre above) (2014)

Acknowledgements

Slide 2: This Librarian Is Not Impressed With Your Digital, No-Books Library Next City BiblioTech, the nation's first bookless public library, opened last year in Texas 8th August 2014

<http://nextcity.org/daily/entry/computers-libraries-no-book-libraries-ebooks>

Slide 3: Strathclyde University Library Library Thing

<http://www.librarything.com/venue/21293/Jordanhill-Library-University-of-Strathclyde>

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