

Title: Library Spaces – New Theatres of Learning: A Case Study

Name: Heather Todd

Institution, Town, Country: University of Queensland Library, Brisbane, Queensland, Australia

Email: h.todd@library.uq.edu.au

Aim

This paper will report on the findings of surveys following the refurbishment of a large branch library at The University of Queensland Library. It will also touch on some of the services the Library has implemented that embrace Web 2.0 technology paralleling the physical changes to provide an enhanced library student experience.

Libraries used to be designed for librarians – keepers of the knowledge. The interior and exterior design was collection centric. To access information you had to enter an imposing building and seek assistance from formidable library staff behind high desks. Many library spaces have changed dramatically over the last 10 years. They have moved from what has been called generation one (storehouses of information) to generation four (connected learning spaces). Library spaces are transforming to cater for both the social and learning needs of users. Libraries now include cafés, a mix of individual, group and casual seating; have wireless access, computer zones, interactive display areas, multimedia booths, laptop powered lockers.... Some even have gardens! Different personality types are also catered for – as are the different learning styles. There are secluded places for the introvert, visually connected spaces for the voyeur and open performance places for the extrovert. These spaces create theatres for the increasing diverse needs of users.

The University of Queensland Library has embarked on a journey to transform all of its 14 branches into modern day libraries. The recent refurbishment and extension of the Biological Sciences Library (BSL) involved taking a building that was fortress like in its appearance (exterior and interior) and opening it up to provide a state-of-the-art learning space catering for both different learning styles and personality types. The refurbished library saw a huge increase in usage from students in a range of discipline areas which prompted the Library to find out how the building was used and what students liked and didn't like about the new facility.

Setting the scene

The University of Queensland is a large comprehensive research intensive university ranked in the top three in Australia. It has invested a great deal into its teaching and learning programs which have resulted in achieving the highest number of national teaching awards of any Australian university in 2007. The University has recognized that the Library has a vital part to play in its provision of learning spaces and has

demonstrated this in its support of the Library’s refurbishment program as part of the overall provision of high quality learning spaces.

Teaching, information and learning are frequently problem-based and related to resource discovery making computer access an essential tool. Teaching and learning practices are becoming increasingly flexible and now include online and interactive activities. This has resulted in changes in students’ attendance at classes, their interaction with academics, collaboration with peers as well as their access and use of learning and information resources

The focus of the library changed from being collection centric to being focused on service and enhancing the experience of the user. The expansion of new technologies and the growth of electronic resources have not diminished the importance of attractive and comfortable physical facilities to support teaching and learning. ‘*Well designed learning spaces have a motivational effect*’¹

The University of Queensland Library is the largest academic library in Queensland and provides services through 14 branch libraries. Each library was purpose built to hold the collection and could all be described as a first generation library – that is one that was collection centric and for quiet study. From the mid nineties the UQ Library has undertaken a refurbishment program to transform its libraries into modern learning spaces that support current teaching and learning practices. Below is a brief description of how the branch libraries have evolved.

Evolution of Library Spaces²

Generation	Defining characteristics	UQ Library example
1 st	<i>Collection centric</i> Books tacks, computers, study cubicles	All branch libraries prior to mid 1990’s
2 nd	<i>Client centric</i> Service focus; helping users to locate and access information	Refurbished Physical Sciences and Engineering Library (1997), Social Sciences and Humanities Library (1998), Law Library (1999)
3 rd	<i>Experience centric</i> Seeking educational impact; a choice of study experience to enable engagement with information; interaction with information of all types- printed,	New Ipswich Library (2003) that brought together the Library, Student Centre, Student Support Services and other support services.

¹ “Designing spaces for effective learning: a guide to 21st century learning space design” JISC Report p4 http://www.jisc.ac.uk/uploaded_documents/JISClearningspaces.pdf

² “Designing Next Generation Places of Learning: Collaboration at the pedagogy-Space-technology Nexus” Proposal to the Carrick Institute for Learning and Teaching in Higher Education, 2006 p 5

	digital, moving media and significantly other people	
4 th	<p><i>Connected Learning Experiences</i></p> <p>Creating spaces based on pedagogy at a whole of school or campus level as a learning environment; distinctions between libraries and other spaces on campus become blurred; boundaries become permeable</p>	<p>Refurbishment of the Biological Sciences Library (2006)</p> <p>This involved taking a building whose very appearance was that of a knowledge fortress and opening it up (in many senses) for ease of access and to enable collaboration and learning and connecting it to other aspects of learning and campus life</p>

Today's library user is sophisticated and media-driven. 'Just-for-you' and 'Just-in-time' does not only apply to the commercial sector and are now used by libraries as a means of focusing their services. The UQ Library has used analogies of the food service industry to describe how students access its services – eat-in, take-away or order-in. As with other libraries the UQ Library has seen its usage change with academic staff and researchers favoring 'order-in' from their home, laboratory or office while undergraduates tend to use the physical library. Some students choose to 'eat-in' working on campus individually or with friends, some come the library as an alternative to working at home, some choose just to use the facilities, bring in their laptop and 'order-in' using the library website to access relevant information. Retail industry techniques that focus on customer service have also been incorporated into UQ library designs including display areas, comfortable seating areas and café areas. Designs have also taken account of relevant legislation such as the access required for physically disabled visitors. The futurist, Thomas Frey, of the DaVinci Institute who has put forward 10 trends for the next generation library argues that libraries *need to be designed to accommodate the changing needs of its constituency*³

The recent refurbishment and extension of the Biological Sciences Library (BSL) provided an opportunity to build upon designs and some lessons learnt from previous renovations and incorporate some new features. The Library was aware that today's students have a lot of demands on their time, spend less time on campus, are IT savvy and still like to work and socialize with their peers. It was therefore important to create a range of informal spaces that allowed them to work in environments that suited their lifestyles and personal preferences, thereby facilitating learning. The focus was also on comfort, convenience and importantly, that students take ownership of the spaces by feeling that the spaces were designed and built for them. *"Environments that elicit positive emotional responses may lead not only to enhanced learning but also a powerful, emotional attachment to that space. It may become a place where students love to learn, a place they seek out, when they wish to learn, and a place they remember fondly when they reflect on their learning experiences"*⁴

³Frey, Thomas, "The future of Libraries: Beginning the Great Transformation" available at <http://www.davinciinstitute.com/page.php?ID=120>

⁴Oblinger, DG, editor. "Learning Spaces" Educause 2006, p 6.2. Available from <http://www-cdn.educause.edu/ir/library/pdf/PUB7102.pdf>

A vital element of the refurbishment plan was to work with staff from the university and architects that shared the Library's vision. The refurbishment also had another element – the building occupies a prominent place on campus and is one of the first buildings seen by visitors as it adjacent to the bus interchange, taxi rank as well as being very close to a major research facility and the main administration buildings. It was therefore important that the external appearance of the building be changed from an unwelcoming exterior to a distinctive and attractive appearance. This was achieved in-part by securing funding from the University to incorporate the surrounding areas into the Campus Enhancement Plan thereby ensuring that the physical approach to the Library was part of the overall plan for the campus.

As part of the tender process each shortlisted architectural firm was asked to make a presentation on how they could add value to the Library by interpreting its vision into reality. Following this process Wilson Architects was appointed. They had worked with both the Library and the University on a number of projects and had experience in transforming and creating innovative learning spaces. Their design of the Ipswich Library building which opened in 2003 brought together the Library, AskI.T. (student computing help service), Student Centre, Student Support Services, Cafe 8, Student Union, and Health Services in a setting which included a stream running through a central garden, spaces for multiple learning styles, graduate centre and spaces for group and individual work. The building has won many awards, including the 2003 Australian Library and Information Association (ALIA) Excellence Award for Building Design and Service Delivery and the 2004 Australian Timber Design Award.

Torin Monahan uses 'built pedagogy' to refer to '*architectural embodiments of educational philosophies*'⁵ - the way in which space is designed to shape the learning that happens in that space. Just as different functional spaces need to be provided in libraries so do spaces that suit different personality types as these also have an impact on how effective learning can be. Ainslie Ellis has explored how the online learning environment complements the physical learning environment.⁶ She has presented case studies based on the Myers Briggs Type Inventory (MBTI) that explored how students prefer to connect to the outer world and describing their physical learning environment. '*Extraverts are very much aware of their physical surroundings and like them to be comfortable with sense of space and airiness, while judging types need structure to their environment..... Introverted types need individual personal space for effective learning.*'⁷ Study spaces at UQ branch libraries have been created to cater for three very broad personality types - the introvert, the voyeur and the exhibitionist. The introvert is provided with quiet reflective spaces that allow them to work in their preferred environment. Voyeurs are provided with spaces that allow them to watch what is happening around them while extroverts can use spaces that allow them to be seen and be an active participant.

⁵ Monahan, Torin. 2002. "Flexible Space & Built Pedagogy: Emerging IT Embodiments." *Inventio* 4 (1): 1-19. available from <http://www.torinmonahan.com/papers/Inventio.html>

⁶ Ellis, Ainslie E Personality types and learning environments: Two case studies. Ascilite 2006, Sydney December 2006 http://www.ascilite.org.au/conferences/sydney06/proceeding/pdf_papers/p152.pdf

⁷ Ellis, page 234 http://www.ascilite.org.au/conferences/sydney06/proceeding/pdf_papers/p152.pdf

The refurbished library building now includes a graduate study centre, an undergraduate lounge, several training rooms (eZones), group rooms fitted with plasma screens and whiteboard walls, individual and group study areas, casual furniture for individual and groups, 200 computers, laptop enabled desks, adjustable height desks as well as access to the café on the ground floor. The building is wireless enabled to allow students to use their own computers both in the building and the adjacent café courtyard. Architect, Hamilton Wilson of Wilson Architects summed up the refurbishment as... ‘*a significant transformative physical, symbolic and pedagogical shift. Physically and symbolically the building has gone from a fortress unwelcoming bunker into a building which engages with the whole university community. Pedagogically the building now responds to the change in student study behaviour and supports collaborative approaches to learning.*’⁸

Following the design phase of the refurbishment Wilson Architects became involved in the Australian project – *Designing Next Generation Places of Learning: Collaboration at the Pedagogy-Space-Technology Nexus*⁹ - which involved analyzing and evaluating three distinct types of learning environments. It is hoped that the major transferable outcome will be a new design framework based on the pedagogy-space-technology nexus - in a form that allows the concepts to be replicated in different applications. Phase one of the project was the 2007 Next Generation Learning Spaces Colloquium which provided a forum for leaders in higher education responsible for teaching and learning matters, architects, technology service managers, senior librarians and facilities managers to discuss and envisage the future shape of learning facilities in higher education. Both the Ipswich Library and the Biological Sciences Library were included as examples of innovative learning spaces. The second colloquium will be held in October 2008 and feature some ‘lessons learnt’ from the 2007 event.

Usage surveys and observations

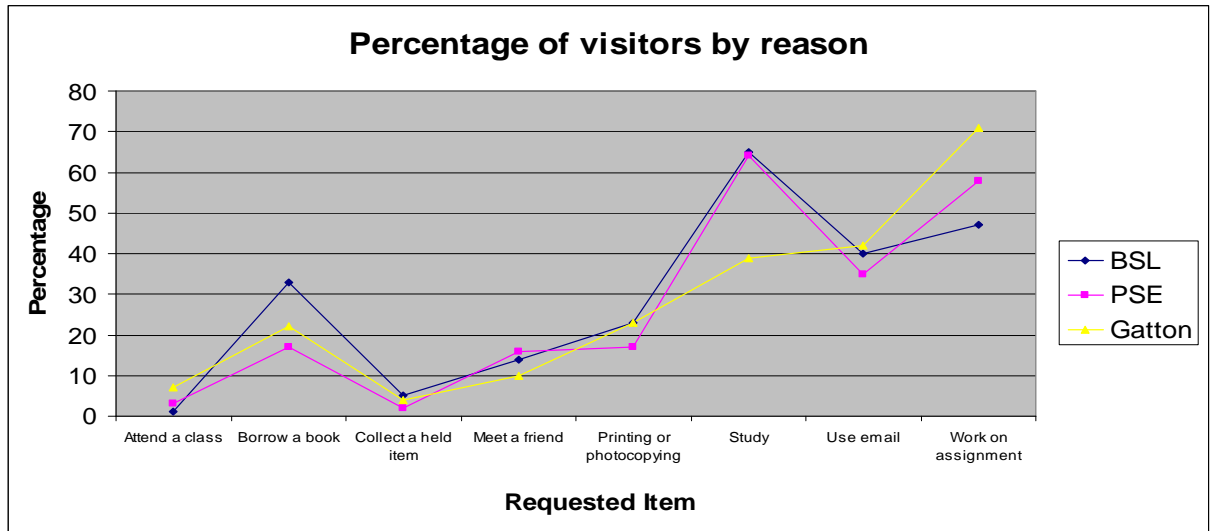
As part of the project *Designing Next Generation Places of Learning* it was agreed to conduct a post-occupancy usage survey of the refurbished BSL building to determine customer satisfaction with the new building together with the services and facilities provided. To gain comparisons it was decided to survey two other UQ branch libraries – the Physical Sciences and Engineering Library (PSE) and Gatton Library (Gatton) (both generation two libraries). In terms of location the PSE Library is on the main St Lucia campus while the Gatton Library is located on the Gatton campus some 60 kilometres away. The survey was conducted over a period of three months at the beginning of semester 1 2007. The survey forms were distributed at different times of the day, so as to reach a wide selection of visitors. Over 700 responses were received. In addition to the survey detailed observations were recorded in how students actually used the facilities.

Library visitors were asked to give a reason why they were visiting the library. From these results it appears that the majority of BSL and PSE students were using the library to study, while the majority of Gatton students visited the library to work on an assignment. One third of BSL visitors gave their main reason for visiting the library as

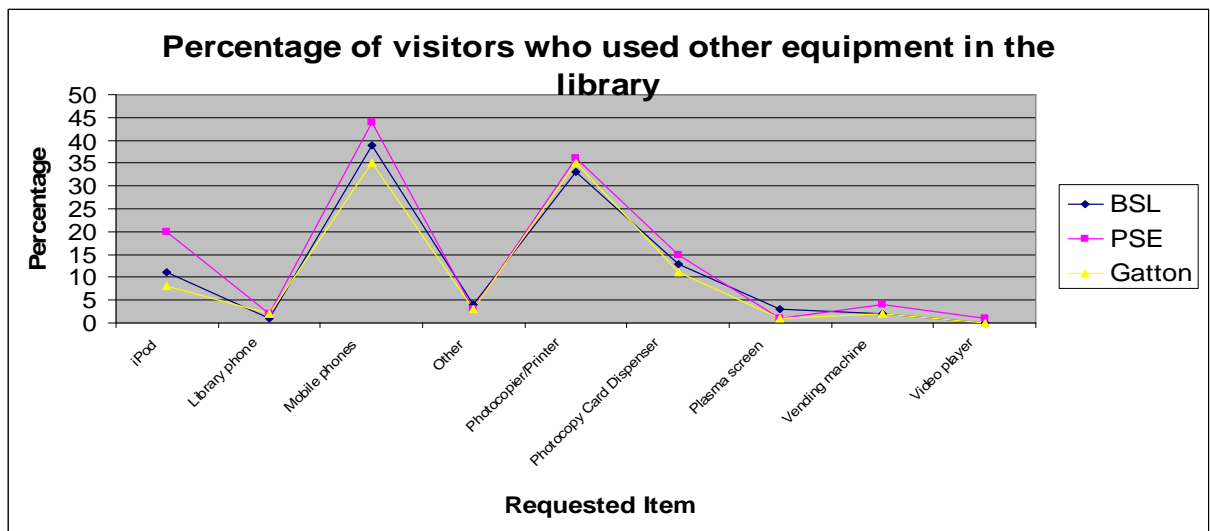
⁸ Quote from Mr Hamilton Wilson, Managing Director, Wilson Architects, November 2006

⁹ Details available from <http://www.carrickinstitute.edu.au/carrick/go/pid/97>

borrowing a book, while between 10-15% of students' main reason for being in the library for BSL, PSE and Gatton was to meet a friend.



Visitors were also asked what equipment they used while in the library. It was not a surprise that mobile phones rated highly as did photocopying/printing facilities. Plasma screens did not rate highly due to the limited number of rooms with this facility.

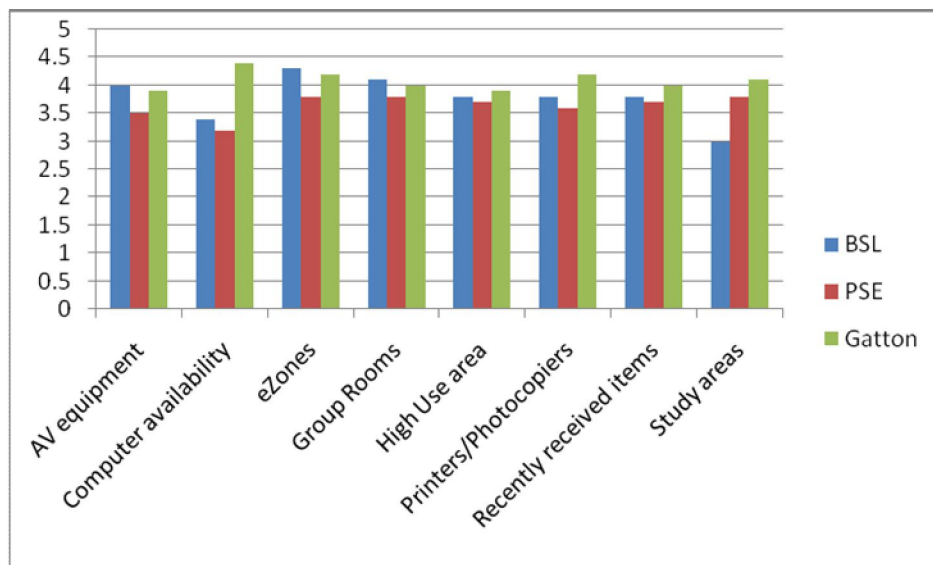


Observations confirmed that the students appreciated using the range of facilities and quickly displayed ownership of them. Occupancy was much higher than in the old building with students from other disciplines regularly using the building. The Biological Sciences Library had become the library of choice for many. Students enjoyed the natural lighting filling the study areas even to extent of sitting in the window areas with their sunglasses on. Students quickly displayed that they appreciated the comfortable casual seating as they used it to create spaces for spontaneous meetings – they showed no

hesitation in moving furniture around to suit their particular group size and purpose. Small groups and individuals would find ‘out of the way’ places and with a laptop were fully connected to the university network and beyond. The small booths or ‘diners’ were very popular and were usually occupied soon after the library opened – sometimes by groups but often by just one student. The group rooms were well used with the whiteboard walls used during group discussions. The layout of the building was designed to encourage quiet study on the higher levels and this was achieved. Both the postgraduate and undergraduate lounges were well used and remained quiet study places. Signage encouraging ‘*The higher you go, the quieter it gets*’ was proven to be effective.

Visitors were asked to rate the library facilities/services on a scale of 1 – 5. Looking at these results it appears that generally Gatton students were most satisfied with their facilities/services. This may be because the student/computer/seating ratio is higher at the Gatton Library than at the St Lucia libraries and that as Gatton students only tend to use one library there is no comparison for them. PSE clients were the least satisfied with the number of computers available and although BSL had dramatically increased its number of computers computer availability remained a problem during peak use times. BSL visitors biggest complaint was the lack of ‘deathly’ quiet study areas and the lack of a water fountain.

Overall satisfaction



The responses to the survey and observation during the survey were fairly successful in determining customer satisfaction with the new BSL building. The intent of the refurbishment was to provide an informal learning area, where students could study individually, participate in student group meetings, and have post-class discussions with lecturers and fellow students had been achieved but there were still requests for more quiet reflective study areas. The survey highlighted the number of students from other disciplines that now used the facilities – this has resulted in demands for refurbished

facilities in other branches. Future surveys will solicit more information about the use of group rooms to help determine the level of IT facilities in the rooms.

The results from the biennial customer survey which was held in September 2007 mirrored those of the above survey. This was a much larger survey covering all branches. The survey presented a number of statements and users are required to rate the both the *importance* of each of the statements to them and their impression of the Library's *performance* on each statement. By looking at the rating between the importance and the performance the survey reports on the 'gaps'. A gap of 2 is deemed to be significant. It was pleasing that there were no gaps higher than 2. The major gaps for BSL were:

- Individual seating is adequate
- Quiet study facilities are adequate
- Access to computers to support study/research is adequate
- Opening hours meet my needs

Responding to the survey

Some responses are easier than others – for example a chilled water fountain is being installed – this cheap and easy response will be well used. The issue of opening hours has been addressed by the employment of security staff from 8:00pm to midnight Monday to Friday. It was decided to pilot this during 2008 to determine how many students use the facility at night and also what facilities are being used. To date response from students has been very positive with suggestions that this service is implemented in other branches and that the service is extended to weekends with 24 hour opening during exam periods.

The issue of quiet study is being resolved in a number of ways – the easiest way is by providing more single study carrels. Soundproofing has been arranged in some of the smaller group study rooms. The Library continues to promote and reinforce the policy of "*The higher you go, the quieter it gets*".

The Library has begun working with an architectural firm on how to provide furniture that can be easily adjusted to suit both group work and individual study depending on the changing needs during the academic year. A survey was undertaken in two UQ branch libraries to determine the frequency of use of library computers, group tables, group rooms, individual rooms, casual seating and individual study carrels. Not surprisingly the survey revealed that during the first half of the semester the preference was for group rooms and group tables with the preference for individual rooms and study carrels later on in the semester. Given that space is not available to provide enough single and study spaces to cater for all needs it is hoped that this project will provide an alternative way of creating adjustable learning spaces within the branch libraries.

Improving the library experience

In line with the physical changes the UQ Library is actively providing a range of 'Library 2.0' services. Best summed up by Sarah Houghton '*Library 2.0 simply means making your library space (virtual and physical) more interactive, collaborative, and driven by community needs..... to make the library a destination and not an afterthought*'.¹⁰

In order to gain a better understanding of new undergraduate students the UQ Library has conducted a survey for several years during an Orientation Week introduction to library services. This survey has provided a general overview of how students use IT, how many have access to mobile and desktop computing and who would they first approach for help when needing help with information for an assignment.

In February 2008 the 'snapshot' confirmed previous surveys that the majority of students used a range of social networking tools but gaming was still not popular.

	MySpace	Wikipedia	FaceBook	Second Life	WOW	Other RPGs
Never heard of	27	34	17	366	196	150
Heard of	268	222	69	111	266	62
Use	110	119	292	4	18	26
Use regularly	88	119	117	2	6	13
Use to some extent	198	238	409	6	24	39

The snapshot also indicated that over 77% of students had access to a laptop computer and that over half intended to bring it to campus. Over 85% of students had off-campus access to the catalogue while relatively few had PDAs. When asked how they would like to receive library news overwhelmingly the response was by email and via the website as opposed to SMS, blogs and instant messaging. As with other surveys librarians were rated after friends and Google as student's first choice for seeking help with assignments.

These results have helped the Library focus on how best to deliver new services to students. As an alternative way of promoting services (especially for new students) and to promote the library as a welcoming and supportive environment a Library YouTube competition was held. Students were asked to provide a humorous, light-hearted, and/or honest 1- 2 minute YouTube video – on the theme "*What helped you to discover the resources and services of the University of Queensland Library?*" Some of the questions that students were asked to think about were:

- What's the one thing you wish you'd known about the UQ Library when you started university?
- What saved you time when using the Library for researching assignments: helpful librarians, good research information?
- What is it about the UQ Library that makes us stand out from the crowd?

¹⁰ Houghton, Sarah. "Library 2.0 Discussion: Michael Squared" Librarian In Black. http://librarianinblack.typepad.com/librarianinblack/2005/12/library_20_disc.html

The winning video was used in library information skills classes and has been well received – hopefully the use of humor has helped some students be aware of some of the services and see the Library in a different light.

In keeping with Library 2.0 services that are available from the Library website are by nature self-service are designed to enable students to take control of their use of the library. New services include a real time computer availability display for all branch libraries displayed floor by floor. This is also replicated on large screens in the entrance of most branches that show computer availability mapped to floor plans. This allows students to easily decide where they can study. If students want to use other facilities such as individual or group rooms they can view their availability and book themselves a time slot via the website. This has the advantage that it also provides the Library with an effective way to monitor the use of the facilities. To support group work students are able to book a week in advance and therefore plan their study time with their other commitments. An online booking service has recently been launched that allows students to manage their own bookings to information skills classes. The service allows students to book into a class, select the venue, view their bookings and cancel or change classes if required.

While many students bring their laptops to campus, the Library was aware that one of the issues faced by students is the short battery life. The solution to this was to build lockable laptop cupboards that were designed - complete with ventilation fans - for recharging laptops. Students can use this service thereby extending their laptop use while on campus.

As a way of promoting student involvement in information skills classes library staff have started using a wireless hand-held audience participation tool – the Keepad system (often called ‘clickers’). This also has the advantage of providing instant feedback on whether competencies have been achieved. Student response has been very positive and some library staff are using these to pretest students and depending on the results can modify the class to suit the needs of the attendees.

Conclusion

Just as the web is evolving, libraries will continue to evolve. Those in academic institutions must evolve in line with changes in the educational environments and the needs of their students and staff in order to play an active role in the teaching and learning environment, ensuring that their services and spaces continue to be relevant and available at times to suit. New learning spaces will always need to be incorporated into existing designs – other spaces will need a makeover to keep up with user expectations. Librarians, while looking at how to implement different service models to support the virtual library, must not forget the physical library and the role it plays. Les Watson, expert consultant to JISC on technology enhanced learning environments sums it up best

- *"Libraries need to make themselves special places to meet and to have conversations... Buildings need to inspire."*¹¹

¹¹ Hoare, Stephen "Buildings need to inspire" Available from <http://education.guardian.co.uk/librariesunleashed/story/0,,2274826,00.html>

Bibliography

Bryson J, Usherwood b, Proctor, R. "Libraries must also be buildings? New library impact study" London, Council for Museums, Archives and Libraries, 2003

"Designing Next Generation Places of Learning: Collaboration at the pedagogy-Space-technology Nexus" Proposal to the Carrick Institute for Learning and Teaching in Higher Education, 2006

"Designing spaces for effective learning: a guide to 21st century learning space design" JISC, 2006

Ellis, AE. *Personality types and learning environments: Two case studies* In "Proceedings of the 23rd annual ascilite conference: Who's learning? Whose technology?" Sydney December 2006, available from http://www.ascilite.org.au/conferences/sydney06/proceeding/pdf_papers/p152.pdf

Frey, Thomas, "The future of Libraries: Beginning the Great Transformation", available from <http://www.davinciinstitute.com/page.php?ID=120>

Hoare, Stephen "Buildings Need To Inspire", available from <http://education.guardian.co.uk/librariesunleashed/story/0,,2274826,00.html>

Houghton, Sarah. "Library 2.0 Discussion: Michael Squared" Librarian In Black, available from http://librarianinblack.typepad.com/librarianinblack/2005/12/library_20_disc.html

Lushington N, "Libraries designed for users: a 21st century guide", New York, Neal-Schuman, 2002

Monahan, Torin. 2002. "Flexible Space & Built Pedagogy: Emerging IT Embodiments." *Inventio* 4 (1): 1-19, available from <http://www.torinmonahan.com/papers/Inventio.html>

Oblinger, DG, editor. "Learning Spaces" Educause, 2006, available at <http://www-cdn.educause.edu/ir/library/pdf/PUB7102.pdf>