"Let’s be brief(ed)’: Library design, education pedagogy and service delivery

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University libraries are increasingly being reassessed in the role they play in supporting student learning and academic research, in managing evolving pedagogical practices in education and in service delivery modelling. The University of Melbourne for a number of years has embarked on a series of library refurbishments with the opportunity in 2010 via a new building programme to provide a purpose designed library facility embedded in the new Melbourne School of Design building for the Faculty of Architecture, Building and Planning. This facility offered the opportunity to reflect on and consider the current and future role of a library embedded as it is in a faculty dedicated to built-environment design research and education.

This paper will discuss some of the issues that arise in the historic linkages that libraries develop with faculty-based programmes, as well as assessing library layout and design and integrating these with service delivery systems.

Introduction

University libraries support student learning and academic research and engage with evolving pedagogic education practice. This is informed through collaboration between built environment design consultants and library professionals in assessing library design to align with service delivery models. Research underway at the University of Melbourne seeks to explore procurement process methods, the role of designers, the design brief and consultation process in producing architectural responses to education pedagogy and service delivery outcomes in new and refurbishment works in academic libraries. The construction of a new library on the central campus grounds at the University of Melbourne, offered the research opportunity for a pilot study to be undertaken in developing an investigation into library design and service delivery modelling.

In December 2014 the Melbourne School of Design (MSD) at the University of Melbourne opened its new building. The building, designed in partnership between the Melbourne firm John Wardle Architects and Boston based architects, NADAAA, had four guiding aspirations as part of its design brief:

- Built Pedagogy,
- The Academic Environment,
- The Design Studio, and
- The Living Building.

The library that supports the Faculty of Architecture, Building and Planning (ABP) was given a prime location on the ground floor (extending into the basement), embodying all four of these aspirations. This paper looks at the current focus in libraries towards a user-centred, service oriented philosophy. It discusses these in the context of the new University of Melbourne Architecture, ABP Library as it is situated in the new MSD. It examines how the aspirational aspects of the design brief were communicated and interpreted in the design response of the library and the role of library professionals in the design briefing process and collaboration between built environment design consultants and library professionals have worked to enable alignment with the service delivery approach.
Library design

Academic libraries are re-aligning their focus beyond collection-based facilities to user-centred, service orientated information providers. This shift has required collaboration between built-environment design consultants and library professionals in reassessing library design to align with this new service delivery approach. Much discussion has taken place on the drivers of this change and the outcomes produced but little on the manner in which productive partnerships develop with built-environment design professionals in library design and how these align with library service delivery and facilitation of student learning.

Related research has outlined academic library learning space attributes (Bailin, 2011; Cunningham & Tabur, 2012; Delaney & Bates 2014); design practitioners’ project management approaches for selected library projects (Stern, Dixon, & Goldberger, 2009; Nimmo, 2012); and surveys and studies of the use of library spaces (Bedwell & Banks, 2013; Branin, 2007; Bryant, Matthews, & Walton, 2009; Shipman, Stoddart, & Peay, 2013); as well as how changing pedagogy potentially impacts library services (Close-Crane, 2011; Jamieson, Graham, & Walton, 2013; Walton & Matthews, 2013). Ellis and Phillips (2012) touched on the relationship between library spaces and frontline services, but there is little research into how education pedagogy and service delivery perspectives are effectively communicated into the design process to improve the design of academic library spaces.

A great deal of literature is directed to the pedagogical drivers of change in library design and the impact of socially constructed learning on library space requirements and design (Beard & Dale, 2008; Chan & Spodick, 2014; Gayton, 2008; Matthews & Walton, 2014). Such discussion extends to the integration of library spaces into one-stop-shops of academic support service consolidation taking a whole of institution approach to service provision (Beard & Dale, 2008; Appleton, Stevenson, & Boden, 2011).

Monahan (2002) and Oblinger (2006) speak about the role of built-environment design in communicating institutional educational approaches and the capacity of space to influence how one teaches, defining this as *built pedagogy*. Oblinger (2006, p. 13) argues that; “design (of learning spaces) is a process, not a product. Involving all stakeholders - particularly learners - is essential.” The importance of a partnership between architect and librarian towards a shared vision (McDonald, 2006), a procurement method that includes input from all stakeholders towards a common goal (Bazillion, 2002), and a participatory design process that involves end user-groups in the space planning process to build trust and understanding as well as, critically, to remove an emphasis for information resource management towards consideration for the library to be seen as a space for education (Meunier & Eigenbrodt, 2014; Somerville & Brown-Sica, 2011) have all been identified as a key features of successful libraries. Nimmo (2012) explains the process of library design from an architect’s perspective. He outlines library design as a workshop process, including all stakeholders, even down to cleaners, at the University of New South Wales. The advantages of the process for him was building consensus among a group in who then became advocates for the project.
Much of the literature, however, focuses on the built outcome, rather that the role of the early design stages and the part played by library professionals in the process. What has not been so comprehensively discussed is how notions related to pedagogy can be effectively communicated within a building procurement process and how partnerships between built environment design consultants and library professionals can facilitate the process. There is little discussion regarding how the library’s vision is matched with that of the architects and other built environment professionals involved in the development of space and how frontline service delivery is effectively communicated during design development. The research addressed by this paper sought to investigate the mechanisms by which the aspirational aspects of the building and library related to pedagogy were communicated to the designers of the MSD building; How were these interpreted in generating a design response and what was the capacity and opportunity of library staff to engage in the process?

Methodology

To discover how the design process and aspirations were interpreted and implemented, a qualitative research method was adopted by undertaking a series of interviews with design professionals, project managers and library management. Qualitative methods were particularly useful in this research, as such analysis allowed for a deep level of engagement with the issues being investigated, uncovered the varying perspectives of the participants and allowed for the validation of themes from multiple sources who had a role in shaping how the building project evolved. (Merriam, 2014)

Using a qualitative research methodology of in-depth, open-ended interviews, two members of the research team participated in all interviews. Participants were selected due to their involvement either in the brief formulation process, the design development stages or project delivery stages. An equal weighting of interviews was given to represent the end-user group and architects. A total of thirteen interviews were undertaken, representing six members of the architectural briefing and design team and six members who represented the client end-user group, and one representative of the project management team was also interviewed. All participants were asked the same series of open-ended questions which covered: individual perceptions on the key factors that inform library design; precedence study undertaken; the role of library professionals in the architectural design process; formulation and interpretation of the design brief; libraries’ role in pedagogic practice; and, the lessons learned for process and library design outcomes. All interviews were recorded and transcribed, with the transcriptions analysed following qualitative methods of analytical induction through a process of coding and thematic analysis that involved the entire research team (Corbin & Strauss, 2008). This permitted comparative investigation, regarding professional perspectives and interpretations of the language used in the aspirations for the building, as well as the approach taken in the methods adopted in formulating a design response for the project - especially as it related to pedagogy - within the contexts of built environment, project management and librarianship.

The University of Melbourne Library context

The library based in the Melbourne School of Design building is the most recent major building redevelopment undertaken as part of a programme of works at the University of Melbourne Library (the Library) since 2007. The impetus for these re-developments has been driven by aspirations set out in Melbourne’s Scholarly Information: A 10 year Strategy (O’Brien, Brodsky, & Ruwoldt, 2008), endorsed by University Council in July 2008, and revised in 2011. This strategy was a product of the Information Futures Commission, a University-wide consultative process initiated by the Vice Chancellor that investigated all aspects of the information environment. Significantly the Information Futures Commission also considered physical library spaces and formulated the following aspiration:

“The ten-year master plan for the Parkville campus will create a small number of discipline-based precincts, each one distinct, reflecting the different ways in which cognate disciplines engage in research and learning.

Within the precincts, the library will continue to be the focal point of a networked world, providing spaces for independent and collaborative learning and research, with access to scholarly works in appropriate forms and to information professionals. Each library will be distinct, responding to the specifics of its location and clients.” (O’Brien et al., 2008, p. 9)
The strategy places strong emphasis on developing scholarly communities and a sense of belonging that reflects a broader strategic University initiative to develop precincts based upon disciplines. Where possible, facilities for teaching and learning, and research were to be located within coherent discipline-based precincts. This reflects a general shift to the assimilation of dispersed departmental academic libraries into central main campus facilities or the consolidation of such facilities into hubs of learning and research. Such consolidation is driven not only by economic resourcing implications, but also space competition for non-library use and the increase in digital information delivery.

To maintain a campus wide perspective and offer input into the design of student-centred learning spaces, the University of Melbourne maintained an academic position of Strategic Advisor on Learning Environments Design held by Dr Peter Jamieson. The role has enabled a consistency of approach across the central campus in the development of discipline-based precincts, in refurbishment and new building works related to student spaces in an endeavour to link the student experience to contemporary pedagogic practice in favour of social constructivist thinking in the design of spaces (Jamieson, 2009). This approach has informed much of the refurbishment works undertaken in the campus-based libraries which has seen a consolidation of satellite libraries into discipline aligned library hubs with a far greater client focus supported by commensurate service delivery modelling.

**Embedded faculty library**

At the time of writing the University of Melbourne has twelve libraries spread across its various campuses; of this number two are embedded within a Faculty, the Law Library and the ABP Library. Although the University redevelopment strategy report (Fisher, 2005) recommends the development of a precinct model, grouping services and libraries together in discipline groups, the new ABP Library is not a precinct library, but is embedded into its faculty. However, it still shares the service delivery ethos for the library system as a whole. This direct association between library and faculty is an historical one dating from 1919, when the Architectural Atelier was being mooted, the provision of a library was viewed as part of “a school having full educational facilities” (Blackett, 1917, p. 6). In 1921, when plans for housing the Architectural Atelier were being made, one of the key considerations was that access to the library be “convenient”. In 1963, when the previous building was being planned, it was decided that a memorial to one of the founders of the faculty, Leighton Irwin, would take the form of an Architecture Library. In 1966 it was decided that the library should be within the School of Architecture building, being formally opened in 1969 and remaining in operation on the fourth level of the former building until 2012 when demolition for the MSD building commenced.

Support for the retention of the embedded library to remain was argued by the Faculty due to its important role in the teaching and learning and research imperatives of the Faculty. The ABP Library’s historical attachment to the Faculty had established it as part of the culture of the Faculty and hence was argued from an ideological position rather than a campus wide facilities management position (A. Hutson, personal communication, January 23, 2015). Further, the high use of the architecture library by its students and researchers supported the continuation of the physical presence of the library within the Faculty building. Two key themes in the aspirational brief, a document which underpinned the project’s business and funding cases, that of *Built Pedagogy* and the *Academic Environment* supported the retention of the Library as a central resource which added value and fed into the Faculty accommodation plan of the design brief. The presence of the library integrated within the new building coalesced with the business case argument for capacity building in increasing student demand and hence increasing income streams via quality accommodation and facilities for students and researchers (Hutson & Huppatz, 2013).

The case was also presented in terms of the nature of resources, and the use of these resources. It was argued that architecture print resources generally are large format, architectural digital information requires high resolution formats and architecture library space requires a capacity for multiple resources to be used simultaneously with provision for three-dimensional material and model display (S. Drake, personal communication December 11, 2014; T. Kvan, personal communication, February 9, 2015). The identification of learning and teaching methods, though not unique to the Faculty, centred on problem-based investigation and enquiry-based learning, which required team and group work and an environment that was conducive to collaborative work practices. The architecture library with its emphasis on a study environment supportive of collaborative discussion and investigation could then become a campus wide...
resource not limited solely to the Faculty (T. Kvan, personal communication, February 9, 2015). This was supported, in turn, by the Faculty being distinguished by having multi-program offerings, across the breadth of graduate studies in the built-environment sector, which gave further credence to supporting the continuation of an embedded Faculty library. As the Director of Scholarly Information advised at interview “the Dean was quite insistent of the fact that the Architecture Library was retained, and that it added value to the Faculty, so we were happy to go ahead with it, because it was making a contribution. It serves the whole Faculty, so that made it easier to justify” (J. Ellis, personal communication, January 8, 2015).

This suggests that libraries benefit from strong advocates, external to library services personnel, who can argue for the importance of libraries on pedagogic grounds and the important role they play in supporting faculty operational aspirations. It also demonstrates that flexibility in library space planning carries ongoing resource implications in a dispersed service model and financial viability in this case for capital investment came from Faculty support via a willingness to place value against the embedded library model.

Building design aspirations

In communicating the aspirations of the new MSD building and its library, the procurement method was unusual for a new university building in that it used a two-stage design competition as the means for selecting the architectural team for the project. This methodology in sourcing the design team was seen as critical in communicating the aspirational aspects of a building within the university context and the faculty that it served. The competition consisted of a two-stage process, an expression of interest first stage asked competitors to address four themes which formed the aspirational brief and evaluation criteria for this initial round of the project – built pedagogy, the academic environment, the design studio and the living building. Built pedagogy and the academic environment was seen as the opportunity to provide a new learning environment with a range of spatial configurations conducive to the teaching, learning and research objectives of the faculty. The design studio represented an endeavour to have the building engage with the nature of teaching and learning space, addressing the role of technology, staff-student interaction and work styles in layout, furnishings and equipment. The living building was to be a demonstration of outstanding performance in sustainable design and environmental performance (Drake, n.d.). This call for expressions of interest elicited 133 submissions from around the world and was unusual in that it explicitly required entrants not to produce a design response to the project brief but to demonstrate an architectural approach to the four key aspirational themes. Following this round, five submission teams were selected by jury to present a design response developing the aspirational guidelines and integrating them with a general descriptive brief. This process facilitated the selection of “an architectural partner with which to work to deliver the Faculty’s vision for a living, pedagogical building that will be an exemplar of sustainable design and transformative teaching”. (Hutson & Huppatz 2012, p. 110). Melbourne-based John Wardle Architects and Boston firm NADAAA in consortium were chosen because they demonstrated that they had the capacity and articulated an approach for collaboratively working with the Faculty.

The guiding aspirational themes fed into the programmatic requirements of the building, with the library articulated in the initial competition project brief as “one of the major focal points of the new building” (Drake, Project Brief Section, n.d.). As Tom Kvan, Dean of the Faculty of Architecture Building and Planning, asserts:

“Those four statements allowed us to take every aspect of the building and test it against those. So, the library is a studio space, it’s a space where students engage in peer learning and open ended exploration and the spaces that we have created in there allow for that. It is definitely an investigation into the future of academic workplace. Workplace, for us, included student workplace, researcher workplace, (and) professional staff workplace. So the library is a very active component in answering that question. The living and learning building is clearly, without question pedagogical and has manifested that. So that was a key step in the communication” (T. Kvan, personal communication, February 9, 2015).
Managing the process

A collaborative approach was adopted between the Faculty as a user-group and the Library as a related but independent user-group. The faculty’s Associate Dean Resources at the time Andrew Hutson who represented the faculty and oversaw user-group input explained the nature of the collaboration:

“We did have a connection with the central library, which was the client. To liaise with what their needs were and how they would translate into the brief, and how they would translate into the faculty’s needs as well. They were dovetailed together, even though they were a separate client, a sub-client. They were keen, and we were keen to work together to get some sort of carry across of the ideas...to actually understand the implications of things that were occurring and to also understand how they would work with other things that were going on around the building as part of the overall briefing” (A. Hutson, personal communication, January 23, 2015).

Key personnel of the University Library were seen as participatory clients in the early design development stage not only for the library in particular but also the manner in which the ABP library was seen as a key asset for the Faculty in delivering its operational aspirations. The benefit to the process was that University Library Management had experience of previous library re-developments that could be brought to the table in informing the design of the project. The Library’s management structure included a General Manager of Library Redevelopments, who took on the detailed management and coordination issues as the library user-group representative and importantly socialising the ABP library brief with its key stakeholders along the supply chain. These two roles of senior user-group representatives, for the Faculty and for the Library were seen as being critical features in the information transfer efficiency and clarity between the project managers, design consultants and the ultimate users of the building.

This accumulation of expertise in the design of student spaces by the Library has been recognised in the relationship it has developed over time with the central university project delivery division of Property and Campus Services (PCS). As Director of Scholarly Information, Jenny Ellis comments:

“There’s an acknowledgement now from PCS that we are the experts in terms of library spaces, and that’s not about the library functions themselves but it’s actually about the student spaces as well. We know how students use our spaces, we’ve got evidence of that, but I think that also it’s been an acknowledgement that’s come from them in terms of needing to engage our services in that design process right from the beginning.” (J. Ellis, personal communication, January 15, 2015).

The project manager from PCS saw this as one of the hallmarks of a successful project:

“Briefing doesn’t have fifteen different opinions coming to the people who are designing, it needs to be spoken as one voice so there’s a consistent message. So, to that end there would be a representative for the library commissioned to provide that information that is the one voice of
the Library opinion. It means that that person has a role in collating, evaluating and discussing with staff what the collective agreement is.” (A. Thomson, personal communication, December 11, 2014).

The architects commented that this central contact position was critical in providing them with direction and advice on projects:

“My strongest wish would be that there is continuity of representation, that is consistent with the process and responsible for making decisions and engaged in the process, because we do find that we’ve got a number of different ways of presenting our work and we can get a sense of when you’re successfully communicating to someone, but I think that’s actually the most important thing, is consistent engagement with someone who is contributing and is empowered to make decisions with us.” (M. Dwyer, personal communication, December 22, 2014).

One of the key features, identified by research participants to the success of the brief development process was this clear articulation of the aspirational brief requirements, accompanied by a considered space planning functional brief based on user-group experience. The importance of consistent access to a single key decision maker who remained with the project and who took responsibility for the collation of information and dissemination of decisions to stakeholders was an acknowledged hallmark of a successful project outcome.

Participating in the design process

The architects felt that library professionals were amongst the most knowledgeable client groups that they encounter. The architect design principals observed:

“They are the most decisive and informed client group we’ve met on projects. Librarians as a type attend conferences, travel, know other exemplar projects and as a general rule seem to be able to process information incredibly well. We find that they are one group that just always seem to very directly convey their requirements, and with real authority” (J. Wardle, personal communication, January 15, 2015).

“They’re a very knowledgeable client. They understand research, so they are capable of doing their own research on current thinking, about what is happening, so they’re very well informed” (S. Mee, personal communication, January 15, 2015).

These comments reflect the planning that underpins much of library building works strategy emanating from the principles established in Melbourne’s 10 Year Scholarly Futures Strategy (O’Brien et al., 2008) regarding learning environments, cohort experience and engagement with Faculties and Schools. These strategies were reflected in detail in the Brief for Library Requirements (Page & Kealy, 2011) that were provided to the architects on which to base a developed design response. The brief for the ABP Library, reflected the four guiding themes for the project, but integrated these with the design principles for library works on campus, which are geared around functionality, way finding and identity. These were expanded into greater detail encompassing the specific aspirational considerations, space planning and storage requirements of the ABP Library.

This capacity for library professionals to contribute effectively through precedent research and operational experiences in informing design professionals is one of the most significant value adding mechanisms they offer in participating in the design process. As Jenny Ellis comments:

“We keep up with the literature; we attend a lot of conferences and seminars. We worked with Peter Jamieson on a few projects, so that informed our thinking around student spaces, student experiences and we made library visits where possible. There was a lot of research that went into it all and we have learnt a lot from each of our own projects. There have been learnings from each one…it’s been an incremental approach, we have done quite a lot of educating of architects along the way too.” (J. Ellis, personal communication, January 15, 2015).

Three process implementations proved important for exchange between the design team and the ABP library user-group. The first was the scene setting visits to on-campus library facilities, which had undergone refurbishment in the last few years. The user-group reference team and library staff directly engaged with service delivery had the opportunity to show and discuss by example best-practice design
and procedures, both which were operating successfully and those that warranted reconsideration. Brief formulation was therefore based on an evidence base of space usage, which could be demonstrated by reference to operational facilities.

The second process implementation related to workshops organised by the architects and attended by key members of the ABP Library user group, as well as those representing the Faculty. Nimmo (2012) sees the workshop process as a feedback mechanism involving all relevant stakeholders that leads to consensus on design options to be pursued. Although there were regular design meetings, workshops were invaluable for getting feedback into the design process. From the architects perspective, defining how many seats and the mix can be difficult to pin down but in this project the User Group were very articulate in outlining their requirements. Other considerations such as staff accommodation, service zones, collection size and how it is managed, how the students use the space and how they use the collections, any special requirements such as display cases all fed into the brief. The design team worked at a very fast pace in the early stages meeting with the user group weekly. Workshops were run as open discussions about how the space would operate. The team of architects would draw something up and get feedback from Library staff. The Library provided room data sheets early in the briefing process, and that helped the architects get across a lot of detail quickly, everyone in the Library team was very responsive and very proactive. The only comment the architects made in regard to what could have been improved was to have access more often to the staff that were to work in that Library, but on the whole it worked very well. (J. Williamson, personal communication, December 22, 2015).

The third process was the prototyping of key furniture items. For the Library, a key item was the service desk, which was key to the Library’s service delivery model, and interface with clients. The service desk was seen as the primary symbol of changed library service practice, removing the distance of over the counter interactions to partnering and collaborating within a shared spatial environment. The capacity to prototype this important feature and engage staff in a different way by constructing and testing the service desk was seen as an important process mechanism in ensuring that final built outcomes align with the aspirational requirements of the library and its service delivery modelling. Prototyping furniture with library staff was vital to ensure agreement and best suitability of fittings. The importance of prototyping for key pieces of fixed furniture and fittings is critical, as there is a need to undertake Environmental, Health and Safety risk assessments which are required to be signed off by University Environmental Health and Safety specialists as being fit for purpose. This also extended to joinery items for specialist equipment such as self-check-out machines, requiring sign off by library professionals and the supplier of the equipment to ensure it will function with the equipment, as it should.

The implementation of effective communication strategies between the design team and user group, which offer a variety of interface methods, was seen as one of the lessons from the project. These went

Figure 3. Side by side service model at the ABP Library Service Desk

The implementation of effective communication strategies between the design team and user group, which offer a variety of interface methods, was seen as one of the lessons from the project. These went
beyond initial brief expansion into room data sheets but evidence-based experiential processes fed from library facility precedence studies and visits, workshopping with an expanded cohort of user-group participants and testing design options via prototyping.

The demands presented by program timelines however, also generate pressures on communication diligence and its methods. Such aspects as detailed minute taking and recording agreed meeting outcomes are useful strategies that require sustained commitment. As projects develop momentum, communication and their management systems become more critical. Time frames to liaise and obtain input from extended user group input come under pressure, translating into potential late changes in design resolution (A. Thomson, personal communication December 11, 2015; J. Arnold, personal communication, December 12, 2014). Communication also becomes even more of an issue where a value management process is instigated. This process may reduce the capacity for user groups to engage with the process as it is done usually at senior project management level. It is important, therefore, that decisions made regarding final scope are communicated along the user group supply chain to avoid the mismatch between user group expectations and final project delivery.

It was acknowledged that there exists a tension for librarians involved in briefing and design participation, between being able to fully inform and understand the details of architectural, services, and fit out documentation, whilst managing core business activities of library service provision. Funding programs and timelines may often not be in the control of the project team and overlapping projects create demands in the management of multiple projects that each require fairly detailed input and engagement (J. Ellis, personal communication, January 15, 2015). The development of a knowledgeable and experienced team, such as that offered by a Library Redevelopment Manager, and the capacity to engage a broader cohort of library staff in redevelopment works to expand the knowledge base have been positive outcomes of a sustained library upgrade program.

Architects acknowledge library professionals as being one of the most knowledgeable and decisive client groups they encounter. This perception is in part due to experience in long term strategic planning and investment in library staff development. Staged process management allowed librarians to participate in building design at the briefing and design development stages beyond just brief writing via active input in the provision of exemplar library works and lessons learnt from previous projects, via active input in the provision of feedback to designers through workshopping and via active input in the detail of key features through prototyping.

**Pedagogy and library design**

The MSD building aspires to be a “pedagogical building”, with built pedagogy a driving aspiration behind its design and construction. What does this mean to the various stakeholders and how did the designers interpret this? Matthews and Walton (2014) talk about the importance of the library aligning itself with institutional goals and outcomes. They discuss how library space planning strategy is grounded in the university strategy, using the social constructivist view of knowledge being created in a social context. As Luz (2008, p.2) puts it, twenty-first century learning is “active, participatory, social, experiential, networked, connected and flexible…” Appleton, Stevenson and Boden (2011, pp. 344-45) identify the increasing interest in a “student-centred pedagogic strategy”, which caters for social, experiential learning based on collaboration and task-based activity. They focus on the advent of the “learning landscape”, which places the library in a holistic model of campus-level interaction - where digital and physical spaces become interlinked, and the library is one of many learning spaces.
When considering the pedagogical drivers behind the design of the ABP Library, there are two ways of exploring the notion of pedagogy, each with a role in explaining how the library functions. Pedagogy as it applies directly to current teaching practice in higher education, encompassing a social constructivist approach to learning, and built pedagogy, which encompasses using the physical building itself as a learning object, “the ability of space to define how one learns, teaches, acts or responds” (Luz, 2008, p.1) and using the design of the learning environment to enable learning.

The Dean, Tom Kvan elucidates built pedagogy as the capacity of the building to engage with the multi- and inter-disciplinary nature of education, which the Faculty has embraced and the movement away from didactic instruction to open and shared enquiry. It also informs the process of universities increasingly becoming more open and engaging public institutions (T. Kvan, personal communication, February 9, 2015).

Ellis and Philips (2012) explore how pedagogical shifts have influenced library space planning, and argue for social constructivist pedagogical principles to be reflected in library design and service philosophy. At the University of Melbourne, placing the student at the centre of the learning experience has been explicitly adopted in the redesign of library spaces and service delivery, played out in the “side by side” service model adopted at service desks, transforming interactions into opportunities for mutual learning, partnering and collaboration. In addition, Ellis and Phillips (2012) argue that libraries are increasingly viewed as informal learning spaces, and as such their design needs to reflect this. As Ellis acknowledges:

“Transformation of the way students learn has had a massive impact on library design, going from individual and silent to a whole range of spaces that support collaboration, technology-rich, social, extended hours. It’s more student-centric, service provision is more student-centric, it’s more looking at what the student needs to do and meet the student in their environment rather than imposing our own rules and regulations. A big shift for libraries because we’ve always imposed a code of conduct, a code of organisation on the students and now we’re trying to meet them in terms of what their needs are” (J. Ellis, personal communication, January 15, 2015).

Thomas (2010, pp.504-505) argues that the “defining line between physical and virtual learning spaces will continue to blur”. However, our interviews have highlighted recognition that the increase of virtual spaces and resources has led not to a decrease in the need for, and use of library spaces, but inversely, because learning has become more social and collaborative, there has followed an increase in the use of physical spaces. The literature bears this out; “increasing numbers of both educators and design professionals are becoming aware of the important role that physical space plays in educational settings” (Cleveland & Fisher, 2014, p. 1). Going to the library, argue Cunningham and Tabur (2012) is a choice for social inclusion, which validates and recognises the social constructivist idea of the connection between knowledge creation and social interaction.
The designers saw pedagogy in terms of the changing ways information transference and access has been transformed via digital technologies. Rather than diluting the need for architectural space, they saw facilities like libraries playing a continuing and important role in education enquiry. As one of the principal architects explained:

“The more information that is accessible to everybody, the more information has to be curated, the more conceptual issues have to be framed. More than any time in history, the role of the library as a place of critical debate, a place of discursive encounter and a place of curation is becoming central. So I do think that this is the role of the library, in a strange way it is becoming even more important than ever. Classroom time, library time, research time is all about collaboration. It’s the one time where we have together, where we are doing projects that translate the top down education into different forms of speculation, production and research.” (N. Tehrani, personal communication, December 12, 2014).

The designers acknowledge that space design is not so much about delivering information, but changing design focus to those mechanisms that support interaction and different learning methods, as well as the way space is used in the contemporary education environment. As design principal Stefan Mee suggests:

“The student is more the centre of learning rather than the teacher. You start to think about designing spaces differently. It’s about how the students might learn within that space, it’s not necessarily about delivery information within a library or bookshelf, its about how they grapple with that and how the architecture might allow that to happen in a different way. The spaces are much more social and interactive, it is providing a lot of choice. We like to provide students with a range of different ways to occupy space. You’ve got students living nearby, in often quite small accommodation, where they are sharing, so the library becomes their lounge room. You’ve got to be aware of that and that makes an opportunity for the library to reinvent itself, reverse of how it used to be with library space.” (S. Mee, personal communication, February 20, 2015)

One notion of built pedagogy in the new building, and included in many elements of the Library, is that the students can actively learn about design and construction via the building itself. Its materiality, systems, design configurations, exposed services, manufacturers markings on steel beams, observing how columns bear weight and how acoustics are affected, to name but a few examples.

In the Library, two examples demonstrate design consideration being given towards utilising the building as a teaching and learning tool for students in the built-environment sector. One of the main architectural features in the Library are the reinforced concrete wishbone beams, which support a concrete lawn over the lower library level. These beams not only define the space architecturally in their technical ingenuity and design drama but are a visible lesson in design precedent and construction technology. They inform design teaching in referencing the work of the Italian engineer and architect Pier Luigi Nervi, offer a demonstration of high-level concrete design and construction, as well as provide a talking point for construction supply chain engagement in the production of concrete formwork and achieving Class A finishes in concrete construction. The second example is a more overt potential use of the building in teaching activity and the understanding of those systems and services that are often not visible in finished buildings. In the same space as the concrete beams, a window has been formed into one of the walls of
the Library stack and is on axis with the main circulation path. The window provides an outlook into a secondary service space, where one can view the mechanical plant and equipment that normally would be concealed and hidden from view. Interestingly, at the construction phase of the building a mechanical duct was installed across the window concealing much of the view into this space. It was decided that this manifestation of the construction process was an equally valid learning tool in understanding the realities of design and construction practice and the duct was not repositioned.

The commonality in approach towards the aspirational aspects of the brief for a pedagogical building between user-group and designer reflects the time to refine and understand what this means by the introduction of education pedagogy as a key programmatic factor from the very inception of the project at competition stage. The linkages afforded by an experienced and knowledgeable user-group and architects with an acknowledged design track record in the tertiary education sector permitted exchange to be at a highly informed level. This allowed the implementation of pedagogy as a driving principle from organisational space planning, in locating the library at ground and basement level and making it a major visual feature of the building to the detailing in locating a window in a wall to expose further opportunities for pedagogic enquiry.

Figure 7. The entrance to the ABP Library

**Service delivery**

The Ten Year Strategic Plan (Fisher, 2005) for the University of Melbourne libraries articulated change drivers arising from digital technologies, learner-centred pedagogies and interdisciplinary research paradigms and formulated a response in the development of “socio-pedagogical mapping” in multi-use precinct activity hubs. This strategic plan coincided with the adoption of the “Melbourne Model”, which significantly restructured curriculum at both levels of graduate study (Curriculum Commission, 2006). However, neither proposal articulated the library service delivery model to respond to these drivers, which has been developed by the University Library. The Library’s service model developed a triage-based, tiered service level system, ranging from Tier 0 being self-service to services that required depth and expertise as Tier 3 (Ellis & Phillips, 2012). This reflects the increasing use of digital technologies and social constructivist learning environments, which have reduced the emphasis on the book as the primary resource of libraries. It also projects library professionals as being accessible and visible beyond the bounds of a traditional lending desk and offering capacity to be active agents in research activity both with students and academics.

Some selected examples demonstrate building design strategies in the ABP Library that have given consideration to facilitate a new engagement with the library and respond to the new model of service delivery. A key feature of the architecture library is the permeability of space. The Library is given a prominent position at ground level adjacent to one of the main entry points of the building, occupying the bulk of the ground level façade parallel to a main circulation route of the campus. This integrated placement of the library within the volume of the building coalesces with the notion of the library as partnering in the academic aspirations of the faculty. The visitor is able to navigate through the building, allowing them glimpses of spaces beyond and inviting them to anticipate their use of the space, and
become active participants in the space. The first encounter with the building from this primary approach is a fully glazed informal study zone, with dual access capacity that can be controlled such that access may be only through the formal library zone or sealed from the library and accessible by students outside library operating hours. This presents the library as an accessible and collaborative study space, giving primacy to learning engagement in an informal social setting, as against simply text-based resource accessing.

Figure 8. Class in the library reading room

The collaborative and permeable nature of library service is further introduced with the placement of the service desk adjacent to the main entry. The desk has been designed to promote the “guide-on-the-side” model and went through numerous design and prototyping iterations following extensive input from library staff to ensure that the design was best-fit for the service method proposed for the new library.

This permeability continues within the library space with spatial connectivity engendered via design devices to encourage browsing through the placement of apertures created by display stands embedded within the stacks, and by integrating seating within the stacks - both individual carrels (against the walls) and a large reading table (surrounded by walls made of books). The visitor gains a different perspective of the shelf stacks from ground floor where they are offered a bird’s eye view of the lower library level and its users below. Additionally, staff in the Library are no longer hidden, a glazed partition between student workspace and staff workspace, permits visual connectivity between these two zones, promoting the idea that staff are accessible and operate in a shared sense of library space.

These design devices align with a service model philosophy that presents the Library as being an open student-centric campus resource. The Library’s connectivity to the rest of the building is equally important. The ABP Library is a faculty library so it has characteristics of its culture of learning. Dean Kvan states that the ABP library “is a studio space, where students engage in peer learning and open ended exploration”. He elaborates, saying “learning is turned into something that is very public. I think that it’s a transition that is healthy for the University because it justifies to the world why we are supported and funded, and it’s good to see that libraries are helping us do that - make the transition.” (T. Kvan, personal communication, February 9, 2015). The integration and connectivity of the Library is also exemplified by the glass panels that offer glimpses into library space from a stairwell, as well as from a large lecture auditorium.

There are numerous other examples ranging from space planning and zoning to detail consideration in the selection of furniture and fittings. These were all informed with constant reference to the nature of how the library was to be used to promote a social-constructivist view to academic environments and a library service model that responds to the needs of its users.
Conclusion

University library building works offer an opportunity to reassess the role built environment design plays in supporting student learning and academic research, in managing evolving pedagogical practices and in service delivery modelling. The construction of the new MSD building and its ABP Library demonstrated the positive outcomes of campus-wide consideration related to learning environments, both in strategic planning and in personnel who bring holistic oversight capacity in the implementation of works across campus. The project has benefitted from strong advocates at Faculty and University level towards the importance of libraries on pedagogic grounds in supporting operational aspirations, and in flexibility of approach to the continuance of the embedded library model where need can be demonstrated.

The unique character, in University environments, of a procurement method arising from an open competition in sourcing a design consultant team facilitated a global outreach for design expertise in academic space design. It also established clear aspirational briefing requirements for pedagogic practice to be understood and carried through the project from inception to completion. A key project management factor in the success of the project arose through the appointment of single process facilitators, who took responsibility for the collation and dissemination of information and who acted as the primary conduits between the design team and user-groups.

The design team acknowledged the important role that library professionals play in design and project development, having found them to be an informed and decisive client. This role is assisted in the part they play in sharing their experience via previous project examples, being active agents in workshops briefing requirements and in participatory feedback in identifying and testing critical items for prototyping.

The ABP Library offers a case study for the interpretation of pedagogic practice in the University environment and in a library service delivery model that supports teaching, learning and research. Although, by its very nature, the library building is a frozen moment in time it engages with contemporary built-environment design strategies to support academic programs. It is premature to comment on the success of these strategies and the library service model adopted as the building has only been open to students for a few weeks. Post occupancy evaluation research will contribute to discovering this. It does, however, demonstrate a thoughtful and successful process in the undertaking and the implementation of a new University academic library.

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References


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**Appendix - Interviewees**

**University of Melbourne**
Professor Tom Kvan, Dean of the Architecture, Building and Planning Faculty
Andrew Hutson, Deputy Dean, formerly Associate Dean, Resources
Anne Thompson, Senior Project Manager, Property and Campus Services
Jenny Ellis, Director, Scholarly Information
Scott Drake, formerly Associate Professor, Assistant Dean of Facilities

**NADAA**
Nader Tehrani, Principal NADAA

**John Wardle Architects**
John Wardle, Principal
Stefan Mee, Principal
Meaghan Dwyer, Principal
Jasmin Williamson, Associate
Geoff Arnold, Senior Interior Designer
Stephen Georgalas, Project Architect

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