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II JORNADAS CRAI

PIONEERING DESIGN FOR 21ST CENTURY LEARNING: LEARNING RESOURCES CENTRES AT THE UNIVERSITY OF HERTFORDSHIRE

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Pioneering design for 21st century learning: Learning Resources Centres at the University of Hertfordshire.

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Over the past 10 years, I have been very fortunate to have had the rare privilege of designing two large new flagship buildings and new integrated computing, library and media services to realize a vision. I am pleased to have the opportunity today to tell you about our pioneering building developments at the University of Hertfordshire and what we are learning from them. Our two Learning Resources Centres (LRCs) are integral to an ambitious learning resources strategy designed to meet student learning needs and expectations in the 21st century. The first award-winning LRC opened in 1997 on our existing Hatfield College Lane Campus and has now been in use for 7 academic years; the second LRC is part of the totally new Hatfield de Havilland Campus development which opened for this academic year in September 2003.

In this presentation I will be looking at our vision for 21st century learning and the student expectations which informed our thinking. I will outline our key building design concepts and describe our LRCs, consider some practical issues and summarise the changes we made second time around in the light of experience in our first LRC.

But first I should set the scene with a little background about the University of Hertfordshire. The University is one of the UK's 'new' universities; it was first established in 1952. It is multi-campus and multi-disciplinary and with over 20,000 students is a large university in UK terms. The students comprise a diverse population studying in a variety of full-time and part-time modes, at different levels and spanning a wide age range. The University's origins were in vocational education and technological expertise, which have led to a long-standing reputation for being at the forefront of technological innovation and development.

Student expectations in the 21st century

An appreciation of student expectations had to be the driving force for our developments. Despite its diversity, the student population shares the common aim of achieving academic success, the common need for a rewarding holistic learning experience and a common requirement for excellent learning facilities and services that directly complement their taught programmes and support their independent study. By contrast with the popular hedonistic and rebellious image of university students embedded in public consciousness from the 1960s and 1970s, a recent study in the UK found considerable anxiety and stress amongst students with the most common concern being to graduate with a good degree. For economic reasons, the majority of students both full-time and part-time have some employment to support themselves alongside their studies. The reality of this economic awareness and the increasing financial contribution UK students are required to make to the cost of their tuition has engendered a growing appraisal amongst students of whether they are getting value for money. In today's 'google.com' 24 hour society, students also expect immediacy with quick and easy access to learning resources; in one place whether physical or on-line; at

times to suit themselves, day and night; and without queues, restrictions or other barriers. They also expect to integrate their social life with their study environment!

Our vision

We decided we needed to not only bring together, but fully integrate all the central learning resources (computing, library, media) students need for independent study to complement their formal teaching programmes in lectures, seminars and tutorials. We wanted to meet student expectations of a seamless integrated environment for information gathering and research, for information analysis, processing, recording, presentation and communication together with on-demand help and support, available 24 hours a day, 7 days a week, both on and off campus. We wanted to encourage study and academic achievement with an attractive, comfortable modern study environment that students would want to visit and spend time in. We also wanted to recognize and meet the different study requirements and preferences inherent in a large diverse multi-disciplinary community, as well as the social context to their study. Exploitation of the pervasive mass use of computing technology was central to the planning for our net-enhanced university. We wanted to use computing technology and digital resources not only to integrate services, but also to extend the study environment beyond the captivity of the four walls of a library or learning resources centre, both on and off campus. Not only did we want to provide integrated facilities and services 24 hours a day, 7 days a week, we also needed to deliver them as economically as possible in terms of staffing resources. We therefore adopted a self-service and self-help approach to the delivery of our core services and user support both to support 24/7 availability and to allow an emphasis on using our limited staffing resources to provide value-added and specialist services and support.

In short our vision was to provide a single 'one stop' access for students both physically and virtually to integrated learning resources facilities, services and support. Physically, the Learning Resources Centre is the focal point for this 'one-stop' access on campus; the scale, location and prestigious design of our LRCs demonstrates the centrality of this focal point for campus activity. The popularity and high usage of our LRCs reflect the successful manifestation of our vision.

A decade of trends

Planning a second LRC almost a decade on from our first new LRC has been an interesting challenge which forced us to consider and review of our initial vision and answer the question visitors always ask you – ' what would you do differently if you were doing it all again?'. Over the ten years 1994 – 2004 from planning our first new LRC to the opening of our second, changing trends have emerged but our overall vision has remained valid. During this period we have seen the increasing availability and use of digital information resources, with e-journals in particular supplementing and replacing print journals. Technological developments such as wireless networks, cheaper and more powerful laptop computers and exponential increases in use of the worldwide web have promoted greater student mobility. Security risks have grown, both on-line from hackers, malicious attack and virus infections and unfortunately also physically in terms of personal safety and security. Consumerism, value for money

expectations and perhaps also the impersonal anonymous nature of the on-line web world seem to have led to an increased demand for excellent customer support and recognition of the individual with value-added and personalised services.

In particular the flexibility and security we sought in our buildings, the holistic integrated approach we took to our service development and delivery and the emphasis on exploiting computing technology seems to have stood us in good stead, and hopefully will continue to do so for some years to come. As I go on now to describe our two LRC buildings and their key design concepts, I will also comment on how they can adapt to these changing needs and what we did do differently in our second LRC.

Brief description of the Hatfield College Lane Campus LRC

The Hatfield College Lane Campus Learning Resources Centre (LRC) opened in 1997. It is sited centrally on the campus between the teaching accommodation and the student residences. It is a large deep plan rectangular building of some 11,750 sqm arranged on three full-size floors (each approx 90m x 40m) plus a half-size lower ground floor to take advantage of the slope of the land for maximum internal space. The building has a modular structure frame on a 7.8m grid and a barrel-vaulted steel roof. The long sides of the rectangular building face east / west; the entrance portico is on the northern façade which allows a grand glass wall design without internal solar glare problems; and staff office accommodation located internally at the south end of the building also eliminates solar gain to the study areas and allows opening windows to staff offices. It is a light, open and airy building. A central atrium houses the two main staircases, brings natural daylight right into the internal spaces and allows the circulation of air for the low energy displacement ventilation system. The service cores are located in the four corners of the building (emergency staircases, toilets, plant rooms, patch rooms) allowing maximum flexibility within the large unobstructed internal open plan areas.

This LRC provides 1600 study places arranged in a variety of different study environments, all supporting access to networked electronic services. 800 of the study places are fitted with networked University computer workstations and the whole building is covered by wireless networks to support student use of personal laptops at all other study places. The LRC also houses printed book and journal collections of over 400,000 volumes and a number of specialist facilities including a multimedia laboratory, assistive technology to support those with disabilities, video studios, video conferencing room, cafe study area and a closed access compact stack.

The LRC was cost-effective both in terms of its building cost at £823 per sqm and also in terms of its construction timetable being built, fully fitted out, equipped and opened in only 16 months.

Brief description of the Hatfield de Havilland Campus LRC

Our second LRC at the Hatfield de Havilland Campus opened in 2003. It is situated prominently at the entrance to the campus and is linked to the main faculty and teaching accommodation by an internal 'Street'. Student residences are adjacent and within a few minutes walk. It is a large deep plan 'A-shaped' building of some 7,500 sqm arranged

on three floors. The main structure is based on a 1.5 metre module within a structural frame grid comprising rectangular 9 x 6 metre units. The main entrance to the building is through the covered internal campus 'Street' into the narrow end of the building. Light streams into an atrium in the building through a glass curtain wall at the opposite wide end of the building. A substantial roof overhang at this south end of building and external automatic brise soleil on both east and west facades reduce solar glare to the building. The internal glazing of the atrium disseminates natural daylight to the upper floors and provides transparency across the width of the building. The atrium houses two multi-purpose lifts and one central staircase. This is supplemented by two further staircases, one in each service core at the SE and SW corners of the building, where toilets and patch rooms are also located. Additional emergency staircases are provided at the north end of the building. Internal walls to define a variety of study suites on the upper floors are located in the areas to either side of the atrium, allowing maximum flexibility of use of a large open plan area on each floor.

This LRC provides 1100 study places arranged in a variety of different study environments, all of which support access to networked electronic services either via a university supplied computer workstation (650) or student use of personal laptop computers with wireless networks. This LRC houses printed book and journal collections of some 250,000 volumes and also has specialist facilities including multimedia laboratory, assistive technology for disability support, video studio, video conferencing room, and café study area.

With a building cost of £1354 per sqm, this second LRC was part of a completely new £120 million campus. The campus was built, fitted out, equipped and opened over a two year period.

I am sure you will be able to see already from these brief descriptions that there are considerable similarities between the design and facilities of the two LRC buildings.

Key concepts

I would like to move on now to consider some key design concepts and practical issues, and I will start with overall space requirements.

Space requirements

I expect you will have noticed that in terms of overall dimensions our second LRC is smaller than the first. Whilst both LRCS are open to all students, we do make an assumption that students will primarily choose to use the LRC on the campus where their academic faculty is located and where they are normally taught. We therefore based the overall size of each LRC on the size of the student population studying in the academic faculties based on each campus. Our first LRC at the Hatfield College Lane Campus was designed to cater for a student population of about 10,000 full-time equivalent students; this gives a gross space ratio of about 1.18sqm per full-time equivalent student and study place provision at 1 place per 6 fte students. Our second LRC at the Hatfield de Havilland Campus is in fact deliberately larger pro rata than the first one. The second one was designed to cater for a student population of just over 4000 full-time equivalent students and larger pro rata printed book and journal

collections to support the book intensive business and humanities disciplines; it has a space ratio of 1.81sqm per full-time equivalent student. Due to the popularity and high usage levels of our first LRC, the University had no hesitation in specifying a higher space ratio for our second one with a higher level of study place provision at 1 study place per 4 fte students.

Other space criteria we used include a standard desk size throughout of 1000mm wide by 800mm deep within an overall allowance of 3sqm per study place and a centre to centre distance between bookstacks of 1.6m to give an adequate aisle for wheelchair access. We also changed to a 1200mm book shelf length from the previous 900mm standard. We did make an allowance of about 15-20% for the growth of printed book collections by leaving one shelf per bay empty but our Collection Policy is not predicated on maintaining indefinite growth. We focus on working collections to support the current learning, teaching and research of the University and hold no large special archival collections. Three years ago we adopted a policy of preference for the e-journal where there is a choice. As a result we have removed from the open shelves backfiles of printed journals where these are now available electronically instead. The overall net to gross space ratio in the LRCs is about 70:30.

I am often asked if I think that the digital age will eventually mean that use of our large LRCs will decline as students study on-line from any location. On the basis of current evidence, this seems an unlikely prospect in the short to medium term. We continue to see high levels of on campus use of our LRCs and high book loan rates alongside an additional exponential increase in the use of on-line services and digital resources of which some 30% is from off campus.

Flexibility

One of the key elements of our design brief was to ensure a large measure of built-in internal flexibility.
We particularly specified:

- raised floors throughout for ease of power and data distribution to all areas of the building. In the event the raised floors are also used for chilled air circulation. We have successfully made a number of changes to power and data utilisation, for example in the re-organisation of study areas.
- equal load bearing of floors throughout the building (@ 5KN per sqm) to take the weight of bookstacks. Some stack layout changes have been required.
- internal partition walls capable of removal or relocation. In practice, this has been contrained by fire compartmentalisation requirements and by the blockwork construction of internal walls. At present we have made only limited changes requiring the removal of internal partition walls due to the demolition work involved, but the grid construction of the building has made it relatively easy to install additional internal partition walls for example to reconfigure some staff office accommodation.
- large open plan spaces for adaptable configuration with furniture only

In planning our buildings, the discussions about flexibility proved quite difficult, since flexibility is an expensive capital cost commodity. We found the public perception of libraries as fixed never-changing set-ups was strongly embedded in the initial views of

our architects and their design team. They found it quite novel that we expected to change and adapt our internal building layouts year on year. Examples from the past proved very useful evidence in winning this debate.

Variety of attractive study environments

As I have already mentioned, we wanted to encourage study by offering our students a variety of attractive modern light airy open study environments to meet a spectrum of study requirements and expectations. In some discipline areas, group work and presentations are important, with generic skills such as team working and communications being assessed as well as coursework subject content; in others individual effort through quiet study is more pertinent; some students prefer to work over a cup of coffee or lunch with friends; others like to work in silence; some need to use specialist equipment and facilities for their coursework.

The study facilities in our LRCs try therefore to meet this range of requirements and include:

- open plan noisy group study areas. These are located on the ground floor
- separate group study rooms. The two LRCs have a total of 23 group study rooms, some of which are equipped with LCD projection facilities for students to practise their presentations or view videos and DVDs. The group study rooms are very popular with students. They book these rooms either in advance or on the day.
- open plan individual study areas
- study suites which can be booked for use by LIS staff and academic staff to deliver skills training sessions to groups of students in using specific learning resources (eg databases, software applications) but are available for open access study at other times
- silent study suites and 60 individual silent study carrels
- graduate study rooms, providing an additional study option for research and masters level students
- café study areas. Food and drink services and snack vending machines are provided in these study areas by University catering services
- specialist facilities including video studios, video conferencing facilities, assistive technology for those with disabilities, multimedia laboratories.

Many of our visitors and some of our students are initially surprised by this range of study facilities, especially when they enter our LRCs and find themselves in a noisy bustling and popular ground floor open plan group study environment, rather than the quiet atmosphere of the traditional academic library.

Noise control

As you may imagine noise control is an important design criterion in accommodating multiple study environments in one building. In both buildings we gave considerable priority to having the atrium walled either to full-height or almost full-height to prevent the noisy ground floor environment conflicting with quieter study on the upper floors. We had to compromise on making the atrium walls full-height throughout as this

conflicted with the air circulation flows required into the atrium and up through the building for the low energy displacement ventilation system. The bookstack locations are strategically placed to provide a further sound buffer between the central atrium and study areas on the upper floors. Sound absorption materials were built-in in a variety of locations such as in light fittings, panelling on ceilings and walls, and in bookstack end panels.

Our experience from the first LRC showed us that use of the different study environments is unfortunately not self-policing. Students wishing to study in silence seem unwilling to ask their peers who are not silent to move to another appropriate study area. They are more likely to complain generally to their tutors some time later rather than on the spot. We also learned that some study area definitions needed to be enhanced and some adjacencies changed for our second LRC.

The location of the café study area at the bottom of the atrium in our first LRC does cause some noise intrusion (and coffee aroma!) up through the atrium into other parts of the building. So in the second LRC, the café study area is still readily accessible on the ground floor near the entrance but contained within internal glazed walls. We have also incorporated more glazed internal walls around some study areas on the upper floors in our second LRC. These walled-in study areas are also used by LIS and academic staff for skills training sessions with groups of students and give us the capacity to re-designate this study space as noisy or silent zones according to demand at different times of the year. We have also enhanced the silent study facilities by providing the individual silent study carrels off the walled-in silent study suites, rather than opening directly off open access circulations space as in the first LRC.

Robustness

Given the wear and tear generated by high levels of usage and 24/7 operation another major consideration was the robustness of the building finishes, the fixtures, fittings and furniture installed. Inevitably this was a compromise between cost, aesthetics and robustness, but we briefed our architects to approach the design from the perspective of providing an academic study environment in the context of a busy public place such as a railway platform or airport concourse. For the study furniture in particular we deliberately specified substantial heavy desktops and sturdy legs to inhibit its haphazard re-organisation by individual students. I would still welcome any solutions for dealing with the floor stains caused by chewing gum or details of successful deterrents for mindless graffiti and doodling. We have to budget each year for a certain amount of petty vandalism, particularly of computer workstations.

Infrastructure, computing and building systems

We unfortunately had no opportunity due to stringent planning permission conditions to explore external flexibility with either of our LRC buildings in terms of the building orientation and overall shape to maximise the use of north facing natural daylight or minimise the effects of solar gain. Different solutions as described earlier for dealing with solar gain were specified for each building. Extensive computer modelling of the sun trajectories at different times of the year was used to design the external brise soleil

for our new Hatfield de Havilland Campus LRC. It is a little too early to say if this installation works successfully as our first summer experience is yet to come.

The main temperature issue for our LRCs is one of cooling and ventilation, not heating, although of course heating systems are also installed. The heat generated by large numbers of computer workstations and users is substantial. In both LRCs the building is cooled by the flow of chilled air through the building, the upward circulation of warm air in the building and its extraction at the top of the building. At the Hatfield College Lane Campus LRC the chilled air flows up into the study areas from the underfloor voids and at the Hatfield de Havilland Campus LRC chilled air is supplied downwards from chilled beams in the ceiling. The atrium in each building is important for these air flows. The capacity for the conventional use of the concrete slab of the building for cooling the building at night-time is greatly reduced in buildings like our LRCs that are open 24/7 and have a high density of computer workstations. But I imagine here in Spain, you know all about cooling requirements particularly in the summer months!

As indicated earlier, the exploitation of the pervasive mass use of computing technology was central to our learning resources strategy and the achievement of the net-enhanced university. In our seamless integrated study environment, students had to be able to access the full range of learning resources from every study place in a LRC, combining as required the use of printed sources with on-line delivery of e-content, e-services, e-communications, software applications and utilities.

In 1997 we developed the UH integrated student desktop computer workstation configuration for use in our first LRC to support integrated student access to all networked services and facilities through individual student login. Since then this integrated desktop concept has been extended not only to our second LRC but also to the full-scale implementation of the University's managed learning environment, StudyNet. StudyNet provides individual student portals with on-line inter-active access to course materials, discussion forums, tutor support and personal academic records. StudyNet and the networked digital resources and services are also available off-campus over the internet on individual authentication, extending the seamless integrated environment far beyond the 4 walls of the LRC.

The power and data infrastructure in our LRCs had to be capable of supporting networked use of computer workstations from every study place, as well as from staff desks. Our LRCs are flood-wired for power and data, sufficient to support 2 data outlets and 2 power outlets per study place and 4 of each per individual staff desk. The power is supplied from busbars running in the underfloor void and the data cabling is carried in underfloor trays and terminated every 10sqm under the floor to provide sufficient connections to supply the study furniture however it may be arranged. Good cable management facilities in the study furniture are vital. The location of patch rooms on each floor of the LRCs was critical to meet the maximum 90 metre data cable length standard between desktop and patch panel. Raised floors throughout the building provide the flexibility to direct power and data services to all areas and to alter these utilities as changes are made to furniture layouts. The raised floors are constructed from 600mm square floor tiles, overlayed with carpet tiles. The power and data services come up through grommets cut into these floor tiles. The floor tiles can easily be re-arranged to relocate the grommets in the required places. The grommet solution is more flexible, more robust and safer than conventional floorboxes, especially

in such a busy environment. The data infrastructure runs at gigabit Ethernet over CAT6 cabling. We have used wireless networks over and above a wired infrastructure to enhance access to our networked services, particularly for students wishing to use their personal laptop computers. The speed, capacity, and robustness of wireless networks are still considerably inferior to the wired infrastructure and could not provide an alternative for our service requirements. Each LRC also has a main server room to house the servers driving our systems and delivering services to the desktop. The M&E installations for the LRC buildings accounted for a significant percentage of the overall cost of the building.

Ease of orientation

The promotion of a self-help, self-sufficiency culture was fundamental to our learning resources strategy to support 24/7 and off campus use of our services when staffed support could not be readily to hand. We also wanted to ensure that our limited staffing resources could be effectively focussed on added value user support rather than delivery of the routine service functionality. The design of the buildings and their facilities was important in encouraging a self-help culture.

Orientation and guiding around our large buildings with their wide range of facilities and services needed to be clear, simple and easy to follow. Key design features which helped with achieving this are the focal point provided by the central atrium, the use of signage banners hanging in the atrium, the use of ‘store guide’ style signage by the lifts and stairs on all floors, simplicity and symmetry of layout on each floor, the use of glass for visual transparency internally across the buildings. A public address system capable of global and selective messaging is used for announcements and space for large daily notices to be posted at the entrance to the building has proved particularly effective.

In designing the buildings we considered possible patterns of usage as well as service processes and workflows such as managing the substantial book trolley traffic required to maintain re-shelving regimes. The internal layouts of our LRCs define wide main circulation routes within the buildings for ready access to bookstacks and study areas with minimum disruption to those already engaged in study. At the main entrance to the LRCs we needed to anticipate the space to cope with large groups of students entering at once at certain times for example when lectures finish. At the Hatfield College Lane Campus LRC, this circulation capacity is provided inside the building; by contrast the equivalent space is provided outside the building in the covered internal 'Street' at the newer Hatfield de Havilland Campus LRC. So far it seems both approaches work.

When discussing the user traffic flows and processes at the entrance and exit to our LRCs, we identified a fundamental difference between our LRC requirements and conventional arrangements for entrance areas in other types of building such as office blocks. In conventional arrangements inside the initial entrance doors and any security point, there is a clear emphasis on immediate access to a reception function (an outward facing role to help the person arriving in the building) and immediate access to any stairs or lifts to other floors to aid orientation. Inner areas of the building and specific user facilities are secondary considerations. Our LRC entry arrangements were different. Our emphasis was on circulation space to cope with large numbers of users

arriving at once and on providing immediate access to self-help and self-service facilities and to internal study areas. Stairs and lifts to other floors are located further away from the entrance so that some facilities and services can be accommodated between them and the entrance / exit. The stairs and lifts for us are internal circulation routes within the building unrelated to entry to and exit from the building. Our helpdesk has an inward facing function to support those working in the building and is best set back from the entrance to allow sufficient space for use of self-service and self-help facilities first.

In our first LRC at the Hatfield College Lane Campus, there is insufficient space to accommodate all self-service facilities between the entrance and the helpdesk to support their effective promotion to users. In our new second LRC, we have been able to locate the entrance further away from the helpdesk so that users immediately see the self-service and self-help facilities on entering the building rather than the helpdesk.

We also have a single staffed helpdesk in each LRC, rather than several service points on different floors or for different functions. This decision was partly due to the limitations of our staffing resources, but mainly because we thought it very important in a large building to provide a clear single focal point where our users knew they could go for help and assistance from LIS staff.

Security and personal safety

We need to be able to support secure and safe 24/7 usage by students of all study areas and collections without any additional staffing implications and with minimal risk to University assets. Overnight opening from 22.00 hours until 8.00 hours is provided with Security staffing only. Design considerations to support our requirements include a single entrance and exit to the building controlled by security staff, lobby spaces inside all emergency exits so that students have access to emergency exit doors only in the event of an emergency, and emergency telephones installed at points throughout the building. Video surveillance is used selectively at entrance and exits, in some enclosed study areas and at the staffed helpdesk.

Layers of security are managed within the LRCs through use of card swipe access control for designated staff to offices, to store rooms, to specialist staffed facilities such as video studios and to patch and server rooms.

In our first LRC at the Hatfield College Lane Campus the location of the delivery door on the lower ground floor was determined by the logistics of the site. This means that the security staff who are based at the entrance to the building are too far away from the delivery door to oversee deliveries. Similarly, they are too far from the exit from the Reserve Collection room to respond to anyone setting off the book detection system at this exit during the night. As a result the Reserve Collection room shuts at night. In our second new LRC, we have managed to align the location of the exit from the Reserve Collection room and the delivery door within reach of the security presence at the main entrance, for efficiency of supervision by security staff on duty.

Staff accommodation

The size and scale of our LRC buildings have affected operational arrangements for our staff. When we planned the first LRC, the rationale was to spread the staff presence through the building by locating LIS staff office accommodation on all the floors. The frontline services staff team were located on the ground floor in offices adjacent to the helpdesk and computing, information and media professionals in offices on the other floors. This distribution of staff over a large physical area actually made it difficult for staff to know who was in or to find someone easily in the building. It also turned out to be detrimental to internal staff communications and team working. Learning from this experience we have changed to a model for our second LRC whereby we have deliberately located all staff office accommodation together on the ground floor behind the helpdesk to strengthen team-working and internal communications by virtue of the natural spin-off benefits of co-location, where staff can see and hear what each other are doing. We have also made some changes to move towards this model in our original LRC building. However, no one model has all the advantages. With all the staff office accommodation together on the ground floor, we have had to take other steps to ensure staff are familiar with the whole building and feel ownership of it, with work schedules that involve them in looking after facilities on the upper floors. Otherwise it is quite possible for them to come into the building each day and into their office and to the helpdesk without going to other parts of the building. In both LRCs we also focussed on team rather than small individual or two-person offices.

The sheer size of the building, scale of the facilities and quantities of equipment also has a organizational requirement akin to that of airports, department stores and other public facilities. Staff roles have changed to ensure continual support for maintaining the tidiness of the study facilities, checking equipment is in working order, filling printers and copiers with paper, dealing with repairs and petty damage, clearing study tables, re-shelving books and for cleaning and clearing rubbish.

Ownership and process

For my tenth and final practical topic, I would just like to make a few comments about the building design and development processes.

Our first Hatfield College Lane Campus LRC followed a traditional process with the architects, design team and building contractor working with the university. This allowed us as the client to work closely with the architect and contractor throughout the design and building stages of the process subject to a formal project management arrangement to ensure the project remained on budget and on time. This dialogue meant we were involved throughout the process and agreed detailed specifications at each stage as required. We also appreciated through this involvement the inter-relationships and conflicts that can arise between the different aspects of the building requirements for example how the choice of ventilation and cooling system can affect ceiling height and use of internal walls. We also found out how the building plant can encroach on usable space. You also do really need to establish your priorities and know what you are prepared to concede and what you will insist on achieving. However, we had a really positive experience and achieved an excellent building.

Our second LRC at the Hatfield de Havilland Campus followed a different process, one of design and build. This meant that not only the overall design concepts and accommodation schedules had to be specified at the outset, but also the detailed design requirements taking account of proposed furniture layouts and so on. This was a very onerous and time-consuming task, that had to be completed in a very short period of time. Once the design was signed off, there was virtually no scope for making alterations. We had little contact with the architect, design team and building contractor during the actual building process. This was a very frustrating situation. However, as you can see from the photos in my presentation slides, our second LRC is also a stunning building.

With both of our LRC buildings, the timescale allowed for the fitout work such as installing book shelving, study furniture, computing systems and equipment and for moving into the building was far too short. This seems to be the part of the project plan which gets reduced when any slippage occurs in the overall timetable.

One other point my LIS staff found difficult was the sudden realisation that the new LRC building was not just a LIS project. There were other influential stakeholders. This was a university flagship project, with the critical decisions being made by the university and not just by LIS. Albeit for the most part the university did take account of LIS recommendations.

So what have we achieved for the University and its reputation?

Without University senior level commitment and investment, the realization of this ambitious learning resources strategy and LRC building would not have been possible. However, as with all businesses, the University was clearly looking for a substantial return on its investment. The LRCs have delivered that substantial return in several ways. They provide a central focus on campus with impressive flagship buildings highly regarded by staff and students. They have the flexibility to support and respond to change. They are a major external PR focus receiving interest and visitors from all over the world. Our integrated approach to learning resources has played a central role in promoting the further development of teaching and learning and contributing to the achievement of maximum external quality assessment scores for learning resources. Perhaps most importantly they have greatly enhanced the students' learning experience and gained their very positive customer satisfaction.

The pioneering design of the University of Hertfordshire's Learning Resources Centres has succeeded in effecting major change for the University to deliver high quality student learning resources. They are hopefully also a source of inspiration and design excellence for others in taking forward their future library and learning resources plans.

For further information:

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