Creating learning resource centres for the future: some qualities and reflections

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I am pleased to be talking to you today about the important issue of creating good learning space. It is timely for universities in Spain to consider the nature of the space required to deliver learning support services in the future as part of your overall strategic planning. In particular, it is pertinent to reflect on the design of learning resource centres, whether new buildings or refurbishments of existing space.

Unfortunately in strategic terms, space sometimes receives less professional attention than it deserves. It is precious and expensive resource that should be planned and managed within a strategic framework for the development of the service as a whole. Quite simply, good well-planned space enables the learning resource centre to fulfil its mission and underpins the development of all other resources. On the other hand, poor space often conflicts with what readers and service staff are trying to achieve and inhibits the learning resource centre's ability to fulfil its aims and objectives in an efficient way. More seriously, it can constrain the development of the service.

In my largely visual presentation, I should like to explore a number of themes. I will briefly discuss the nature of the learning resource centre and some of the broad challenges involved in planning new ones. I will explore in detail the key qualities of good new learning space. Having reflected on some recent design trends and developments, I will conclude by considering the future of the library or learning centre as a 'place' in the electronic age.

Many of the designs you will see are in the United Kingdom, but I am in not suggesting they are necessarily desirable solutions for you here in Spain. Clearly, design solutions vary considerably in different universities, in different higher education systems and in different cultures and climates. However, I do firmly believe that the qualities we will be discussing are the key considerations for designing new learning space wherever this may be. Indeed, it is reassuring that the design trends in learning resource centres are surprisingly similar all over the world.

What's in a name?

We should first consider what we mean by a learning resource centre and how it differs from a traditional library.

Some planners regard the learning resource centre as a new building type with distinctive qualities (Higher Education Design Quality Forum, 1996). In the UK the trend began in the late 1980's when a number of 'new' universities built impressive new learning resource centres to significantly improve the quality of their learning and teaching support services (Brewer, 1997). These 'premier' buildings were often the most distinguished on campus and some were designed by internationally renowned architects.

In these new learning resource centres there was a greater emphasis on reader places, information technology and a wide range of learning media, rather than on traditional printed collections. Some were ‘converged’ library and computing services, and others housed media centres, information skills rooms, learning development services, teaching accommodation and other learning facilities. More recently, new learning resource centres have provided space for informal learning, group work and laptop use, often with catering facilities.

However, many new forward-looking ‘libraries’ offer similar facilities and in practice are ‘hybrid’ services, providing both traditional and electronic services, whether in support of teaching and learning, or of research, or both (McDonald, 1996a).

In other words, services described as libraries and learning resource centres are often very similar and the terms are even used interchangeably in some institutions. In reality, the differences may be a question of emphasis rather than of a demonstrably different building type.

Let’s briefly discuss three broad challenges in the planning and design of new learning space.

Vision and partnerships

> *“Good library buildings are success stories in which architects, librarians and planners work together to create happy endings that benefit users for decades”*
>
> Librarian, City University of New York

Planning new learning space is about creating the physical environment to support the teaching, learning and research aspirations of the institution, not only for the immediate future, but also for succeeding generations of users. As a rule, the best libraries result from a strong shared vision and good communication between everyone involved in the planning process, particularly the librarian and the architect. Above all, the library manager must have a strong vision for the nature of the new space and has the important responsibility of communicating this vision to all those involved in the planning and design process. Indeed, this vision should inspire the design process (Bazillion and Braun, 1994)

People, change and culture

“We shape our buildings, and afterwards, our buildings shape us “ Winston Churchill

Recent design trends emphasise a ‘people-centred’ approach to planning (Wu, 2003). Planning new space is essentially about people, or rather it is about creating the space in which people can interact with the collections, information technology and services they need. It is people who design libraries, people who deliver services and people who use them.

Planning new space is about creating a great deal of change to develop an entirely new service that can deliver better quality, improved responsiveness and greater efficiency. The librarian must provide the leadership and direction necessary to manage both staff and users through a period of considerable change. On the one hand, this is about managing creativity and ideas and on the other, it is about dealing with disruption and uncertainty.

At the same time, creating new learning space is a unique opportunity for the manager to change the culture and attitudes within the organisation and to influence the way in which both service staff and users behave. New buildings can be important symbols of the physical and skills regeneration of the environment in which they are placed.

Future proofing

> *"All buildings are predictions. All predictions are wrong"* Stewart Brand

One fundamental question is how far ahead we should plan? Any predictions about the size and nature of buildings for the future will depend upon how we envisage LRC services will be delivered in the networked information age. Lucker (2004) suggests we can only plan buildings for 20 years because of the pace of change in information technology, e learning and higher education. Pragmatists might suggest that we should look as far ahead as we can, or perhaps as far as we can afford.

More than ever

Despite some almost reckless predictions about the end of libraries and their book collections, due to the rapid growth in networked electronic information and the use of the internet, universities continue to build new learning centres and refurbish existing buildings. In the last ten years, there have been more than 100 new academic library projects in the UK costing an estimated £460 million (SCONUL, 2004). In the USA, 31 new academic library building projects were completed in 2002/03 alone at a cost of almost $311 million (Fox, 2003). Indeed, there is an ever growing diversity of imaginatively designed new library buildings, and each represents a particular vision of what a new library or learning centre should look like. But what are the key qualities that define good learning space?

Qualities of academic library space

Good learning space has a number of important qualities. It is suggested (McDonald, 2000b; 2002b; 2002c; 2003; 2004) that ideally this space should be:

- functional
- adaptable

- accessible
- varied
- interactive
- conducive
- environmentally suitable
- safe and secure
- efficient
- suitable for information technology
- and have ‘oomph’

These qualities help to define what managers should be striving for. They are the critical issues that should be addressed in the brief (or programme statement) and should be discussed with the planning team, and they form a set of criteria against which design solutions can be assessed. Indeed they are the qualities that set libraries and learning centres apart from other building types.

Clearly, the priority given to each of these qualities will depend on the mission and culture of the university, and the rôle and aims of its learning support service. They are intended as an indicative set of qualities and should never be taken as a prescriptive set of solutions. Inevitably there are tensions and even conflicts between these qualities as well as within each of them, and they all have resource implications.

Although the emphases will be different when building a traditional library or a learning resource centre, the qualities are equally relevant to all space planning exercises - a new library or extension, a refurbishment or adaptation, making better use of existing space, or any combination of such projects.

Let’s explore each of these defining qualities in a little more detail.

Functional

space that works well, looks good and lasts well

We should aim to design learning resource centres which are functional, easy to use and economical to operate. New space must enable the centre to fulfil its role and facilitate the delivery of high-quality services. Functional interests should take priority over any purely aesthetic considerations, but our learning resource centres should look good too. The design should recognise the crucial importance of people, books and information technology, and the dynamic relationship and complex interactions between them. New space must enable the service to respond to the changing needs of the academic community. Above all, the learner should be at the centre of the whole process.

Adaptable

flexible space, the use of which can easily be changed

Paradoxically, one of the few certainties in planning libraries and learning centres is the almost guaranteed uncertainty about future use, particularly in relation to information technology, organisational structure and user behaviour. It is important to achieve a high degree of flexibility in the building so that the use of space can easily be changed with the minimum of disruption, merely by rearranging the furniture, shelving and equipment. Achieving long-term flexibility can, however, be more costly than delivering short-term functionality, and planners are now more pragmatic, seeking an appropriate balance between cost and adaptability requirements.

It is generally held that the floor loading should be sufficient for bookstacks throughout the building. The growing use of information technology, often at the expense of bookstacks, has challenged this view. Some learning resource centres, housing predominantly IT-based resources, have been constructed to office, rather than traditional library, floor loading standards. However, any potential savings should be carefully assessed against the loss of long-term flexibility.

Accessible

social space which is inviting, easy-to-use and promotes independence

The learning resource centre is the central academic focus of the university and plays a strong social role within the institution. It should be as accessible as possible, encouraging and even inviting people to make full use of the services it provides. It must cater for the growing diversity of users and their learning styles, and for traditional and electronic modes of delivery.

Access should be as clear and straightforward as possible with a self-evident layout facilitating independent study. Great progress has been made in providing attractive, legible and flexible signage systems, and we are now seeing the use of multimedia guides, digital signs and plasma screens.

The design of busy entrance areas is changing, particularly as many learning resource centres have installed access control, smart cards and self-service systems. The growth of 24-hour, 7-day access services requires attention to the security and robustness of the building and its collections, furniture and equipment, as well as to the safety of readers and staff.

The design must meet the current legal requirements for access by those with disabilities and learning differences - not least because good design for disabled people is generally good design for the able-bodied. In any case in the UK, the Special Educational Needs and Disability Act (2001) makes discrimination against disabled students unlawful and requires institutions to make ‘reasonable adjustments’ to ensure access by disabled people.

Varied

with a choice of learning environment and for different media

We should provide a variety of study environments to suit different learning styles and the needs of researchers. Students should be encouraged to learn at their own pace and in their own time, with provision for quiet study, independent learning and group work. The 'hybrid library' must, of course, provide access to both traditional and electronic resources in response to the needs of the curriculum and scholarship. The huge variety of reader places range from single person to multi-person tables of various shapes, casual seating, study rooms and group study facilities. Some readers like an 'active' or noisy social learning environment; others prefer a quiet study environment with good acoustic and visual privacy. This can be achieved to different degrees with table dividers, bookstands, mesh screens and carrels. There is also increasing demand for facilities for e-learning and information skills training and other seminars.

Interactive

well-organised space which promotes contact between users and services

We must achieve an appropriate balance between the space for collections, services, readers and information technology. The well-organised learning centre not only makes optimum use of the space available, but also promotes interaction between people, and encourages the use of its services. The main counter, enquiry points and information skills training rooms are key areas of interaction in modern learning resource centres.

Conducive

high-quality humane space which inspires people

As the academic heart of the university the learning resource centre should convey a sense of quality and value. The ambience should be conducive to academic work and reflection, and should encourage, and even inspire, its users. Readers, many of whom study for long periods and in increasing numbers, should feel comfortable and safe.

Imaginative architecture and varied internal spaces all contribute to the ambience of the learning environment. This can be further enhanced by paintings, sculptures, stained glass, internal gardens and other 'cultural artwork'. An investment in a high standard of furnishings and finishes will also create this sense of quality and will withstand heavy use over an extended period with the minimum of maintenance. The library should be much more than an unimaginative 'swotting shed' with high density regimented study places.

Noise, particularly from computer clusters and readers themselves, is an increasing problem in learning resource centres and planners are paying considerable attention to the management of noise in new buildings. Ironically, this is even more important in buildings where talking is permitted, because effective noise management enables users to interact with each other without disturbing others unnecessarily. One fundamental dilemma is the design of the staircases in the building. Some buildings are designed around an open central staircase for transparent access and airflow considerations while

in others planners have enclosed the staircases to contain the inevitable noise associated with readers moving up and down the building.

Environmentally suitable

with appropriate conditions for readers, books and computers

Suitable environmental conditions are required, not only for the comfort of readers, but also for the efficient operation of computers and the preservation of library materials. Ideally temperature, humidity, dust and pollution levels should all be controlled. Natural or passive ventilation, now common in new buildings, provides an affordable, sustainable and a people-friendly solution. Any building or energy management system fitted should be designed to accommodate the lowest common denominator of building management, and the building should be environmentally appropriate.

The ambient lighting, whether natural or artificial, should be sufficient both for bookstacks and reader places, and must take account of the growing use of computer terminals by readers and LRC staff. Task lighting or individual table lights have traditionally been used to upgrade the lighting at the reader's desk, but we must make sure the design does not get in the way of installing PCs. Large glazed areas mean that users can enjoy exterior vistas and natural daylight, but double and even triple glazing, tinting, solar film, blinds or architectural shading are necessary to alleviate the worst effects of noise, solar gain and solar glare. Atria can introduce welcome light and natural ventilation to the centre of large buildings.

Safe and secure

for people, collections, equipment, data and the building

There are security risks associated with the building, its users, collections, equipment and data (Quinsee and McDonald, 1991). The design must conform to current health and safety legislation and particular attention should be paid to the ergonomic design of workstations, to securing IT equipment, and to operation during non-standard working hours. Unfortunately, good security measures can sometimes conflict with convenience, aesthetics and even safety.

Efficient

economic in space, staffing and running costs

Learning resource centres must operate as efficiently and economically as possible. Although some architects disagree, universities stress the need for minimum running and maintenance costs. In recent years space efficiency and life-cycle costs have come under close scrutiny, and projects need to demonstrate value for money in relation to the large capital sums involved. Universities may consider the economics and desirability of extending and refurbishing existing buildings as an alternative to constructing new libraries (Fox and Cassin, 1996; McDonald, 1993). Existing buildings may have a

symbolic, emotional or architectural significance within the university, and refurbishment may be consistent with campus plans (Jones, 1999). Planners may also consider the economics and convenience of housing certain collections in on- or off-campus stores, and are at the same time, beginning to compare the relative life-cycle costs of electronic and traditional libraries.

Suitable for information technology

with flexible provision for users and staff

New space must allow the learning resource centre and its users to benefit fully from rapid advances in ICT: indeed, we should be planning buildings to surpass the demands of the internet generation (Fox, 1999). Even though only about 21% of reader places in libraries in the UK have computers at the moment (SCONUL, 2003), the number of computers and peripheral devices used in libraries continues to grow significantly and readers are also bringing in their own portable machines. The proportion is rather higher in learning resource centres (27%) than in the libraries of older traditional universities (16%). Nevertheless, the ultimate challenge is to have the capability to provide a fully networked computer at virtually any point in the building in an environment conducive to computer use (McDonald et al., 2000)

Effective planning relies on the combined wisdom and experience of architects, librarians, computer experts and networking specialists. A suitable proportion of the building budget, typically 5-10%, should be devoted to ICT provision to fund the cabling, active equipment, connections and hardware required, together with suitable safety, security and environmental measures.

A high bandwidth network infrastructure is essential. Most new learning resource centres are fully wired-up and provide cabling and trunking around the whole building with docking stations for readers to connect their laptops to the network. Wireless networking is now more commonplace as it becomes faster and cheaper, despite some concerns about reliability and security.

Planners may choose to wire up all the study places, or they may economise by connecting only a certain proportion of them. Computers are often arranged on tables around the perimeter where they can easily be served from the wall, but are sometimes placed in the centre of the building to avoid problems of solar glare and gain. In many buildings, computers are simply placed on ordinary tables which gives the most flexible arrangement, but in others specially designed computer furniture is used. In any case the design of workstations for readers and library staff should respect the appropriate health and safety regulations and make suitable provision for wire management for safety and aesthetic reasons.

We should compare the merits of distributed PC provision, close to the collections and other information sources, and separate clusters of machines with the benefit of centralised management and support. Machines can be arranged in separate rooms or in open plan areas, and clusters often double up as teaching areas. In designing the layout, there is an inevitable tension between providing the maximum number of machines and

creating an attractive learning space. Large clusters generate considerable noise and heat, and care must be taken to ensure fire protection and security.

More space than ever before is now devoted to ICT activities and information skills training. Self-issue and return systems can, meanwhile, radically change the way in which we design entrance areas and counters, since readers can undertake circulation transactions themselves virtually anywhere in the building. Smaller counters can deal with those transactions which require staff help. The use of card-entry systems and smart cards also affects the overall design.

Oomph

Space that captures the mind and spirit

The eleventh and almost indefinable quality is best described as the 'oomph' or 'wow' factor. Skilful architects and planners will strike a balance between all these qualities to create inspiring buildings with exciting architectural features and satisfying internal spaces which capture the minds of users and the spirit of a university.

Some design trends and developments

Standards of design continue to improve, and we are seeing a growing diversity of wonderful new and refurbished library buildings all over the world. In the UK and Ireland, we celebrate outstanding new library buildings through the SCONUL Library Design Award (McDonald, 2002a). This is made for new libraries and learning resource centres which demonstrate excellence in terms of functional design both for users and library staff. We believe it to be the only such award in the country to be judged by professional librarians on the basis of functional design rather than purely on architectural merit. You will be hearing presentations about two of the award-winning designs for the period 1996 to 2000, but here I should like to share with you some overall impressions and trends.

A consistently high standard of design had been achieved necessary to meet the demanding requirements of modern learning, teaching and research support environments. Many new learning resource centres are landmark buildings on campus with a strong 'sense of place', and they have facilitated a 'step change' in learning support provision within their institutions, exceeding user expectations and stimulating significantly greater levels of demand.

There was a welcome diversity of imaginative and varied designs in which good functionality, pleasant internal spaces and distinctive architectural expression have been successfully combined. The designs emphasised a 'people-centred' approach to planning as much as providing an environment suitable for the preservation of library collections and for information technology. Learning resource centres are places where people interact and there is a growing recognition of their social, cultural and heritage

role. Planners are commendably taking certain design risks in creating conducive new learning environments rather than conforming to established approaches.

Users continue to enjoy daylight and sunlight and welcome views of the outside world albeit through somewhat smaller glazed areas than in previous periods. There is a welcome variety of internal spaces the ambience of which have been enhanced by a range of lighting and attractive cultural artwork. Considerable attention has been given to managing the increasing amount of noise in libraries, to improving access for the disabled and to better security, particularly for 24x7 access.

Passive or even natural ventilation systems have largely replaced artificial environments and these are designed with a genuine concern for air quality and running costs. A number of buildings have been designed around an open central staircase to promote the movement of both readers and air. In others, the staircases are enclosed to contain the noise associated with the movement of readers around the building. Atria enable readers at the centre of some buildings to enjoy daylight and natural ventilation.

In designing conducive environments for large numbers of PCs, greater use is being made of wireless networks, flat screens and laptops, and more space is being given over to IT support, printing services, information skills training and distance learning services.

Interior designers recognise that learning resource centres are ‘people-centred environments’ which should provide spaces for both private and social learning. In some cases the interior may become more like the living room, providing the emotional space for social interaction within the community. Trends in retailing suggest that designs will be influenced by entertainment and technology and the need for ‘food with everything’. A variety of comfortable learning spaces can be created using different lighting, noise levels, temperature zones and seating styles. However, these are complex design issues, and there are tensions between creating flexible and well-defined spaces, and between personal and social spaces in buildings.

Many new learning resource centres remain ‘standalone’ projects but some are planned as innovative ‘joined-up’ services. A few universities are considering integrated student and learner support services provided through a one-stop shop based in the learning resource centre. Others are building joint facilities with partner bodies with whom they are working to broaden participation in learning. In the USA, some new facilities have been built with student services, health centres and other academic services (Fox and Jones, 1998). Joint university and public libraries have been built in Scandinavia and the USA. New learning centres in the UK have been created in companies, shopping malls, churches, football clubs and other places convenient for lifelong learners (McDonald, 2000a). Exciting new joint amenities are emerging from the closer working relationship between libraries, museums and archives. There are, however, significant funding, political and design challenges in planning these multipurpose ‘places’.

I should mention that the Funding Councils in the UK are concerned about the poor utilisation of space in our universities and have set up a Space Management Group to review the situation. Universities seem to have ignored the new approaches and electronic opportunities adopted by the modern corporate world where the emphasis is on downsizing, flexibility, sharing, open plan, hot desking and plug and go. They

recognise that changing the use of space in universities is as much a cultural issue as a financial one, and there will be a need to change attitudes and perceptions within the sector. However, it is understood that libraries make good use of space and provide an important social and scholarly environment, particularly for the growing number of undergraduates who all need a place to study.

The learning centre as a 'place'

The future of the library or learning centre as a physical 'place' has been a matter of considerable professional speculation and debate. Despite some hasty predictions about the imminence and inevitability of the virtual electronic library, universities around the world continue to build new libraries and learning centres for teaching, learning and research, often, as it happens, with growing printed collections.

These new buildings continue to provide the 'place' where people can come together, preferably without disturbing each other too much, to undertake a number of important activities. They come in increasing numbers to study, learn, reflect and exchange ideas. They consult the collections, retrieve information and use the computers provided. They seek the assistance and support of trained information professionals, and they make use of the whole range of managed services provided. Importantly, libraries and learning centres provide access to information and information technology for the information 'have-nots'. The buildings are the hub for distributing networked services to off-campus scholars and learners, and in some institutions they continue to house growing traditional collections and special collections of important research and heritage materials.

*The magic of libraries is in connecting minds…..and successful library buildings in the 21st century will enable those connections to happen (*Dowlin, 1999)

Although the balance between these activities is likely to change, the library building remains the important 'place' where all these essential services can be conveniently provided, even in the virtual age (Hurt, 1997). It is interesting that many of the most automated libraries in the world are still buildings and most often very pleasant ones too.

We have explored many of the qualities that are important in designing these important 'places', and it well known that successful new learning resource centres will encourage even greater use, often stimulating a two or three fold increase in demand.

"*if you build it, he will come"* (Field of Dreams, 1989)

Libraries remain amongst the most socially-inclusive, enduring and well-used 'places' in modern society, and creating good new library buildings is critical, not only to the future of our universities, but also to the intellectual capital of our countries. We are witnessing unprecedented and dynamic change in society, higher education, technologies and management. These trends, and the considerable challenges they present to planners, are likely to continue at an ever-increasing pace. Tomorrow's

libraries will look and feel very different 'places' from yesterday's buildings. The building shells we create today will remain lasting tributes, whether is stone or brick, or now more likely in glass, to the managerial vision, leadership and influence of the librarians responsible for their planning.

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