

21st Century Learning spaces in 20th Century Buildings

Loughborough College



Project synopsis

This project sought to develop innovative approaches to refurbishing learning space in Colleges to support modern methods of teaching and learning. It particularly focused on the impact of learning spaces on teaching and learning. Its findings include practical, curriculum-led approaches to campus refurbishment for Colleges within older buildings and with limited resources, that so that they become a physical representation of the institution's vision and strategy for learning.

Project aims

The overall aim of the project was to investigate the potential for 21st century learning in 20th century buildings and classrooms. We set out to challenge entrenched conventional thinking about the problems associated with older buildings (and traditional classroom layout) in General FE Colleges and present innovative models of refurbishment for wider sector dissemination.

In achieving this aim the project explored:

- 1) Approaches to portraying the Educational Character and Vision of a College through its physical environment
- 2) The Business Case for the refurbishment of college buildings, including the key drivers for change, changing trends in Teaching and Learning and value for money
- 3) The key characteristics of ideal learning spaces in supporting 21st Century learning in General FE.
- 4) The nature of current guidance for FE Colleges on learning space design and its validity for refurbishments.
- 5) Learners needs, perceptions and expectations of the physical learning environment ie. The learner as the customer of the College
- 6) Approaches of assessing the suitability of the current buildings for teaching and learning and
- 7) Methods for evaluating the impact of refurbished learning spaces on teaching and learning.

The project sought to address the problem created by the significant curtailment of capital funds under Building Colleges for the Future. Many Colleges had had their hopes of moving into new purpose built buildings dashed and there was a need for innovatory approaches to using existing space in more agile ways in order to take forward their vision of 21st century Teaching and Learning.

Project delivery

Our Innovatory Approach

The project sought to deliver innovatory approaches to learning space refurbishment and design within FE colleges who found they needed to maintain older buildings rather than seeing the realisation of their vision for new build learning spaces and campuses. The 2 lead partners,

Loughborough College and Regent College Leicester delivered a plan that included the following innovatory actions:

- Undertaking an international literary review on learning space design for post 16 learning environments; the impact of changing patterns of teaching and learning on learning spaces and associated furnishings; the impact of learning space on improved learner achievement; designs for specialist/vocational learning environments; and current guidance for FE on the refurbishment.
- A multi-disciplinary approach to agreeing the institution's vision and strategy for learning and re-designing learning spaces to become a physical representation of this.
- Identifying, visiting and producing case studies of best practice examples of learning space refurbishment and design amongst post 16 providers (FE, HE and private sector). The case studies include 3 examples from Denmark produced by our Danish partner Grontmij Carl Bro.
- Reviewing learner needs, and those of their teachers, about the learning spaces they were using through an on-line questionnaire. This established baseline data which fed into the design of the refurbishments and also for evaluation/ impact assessment after refurbishment.
- Modelling learner needs in relation to learning spaces using Maslow's 'Hierarchy of Needs' and Herzberg's 'Motivation-Hygiene' theories as a framework. This innovatory approach sought to align the need for refurbishment and learning space design within these hierarchies of need.
- Using an Interior Designer to work with the project team to apply our learning to 2 scenarios at Loughborough College:
 - a) Creating an immediate impact of the College's Educational Character. This included establishing a clear and consistent 'corporate' image for the college buildings and associated approaches to 'wayfinding'.
 - b) The design of 2 'concept' classrooms, one of which is used for teacher training.
- Based on our learning, the refurbishment of 2 classrooms at Regent College, both designed to facilitate more flexible, active and personalised delivery learning. One room was designed primarily for the delivery of BTEC Business Studies and the other, Social Care.
- Establishment of a longitudinal study to evaluate the impact of the redesign and refurbishment of learning spaces on learner achievement
- An initial examination of different types of 'effective' learning space and their key features including for Blended Learning, specialist vocational learning environments, informal learning, social learning, formal learning, generic but flexible learning, and individual learning.
- An exploration of Learning, Lighting and Colour

What we learnt

Whilst we recognise that we have learned an enormous amount in undertaking this project, our work has led us to recognise that we have only just set out on the journey of a multi-disciplinary understanding of the importance of more effective learning place design. This is a business case for FE. Refurbished learning spaces need to be fit for purpose for delivering modern approaches to learning. Our learning through this project has include:

1) Identifying the key drivers for change as:

- Learner needs, perceptions and expectations – the learner as the customer
- Changed and changing approaches to teaching and learning
- Efficiency, sustainability and operational performance
- Inclusivity and more diverse student intakes
- Raising Achievement and Success rates

- New areas of curriculum.

2) The growing importance of 'Educational Character' in designing learning places

The built environment is being seen increasingly as an opportunity to express culture and to reinforce the values, beliefs and character of organisations.

In Colleges currently, the term 'educational character' is usually used to refer to decisions about the key curriculum areas offered by the college, and sometimes it's associated level of provision. Consequently, a College's character might be referred to as a 'General Further Education' or a 'Sixth Form College'. Rarely does it reflect the core activities of the college - the processes of teaching and learning taking place.

We sought to develop guidance on how to clarify and describe the educational culture of the College with the aim of ensuring that learning spaces become a physical representation of this culture, reinforcing the institution's vision and strategy for learning.

3) Strategic Considerations

All buildings are capable of being refurbished. However, it does not automatically follow that refurbishment is the best solution to the problem. If a college is to invest in an existing building, it follows that it will then wish to retain the building for a number of years to realise the benefit from the investment.

4) Trends in Teaching and Learning

Traditional teacher-centred models of delivery, where good teaching is seen as passing on knowledge and skills, are being replaced by learner-centred approaches. Many of today's learners favour active, participatory, collaborative, experiential learning – the learning style they exhibit in their personal lives. Information technology has also fundamentally changed how we learn.

Formal teaching of large groups with 'the sage on the stage' is becoming less common. The trend is for learning to be supported by 'the guide on the side' with smaller, less formal settings where students learn from each other and by using a wide range of technologies, as well as from their teacher.

The technologies the students bring are eclipsing the technologies we can provide, broadening our concept of learning spaces to anywhere, anytime learning on residential, commuter, or virtual campuses

The importance of rethinking the relationships between space and learning is paramount.

5) The characteristics of 'ideal' learning spaces

In the UK, there is a dearth of guidance on creating the ideal learning space, for example for delivering blended learning or 'industry standard' vocational programmes in catering.

Emerging Trends in the design of learning spaces

- Fewer, more high quality teaching spaces
- Increased focus on audio-visual technologies
- Access to ubiquitous computing – on and off campus
- Wireless enabled social spaces gaining additional roles as learning spaces
- Consolidation of teaching spaces into curriculum clusters

- Increased flexibility and hybridisation of space
- High-tech collaborative learning centres
- Real and simulated environments for active learning
- The whole campus as a 'learning place'

6) The need for experimentation and evaluation

Our research has revealed a wealth of experimentation in this field, particularly in relation to the integration of technology into teaching and learning (and learning spaces), but, in the UK, little evaluation of what works and what doesn't.

Evaluation and Impact Assessment are crucial to proving the business case

7) Design

There are many aspects of design that can occur in refurbishment. Relevant learning includes:

- Establish the key features of the building that are worth preserving – even accentuating! What are the signs of beauty? (60's buildings are having a revival!) Don't undervalue the features and character of older buildings: Rejuvenate, renovate and restore!
- A small amount of new building can make the retained structure more efficient or effective. Eg, adding a new entrance or a stair/lift tower can allow the retained element to be more efficiently laid out.
- Often what makes new buildings so attractive is the way they are presented. Using imaginative interior design techniques can dramatically influence the feel of a building and at relatively low cost. Imaginative use of display walls, signage, way-finding, electronic displays, large scale photographs or art work can be a more cost effective way of influencing the learners experience, than expensive building work.
- Intelligent use of furniture, colour and lighting can often provide a full or partial solution to a problem, again at reasonable cost. Furniture is often overlooked as an integral part of the design solution.
- It can be difficult to meet aspirations or benchmark standards for sustainability and compliance to modern regulations due to the constraints of the existing structure
- Up to 40% of a typical college consists of 'balance' space consisting of corridors and other circulation spaces as well as other social spaces such as cafes and students' union facilities. These spaces can be used to create a range of distributed informal social learning spaces across the campus that may provide distinctive offering in terms of work settings, technology provision and identity.
- The design of our learning spaces should become the physical representation of the institution's vision and strategy for learning
- To this end, design should be based on learning principles: to support social, formal, informal and personalised learning – with the emphasis on learning (rather than teaching)
- Learning Spaces must be designed with and understanding the learning activities intended for them
- Learning spaces should be people-centred but technology aided
- Where flexible teaching spaces has been introduced, the extra space requirement is often compensated for by trying to increase the utilisation of the flexible rooms
- Many institutions are seeking to minimize the amount of Specialised Learning Space and to create instead highly adaptable teaching and learning spaces that can be shared across faculties and subject areas.
- Flexible learning spaces are more evident in the Primary School and private sectors than they are in secondary, FE and HE sectors

- The entire campus is a learning space - We should be thinking of Learning Places not Spaces

The views of key stakeholders

The project has been invaluable in helping the 2 colleges to re-appraise their approach to delivering 21st century learning in 20th Century buildings and develop innovative solutions. We have discovered the 'art of the possible' and a great deal of satisfaction in better meeting the needs of today's learners. All stakeholders feel we have a lot to share with the sector.

Unforeseen issues

The project had a delayed start owing to the illness of the project manager. We had envisaged being able to find a wider range of examples of refurbishment, however, FE exemplars were few and far between.

What we would do differently next time

Start with creating robust baseline data against which to evaluate the impact of the intervention. We have learned that this is particularly important in innovatory projects.

Project outcomes

The project achieved many of its original aims but evolved to develop more of an emphasis on establishing what is needed in terms of learning design to meet learner needs and perceptions and evaluating the impact of refurbishment to better assess what works and what doesn't.

- 1) A literature review of guidance on General FE learning space design, including for blended learning spaces
- 2) A report building on best practice for learning space design with implications for 21st century learning within our colleges and for wider sector dissemination
- 3) Guidelines for Best Practice: Learning Space Design, based on pilot study and best practice (including exemplar models and case studies) and recommendations for user participation and continued professional development.
- 4) An evaluation tool for assessing the learning space needs of teachers and learners
- 5) The refurbishment of 3 learning spaces based on what we have learned from the project and the growing acceptance of the entire campus as a learning space.
- 6) The refurbishment of staff office spaces to facilitate more collaborative working across teams
- 7) An appreciation of the value of interior design in radically changing the look and feel of a place of learning
- 8) Changes in current teaching and learning practices that have been a direct result of the re-design and refurbishment of learning spaces to meet the needs of 21st Century teaching and learning.

Sharing our project findings

We plan to share the outcomes and learning from this exciting, innovative and successful project by:

- 1) Producing a DVD (accessible through the Loughborough College website) showing the design materials, concept rooms, refurbishments undertaken and 'Best Practice Guide'. The site would also encourage other colleges to visit the campus to see the showcase learning spaces.
- 2) Sharing findings with peer colleges established networks
- 3) Apply for a Lifelong Learning Programme, Leonardo Transfer of Innovation project to transfer our learning within an EU context.
- 4) Presentation at the fringe sessions of the LSIS Annual Conference and the AOC Annual Conference