

**The Design and Management of Open
Plan Technology Rich
Learning and Teaching Spaces in
Further and Higher Education in
the UK**

Guidelines for Managers

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Introduction

Over the past few years there has been considerable growth in the provision of open plan technology rich learning and teaching spaces, but while the development of these facilities has been enthusiastic, their successful operation has at best been mixed. The Joint Information Systems Committee commissioned this study to investigate issues that have been encountered in the use and management of such spaces and to identify how managers of these spaces have dealt with issues that have arisen.

These Guidelines for Managers are one outcome of the study. Other outcomes are a report on the Design and Management of Open Plan Technology Rich Learning and Teaching Spaces and a set of cases of a range of example spaces.

The guidelines below are in the form of a set of issues for exploration in the design and management of OPTRL&T spaces emerging from the report. The guidelines provided have been structured under strategic, design related and operational issues and in most cases raise questions to be considered by those with responsibility for planning, designing and managing open plan technology rich learning spaces.

The Guidelines

1. Strategic

- **Define and agree educational objectives**

What kind of facility is it that you are trying to provide? Is it in line with the Learning, Teaching and Assessment Strategy of the institution? Does it make the strategy a reality? A successful building should reflect the learning and teaching beliefs and attitudes of the organisation.

- **Be clear on lines of communication and responsibility.**

Operations managers need to be clear on the strategic intent of the space. Equally they need to have authority to direct budgets and management systems to support these objectives. As large-scale space projects inevitably involve a range of managers then 'buy in' to the educational ideas that inform the building is required from all the departments concerned.

- **Set up working groups.**

Identify and investigate the issues that you think are going to be critical to the project. Develop a process of engagement, ownership and shared understanding by careful articulation of purpose. Invite comment and ideas.

- **Understand and respect the requirements of all your stakeholders.**

While not everyone's point of view can be accommodated, each is still valid and should be heard.

- **Network and Visit as many places as possible**

Not just in the planning phase but also to inform operations - there is much to learn from others.

- **Understand scale effects**

How big do you want the facility to be? Should it all be in one place? Where are the natural "fault/break lines"? Does this facility need separate floors with clear divisions of activity between them? What can you achieve, by contrast, by blurring divisions between levels, or the different parts of the whole?

- **Understand complexity**

In general simple and uniform activities can be reasonably successfully undertaken in large simple spaces. By contrast more complex activities will call for more complex spaces overall. Be clear therefore that you have understood the degree of complexity that is being planned for. An “IT commons” involves a simple activity; a “social commons” involves a complex set of activities.

- **Be prepared to experiment**

Open Plan Technology Rich space provides opportunities to explore new styles of learning and teaching. Not all of these will work in the way you expected but you should be willing to experiment, assess what works, and develop it further.

- **Beware of trying to do too much**

Recognise how much difference in activity can be accommodated in the space. Avoid trying to do too much, of being “all things to all men” and ending up with no real identity and not doing any one thing properly.

2. Design-related

2.1 Physical

- **Plan for flexibility**

Understand the hierarchy of layers that makes up any building from those things that set the context for other design decisions and, once decided, are difficult to change, to those that within the framework already set, are relatively free to change.

- **Concentrate first and foremost on general configuration**

But also ensure that the environmental control system permits sub-division or at least zoning into relatively small areas for different heating/venting/cooling and acoustic atmospheres.

- **Cable distribution and a good HVAC system are probably the best way of maintaining flexibility and “future proofing” the building so:**

- **HVAC (heating, ventilation, air conditioning) systems** require to be “fit for purpose” – do not compromise on them. If developing a passive/sustainable system look carefully at what this means for maintaining flexibility.
- **Work as much as possible on the principle of local control** even when this might compromise overall efficiency.
- **Insist on an excellent data/telecoms infrastructure;** “flood wiring” and a comprehensive data distribution and cable management system even where providing a wireless infrastructure.
- **Floor boxes, set within a raised computer floor, are managerially inadequate, but are currently “the best of a bad job”.** Do not be lulled into thinking that they solve the problem of flexibility and cable distribution. Recognise that they are actually difficult to move and position appropriately and that where they can be conveniently supplemented with skirting or dado trunking, this should be done. Where careful space planning can obviate the need for a general sprinkling of floor boxes, make use of this instead.

- **Some design decisions have to be thought of in terms of an operational regime.** For example where envisaging the use of laptops, develop a system for laptop charging and/or storage.

- **Develop a strategy for “zoning”.** This might be in terms of building elements or best use of furniture and fittings, in which case there will need to be a strategy of “hard” and “soft” fixes: a hierarchy of fit-out elements that can be more or less easily moved or changed. In general keep building elements physically separate, not built into or dependent upon one another – ie smart-boards built into a wall essentially fix that wall.

- **Definition of building zones can involve walls, partitions, changes in materials, and use of graphics.** Each will have a greater or lesser effect on flexibility and modification of the acoustic or climatic internal environment. Be clear on the degree of change that is anticipated and the degree of fixity that is therefore desirable.

- **Use furniture and half-height partitions to best effect.** In general partial separation, which relies on modulating noise, rather than isolating it, will provide greater flexibility than full height walls.

- **Understand furniture in terms of its ability to accommodate cable distribution** and its role of half-height partitioning. Although recognise that, used in this way, furniture will become more fixed.

- **Provide visual hierarchy**

Furniture can solve many operational problems but only by being set within a clear architectural context.

2.2 Psychological

- **Provide variety, choice and variability** – in lighting, acoustic environment and general ambience. Different types of space give the opportunity for different types of colonisation, naturally and in response to new organisational pressures.

- **Immediate visual impact is important**, setting the style of the facility overall with graphics, colour and sound, but “wow” or “oomph” factor should not be allowed to subvert more basic provisions flexibility and usability.

- **Creating a wide range of ‘microenvironments’** plays to the multiple intelligences and variety of learning styles of learners

3. Operational

- **Understand what kind of culture you wish to operate** – centrally directed or self-managed.

- **Change in ambience can indicate what different kinds of learning behaviours are expected and what sort of general behaviour is acceptable.** Subtle, implicit rules appear to work well and are preferable to overt management. Getting the “tone” right is important.

- **Cultivate a sense of ownership.** A degree of experimentation and self policing and ‘lack of control’ in social learning spaces is essential.

- **Visual, implicit awareness of the choices on offer is preferable to reliance on signage**, and generates greater movement and interaction. Where signage is necessary ensure that it is consistent, flexible and changeable.

- While soft surfaces are more difficult to maintain, **a certain amount of soft surface is essential** for acoustic purposes and to provide a ‘comfortable’, sympathetic atmosphere. While maintainability is very important, social learning and flexible learning are, by their very nature, ways of operating that do not want to feel institutional.

- **Build to last.** Where possible design out maintenance tasks. Use good quality finishes.

- **Accommodating the consumption of drinks does not appear problematic.**

Accommodating the consumption of food is more difficult but has positive benefits and can be managed. Hot food requires careful zoning however, specific provision of good extract ventilation, and ‘continuous’ cleaning.

- **Different types of furniture generate different types of learning behaviour:** sharing of a facility, individual work as opposed to group work, structured or informal social interaction. Furniture should be selected with a clear idea of what different types of activity are to be provided, not just because of their style, beauty or variety.
- **Obtain structured and reliable feedback.** In dealing with complaints and issues whom should you listen to? Current students, future students, staff? Use the Web 2.0 tools that students use to gather feedback.
- **Plan for evaluation at the outset.** Use the tools you will use for evaluation to help design the facility. For participative student involvement use student-oriented technology eg web 2.0 tools such as Facebook and MySpace.

Further information and resources

Design and Management of Open Plan Technology Rich Learning and Teaching Spaces: Report, 2007

<http://www.jisc.ac.uk/whatwedo/themes/elearning/tele/managinglearningspaces.aspx>

The Design and Management of Open Plan Technology Rich Learning and Teaching Spaces in Further and Higher Education in the UK: Case Studies, 2007 (url as above)

Designing Spaces for Effective Learning, March 2006

http://www.jisc.ac.uk/whatwedo/programmes/elearning_innovation/eli_learningspaces.aspx.

Planning and Designing Technology – Rich Learning Spaces infoKit, JISC-infoNet, March 2007: <http://www.jiscinfonet.ac.uk/infokits/learning-space-design>.

The Space Management Group of the Higher Education Funding Council (SMG):

<http://www.smg.ac.uk/>

The SMG have also produced a range of reports and tools to aid the development and management of spaces in Higher Education.