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Cyngor Cyllido Addysg Uwch Cymru  
Higher Education Funding Council for Wales

## **SPACE MANAGEMENT**

### **A GOOD PRACTICE GUIDE**

A report on ways in which space management and space utilisation can be improved, based upon the work with the University of Wales Swansea

January 2002

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## Summary

- ?? This note provides practical guidance for institutions for improving space use and space management. The guidance has been developed as a joint initiative between the University of Wales Swansea and the Higher Education Funding Council for Wales, supported by GVA Grimley in conjunction with Stellae. The University of Wales Swansea contributed much to the study as a 'test-bed' for measures to improve space management.
- ?? Space use and space management are recognised as areas that can be further improved. Space utilisation rates have not significantly improved over the last decade across the sector as a whole, and space management measures are not always particularly effective.
- ?? Part of the reason for limited improvement in space use is that space management is a complex area, and needs coordinated, proactive and constant management. It also requires the active engagement of the academic community if it is to succeed. This has not happened uniformly, despite efforts by senior management and the estate community.
- ?? The estate itself can also have inherent constraints, such as poor condition, unsuitable space, designed for different styles of teaching and research processes, which can influence space use and management. There is evidence for good correlation between space use and quality of space.
- ?? We have proposed five key areas of focus for improving space management. These are: information, innovation, design, communications and management techniques. A series of detailed measures have been provided under each of these headings, which should help institutions further improve space management. These measures are detailed in Guidance Note B.
- ?? In addition, these five 'problem' areas can be examined in terms of five possible 'solution' areas, and they can be illustrated in the form of a space management 'change model'. This model is based around delivering 'solutions' in five key areas, the 5Cs, namely: Curriculum, Cost, Communication, Coordination and Champion.
- ?? We also recommend that an Action Plan for Change is developed by institutions. This should have an agreed and costed implementation plan and timetable. An institution should also set a target for improving space utilisation.
- ?? Space utilisation is not an end in itself but as a means of obtaining wider benefits for institutions. Space efficiency levels and associated costs should be reviewed regularly.

## INTRODUCTION

### Purpose of the guide

This guide is the result of a joint study by the University of Wales Swansea and the Higher Education Funding Council for Wales, which looked at practical ways in which space use and space management could be improved. This was based on detailed investigations at the University of Wales Swansea, carried out by GVA Grimley and Stellae, as well as experiences drawn from elsewhere.

A series of practical measures are outlined in this guidance which will help institutions in further improving their use and management of space. Not all points contained in this guidance will be applicable to all institutions, but there should be issues of relevance to all institutions.

## THE PROBLEM

### Introduction

The last decade has seen an increasing use of space utilisation surveys, primarily as a means of assessing how intensively - and therefore how cost-effectively - the estate is being used. This is a very powerful empirical means of demonstrating weaknesses in space use, and can help institutions in identifying areas to focus upon in order to improve matters.

However, it has to be recognised that a space utilisation survey is simply a measure of one aspect of space use or space management. It records the number of people using a space across a given time period - it does not assess the 'quality' of this use of space, and generally only focuses on a relatively small part of the estate, namely teaching space.

It is vital to recognise these strengths and limitations of space utilisation surveys in relation to improving the use of space within an institution. In many ways the strengths of such surveys have been recognised, particularly in terms of internal institutional debates on 'problem' parts of the estate. Despite this, utilisation rates have not changed to any significant extent over the last decade, remaining relatively low across the sector.

Although space utilisation rates remain relatively low, it could be contended that this is not through want of application of various space or estate management techniques to the issue. Thus techniques such as computerised timetabling (centralised or locally based), room booking systems, space charging, re-modelling and re-allocation processes have been used, amongst others.

One interpretation, therefore, is that the relationships between management techniques and factors such as the age, layout, type of activities and condition of the estate have not been effectively identified, thus preventing a more sensitive selection and application of management technique.

A second interpretation, and one that we believe is probably more fundamental, is the limited involvement or engagement of the academic community in the process - especially in terms of representing their curriculum-based need for space. This is largely because academic staff often do not consider the efficient use of physical resource management to be part of their professional responsibilities. In fact, low

space efficiency can jeopardise the financial viability of courses and activities for which academic staff are responsible.

Improving space use is not simply an estates issue. Recognition of this point is, we would argue, central to the successful improvement in space management. The involvement of senior management, the academic community and other users of the estate and interested parties is essential if maximum benefit is to be gained.

Also, managing space is a complex process. Mechanisms or measures can be put in place – but these need to be actively and intensively managed in order to get real improvement in space use.

### The Problem Areas

We have categorised the ‘problems’ in relation to space management into five broad areas. These are:

- ?? Information - *The core items of data needed to inform planning and operations (e.g. database of floorspace).*
- ?? Innovation - *Factors that influence the need and provision of space, including the formulation and implementation of policy and procedure (e.g. funding methodology changes).*
- ?? Design - *Planning, arranging and adaptation of space to suit current and future needs (e.g. re-modelling space to meet changed requirements).*
- ?? Communications - *Formal and informal means of conveying information and perceptions (e.g. policy guidance notes and management committees).*
- ?? Management Techniques - *Formal and informal policies, procedures and practices in place (e.g. space charging).*

Further detail on these broad areas is provided in Guidance Note B. However, we have summarised below the essence of the problems facing many higher education institutions under each of these headings. The summary is intended to emphasise – rather than detail – what is at the heart of the problems.

Summary ‘Problems’	
?? <b>Information.</b>	Lack of comprehensive, reliable, accurate, up-to-date and accessible information can seriously inhibit improvement in space management and use. As an example, there may be a lack of agreement between academic and estates staff concerning the rooms that make up the current stock of teaching space.
?? <b>Innovation.</b>	Reactive/short-term planning approaches can be adopted, rather than more long-term and flexible approaches. This may include the lack of a space management strategy, particularly given that higher education is a field where innovation is constant. Such a plan would help ensure flexibility and responsiveness in responding to new demands, and to allow new requirements to be met.
?? <b>Design.</b>	There can be a major mismatch of supply of space with need for space. A balance needs to be struck between the advantages of ‘department space’ – such as sense of identify and security – and the additional costs of replicating facilities. This balance is related to the need to identify more precisely – and link to curriculum – the type of space required by different users.
?? <b>Communication.</b>	Inappropriate communication and perception of space management often exists. The message needs to be got across that space is expensive and that managing it is important.
?? <b>Techniques.</b>	Inappropriate use of space management techniques. They can often be in place but not actively promoted, managed and adapted.

In summary, there are a number of reasons why these problems have arisen. These include:

- ☒ the nature of the estates themselves (poor quality, designed for different teaching and research requirements),
- ☒ changes in the requirements of the educational market place (new teaching delivery formats), and
- ☒ functional and structural mismatches within institutional management (uncoordinated timetabling, mismatch of room requirements and room supply, and lack of academic engagement in the issue of space management).

These are all factors that can be overcome if there is a real will to achieve change and improvement. The next section discusses how this can be achieved.

## THE SOLUTION

### Space Management Context

There are a number of practical means by which space use and space management can be improved in higher education institutions, and these are summarised here and described further in Guidance Note B.

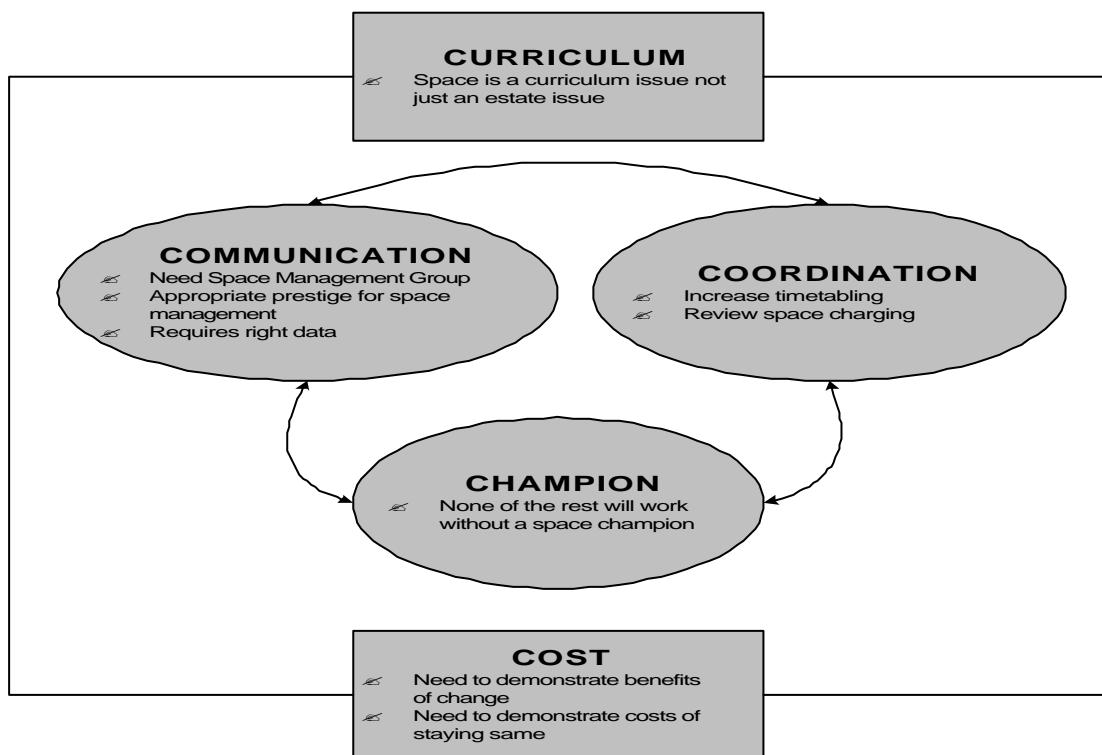
It is important to stress that it is necessary to work from the basis that improvement is possible. There are real benefits to be gained for higher education institutions from such improvement. Not only will it help improve the environment for users of such institutions, and enable even more effective academic and management operation within the institution, it will also release funds. This in turn will help support these activities – creating a virtuous circle.

The five ‘problem’ areas discussed in the previous section can be examined in terms of five possible ‘solution’ areas. Figure 1 illustrates these solution areas in the form of a space management ‘change model’. This model is based around delivering ‘solutions’ in five key areas - the 5Cs - namely: Curriculum, Cost, Communication, Coordination and Champion.

Under each of the ‘Cs’ in Figure 1 is a key issue – or issues - that needs to be tackled or understood if change is to occur. Thus, under Curriculum, the key issue that needs to be recognised is that space management should be seen as a curriculum or senior academic management matter, rather than simply an estates matter.

Various techniques and approaches have been used by estates and senior management to improve space use, such as room booking systems, creation of pool space and so forth, but unless academics view space as a core part of curriculum planning and delivery and take an active role in managing it, then progress in space management will be limited.

**Figure 1: Space Management Model for Change**



If each part of the above ‘model’ is tackled effectively, then space use and space management should improve considerably.

The importance of active and positive academic engagement cannot be overstated. In terms of teaching delivery, for example, the key questions facing academics are:

- ?? What to teach?
- ?? How to teach?
- ?? When to teach?
- ?? Where to teach?

Space management is traditionally seen as dealing with the last question – where to teach. However, in reality it has a role on the what, how and when questions. The ‘when to teach’ will clearly be driven by staff availability, attitudes, expectations and established work patterns. Space management can have an important influence on when to teach, especially when linked with the ‘how to teach’ question.

Thus, if there is an understanding of the real cost of space use – and hence potential cost benefit to a department – then this may inform the academic decision as to whether to hold two classes of 25 students, or combine the activity into one group of 50 students.

This may be an over-simplification, but it does illustrate how space management can have a direct input to curriculum planning. The same principles apply to research activities, as well as other activities across an institution.

It is essential, however, that the academic community understand that improvements in space management are not intended to challenge their core curriculum expertise (the what and how to teach), but that space management improvements should be designed so as to assist these functions.

The questions concerning how, when and where to teach should all take into account the use of space resources. The core curriculum expertise must include an understanding of resource use and costing so that study programmes represent a sound investment of public funds, and courses are both educationally and financially viable. A staff development programme may be appropriate to provide staff with the skills relevant to the extension of their professional role, as well as the linkage of estates staff with academic planning.

It is also important not lose sight of some of the constraints to improvement – both inherent and system specific. Inherent constraints include the potential scale of change involved and the associated level of affordability, uncertainty from Government and others, and existing design/functional suitability constraints. System specific constraints include uncertainty over timetabling, curriculum changes and requirements, and – possibly – the will to succeed or make changes and succeed.

## **Improving Space Use and Management**

Based upon ideas and results generated by work with the University of Wales Swansea, a detailed list of recommendations for improving space management have been produced. These recommendations are contained in Guidance Note B, and supported by Guidance Notes C to I.

We summarise below the key issues that institutions need to tackle in order to improve space management.

- ?? Develop a clear vision of where you want to be and have effective leadership to achieve this. This requires someone to take up the challenge and lead on it. They

- also need to have the ‘complete picture’, and need to be supported by a Space Management Committee’ or equivalent – which has appropriate resource, support and prestige.
- ?? Proactive management of space by all needs to happen. This requires that the academic community needs to fully understand the benefits to be gained from effective space management.
  - ?? Sort out databases, communication and committee structures. There are a series of immediate measures that can usually be put in place that will help considerably in improving matters, and which should focus on getting the base data in place.
  - ?? Identify real current and future space needs on a proactive rather than a reactive basis. This needs to be on a ‘bottom-up’ basis – i.e. derived from what each course/student does.
  - ?? The timetabling approach should be reviewed – this could be either to move towards a full coordination of the process in time, or improvements to existing local/central arrangements. The former is to be preferred.
  - ?? Review the total size of the estate. This does not mean that there should be no new building activity or re-modeling and refurbishment work, but the overall drive has to minimise the amount of space required for activities at an institution.
  - ?? An action plan for improving space management should be considered and put in place, including a target for increasing the utilisation rate over an agreed timescale.

Improvements in space management and use are not simply based on introducing the ‘mechanics’ or ‘tools’ to achieve change, they require a change in ‘mind set’. This also includes viewing space as academic/curriculum issue to be managed (not reacted to) – rather than simply an estates’ or support service. This in turn requires effective communication.

Part of the issue is that space management is complicated and it can often be difficult to identify a recognised ‘leader’ in an institution on his matter. In addition, whilst the mechanisms for improving space can be put in place (e.g. space charging etc), they are not always effectively coordinated and driven forward. Of particular importance is the fact that the academic community is often not fully engaged in the process.

This failure to capitalise on the space resource is significant for institutions. Not only does it have important curriculum issues, such as in providing the right type and right quality of space for the academic community, it is also expensive.

Institutions need to see improvements in space management as an opportunity not a threat. A smaller and better-designed estate, better matched to users needs, could add considerably to the success of an institution – not least in terms of funds generated. There will be a number of ‘boring’ and routine bits to put in place to achieve this, but these are necessary and the overall benefit to be gained is considerable.

In short, assemble and understand the information you already have – identify what users really want and need in terms of space provision – actively manage – and continuously review. Success will follow.

## GUIDANCE NOTE A: SUMMARY OF THE NATIONAL AUDIT OFFICE GOOD PRACTICE GUIDELINES

### Introduction

The recommendations of the NAO report<sup>1</sup> are summarised below. Many of the points raised in this report are still relevant for the sector.

#### *Current space management practice*

- (1) institutions need to give more detailed consideration to space management issues in their estates strategies
- (2) the Funding Council should distribute good practice guidance on the application of space management techniques

#### *Measuring the need for space*

- (3) institutions need to improve further the extent to which the academic estate is utilised and how far it meets users' requirements
- (4) they need to measure the way space is used more systematically to inform the application of techniques to improve utilisation particularly before they set in train capital development plans
- (5) they need to develop further the space management techniques already used, to improve utilisation of the estate

#### *Strengthening current space management practice*

##### (a) *Structures*

- (6) institutions should consider establishing space management committees, (where they have not done so)
- (7) they should develop a space management strategy with clear objectives and review this regularly
- (8) they should make staff aware of the space management policies by publishing clear guidelines on how they will operate

##### (b) *Information*

- (9) institutions should review and enhance their estates information requirements
- (10) they should commission regular space utilisation and user surveys

##### (c) *Space management techniques*

- (11) central and computerised timetabling packages and approaches should be reviewed and implemented
- (12) a space charging system should be introduced
- (13) space planning and remodelling should be based on
  - a fundamental review of long term space needs in consultation with academic departments
  - the development of a space model which compares possible future space requirements with the current distribution of space
  - agreed priorities for remodelling arising from the review and the application of other space management techniques, and a costed and feasible implementation plan.

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<sup>1</sup> National Audit Office (1996), Report by the comptroller and auditor general, The Management of Space in Higher Education Institutions in Wales, HC 458 Session 1995-96, 28 June 1996, London: HMSO

## GUIDANCE NOTE B: DETAILED SPACE MANAGEMENT RECOMMENDATIONS

### Specific Measures

We provide below a detailed list of specific measures that will assist institutions in improving space management. They are split into the five topic areas of information, innovation, design, communication and management techniques as discussed in Section 2 of the main body of this guidance note.

#### Information

- 1) **Database** - Ensure a comprehensive property database is in place. All space should be included, and should cover room size, room type, location, unique identifier, primary user, facilities, capacity etc. (See Chapter 3 of Estate Management Manual.)
- 2) **Classification** - Classify rooms by inherent characteristics, and review current classification code. This should allow compatibility with Estate Management Statistics project. Particular attention should be paid to defining capacity.
- 3) **Identification** - Rooms should have unique identifiers – consistent across all the relevant databases used within the institution.
- 4) **Functional Suitability** - A functional suitability assessment should be carried out with academic input.
- 5) **Building Condition** - A building condition survey should also be carried out, and linked with the findings of the functional suitability survey.
- 6) **Space Utilisation Survey** - A full space utilisation survey needs to be carried out. This should cover all teaching space at a minimum, and consideration should also be given to examining all space.
- 7) **Consultation Process** - Consult with users of estate, and set up process by which databases can be regularly updated. This will include who is occupying space and the use to which it is being put.
- 8) **Resourcing** - Appropriate resource needs to be allocated to the above measures – and a high priority attached to them. Under-resourcing or managing these measures will pay poor dividends.
- 9) **NAO Report** - The findings and recommendations of the NAO report should be revisited. There is much of relevance in this report.
- 10) **Information Strategy** - An information strategy for the Estates Department should be in place. (see Chapter 3 of the Estate Management Manual)

#### Innovation

- 11) **Space Management Strategy** - A space management strategy should be developed and put in place.
- 12) **Planning Process** - Implement a process by which departmental level planning initiatives (micro planning) that has a space dimension, ties in with institution wide plans and policies and planning initiatives (macro planning).
- 13) **Space Need Assessment** - Develop a process of space need assessment based on curriculum drivers – ideally over a five-year time horizon. This will enable real need to be identified and expressed, and therefore used as a blueprint/contract between the academic community and senior management.
- 14) **Managed Learning Initiatives** - Review the space management implications of the various student-centred/managed learning initiatives being developed across the sector.

#### Design

- 15) **Demonstration Projects** - Identify users core needs in re-modeling, adapting and designing space. The real cost and savings of re-arrangements should be made clear on a number of demonstration projects.

- 16) **In-built Flexibility** - As part of any planned remodeling work ensure flexibility is built in, which will include making the space as generic as possible.
- 17) **Contact Hours** - A standard means by which the space component of formal contact hours are recorded should be developed at institutions. This process will enable the potential demand upon space to be captured. On-site class contact hours per student and student numbers per module or study programme provide the basis for calculating the space requirements of individual departments and an entire institution.
- 18) **Department Location** - The Estate Strategy should be used as a means of developing guidance on the location of departments to ensure maximum 'cross fertilisation' and space management advantages.
- 19) **Service Level Agreements** - Service Level Agreement should be considered for the provision of space management services in order to ensure that standards and expectations are better matched.

#### Communication

- 20) **Space Management Committee** - A senior space management committee should be in place. This may require restructuring of other related 'space' committees. The space management committee should have senior management and academic membership, ideally including the Vice-Chancellor/Principal or their representative, and report direct to Council.
- 21) **Space Champion** - A 'space champion' should be appointed/identified. They should have sufficient authority and a remit to carry out the function. It is clearly essential that they are part of the space management committee.
- 22) **Timetabling Unit** – A timetabling unit should be established, if not already in place. It should be linked into senior management in a direct way. This may be through the space management committee. In organisational terms the timetabling unit should be directly responsible to the members of the senior executive that has overall responsibility for space resources. This enables any issues relating to the ownership and use of accommodation to be resolved quickly and facilitates effective timetabling within tight deadlines.
- 23) **Knowledge Sharing** - Implement a system of 'open and complete' knowledge transfer on space use and space management matters.
- 24) **Space Management Guidelines** - Prepare and issue guidelines regarding space management. This should be prepared in consultation with the academic community.

#### Management Techniques

- 25) **Computer timetabling** - Over time implement computer timetabling for all space, even if only running in parallel with departmental timetabling for certain spaces. In moving towards this state the following stages might be pursued:
  - Any existing 'pooled space' timetables should be generated as soon as possible, and ideally in the Easter before the forthcoming academic year.
  - Local 'departmental' timetables should be issued to a timetabling unit (or equivalent) in a 'common' format. This enables common patterns of use to be identified and is a move towards an open sharing of space management information.
  - Create an institution-wide 'timetable based on local and pooled timetable patterns. This may be twin-tracked with existing operations in the first instance.

- The Guidance Note<sup>2</sup> issued by the funding council to institutions in 1999 on timetabling should be referred to. This could form the basis for a staff development workshop for academic and timetabling staff.
- 26) **Space Charging** – The introduction of a space charging system should be considered. There are a number of options available to choose from in terms of charging methodologies. Whichever is selected, it needs to be regularly reviewed and modified as necessary to ensure it is achieving the objectives that have been set for it and represents a realistic assessment of actual space cost.
- 27) **Resource Planning** - Ensure space is planned at the same level as other resources within the institution, such as staff and finances. . In addition, move towards planning for space on a Faculty/School basis – linked to cognate groups. In essence, however, space needs to be planned on the same basis – and at the same managerial level - as other activities, such as student numbers and finance.
- 28) **Co-Location** - Linked to the above, there should be a move towards the co-location of cognate groups in terms of type of space demanded. This links to the development of a space management strategy and the Estate Strategy update process (cf: Measures 12 and 17)
- 29) **Space Allocation** - The process of and rationale for allocating needs to be regularly reviewed. The overall aim should be to re-assign departmental space to the space management committee (or equivalent), and then allocate back to 'primary' departments on a first call or core requirement basis. This will encourage a balance between accepting that space needs to flexible and open to all users/uses, with the specific needs of departments and a recognised 'entity' for a department or subject area.
- 30) **Planning Period** - The above process should be on an annual basis and linked with space/resource budget matters. One aim of this process should be to increase the stock of pool rooms.
- 31) **Teaching Periods** - The current teaching periods (length of day and number of teaching weeks) should be periodically reviewed to see if they still meet academic requirements and achieve maximum space management benefits.
- 32) **Group Size Analysis** - Identification of group size and type of space required is a key means of assessing space need. This approach should be adopted by institutions and used to form future planning requirements. The process should also be extended to research space, central administration and other support space.

### Summary

The key means by which space management can be improved at institutions can be summarised as follows:

- ?? Develop a clear vision of where want to be and have effective leadership to achieve this. This requires someone to take up the challenge and lead on it. They also need to have the 'complete picture', and need to be supported by a Space Management Committee' or equivalent – which has appropriate resource, support and prestige.
- ?? Proactive management of space by all needs to happen. This requires that the academic community needs to fully understand the benefits to be gained from effective space management.
- ?? Sort out databases, communication and committee structures.
- ?? Identify real current and future space needs on a proactive rather than a reactive basis. This needs to be on a 'bottom-up' basis - ie derived from what each course/student does.
- ?? Changes to the timetabling approach need to be considered – either complete coordination of the process in time, or improvements to local/central arrangements. The former is to be preferred.

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<sup>2</sup> Higher Education Funding Council for Wales (1999), Guidance Notes to Assist the Improved Use of Teaching Space in Higher Education Institutions, Cardiff: HEFCW

?? An action plan for improving space management needs to be developed and put in place, including a target for increasing the utilisation over an agreed timescale.

Improvements in space management and use are not simply based on introducing the ‘mechanics’ or ‘tools’ to achieve change, they require a change in ‘mind set’. This also includes viewing space as academic/curriculum issue to be managed (not reacted to) – rather than simply an estates’ or support service. This in turn requires effective communication.

In short, assemble and understand the information you already have – identify what users really want and need in terms of space provision – actively manage – and continuously review.

In terms of the five topic areas discussed at the start of this Section, a summary of the key ‘problems’ and ‘solutions’ are listed in the chart overleaf. This is primarily designed as a summary reference.

Summary of Common ‘Problems’	Summary of Potential ‘Solutions’
<p>?? <b>Information.</b> Lack of comprehensive, reliable, accurate, up-to-date and accessible information. For example, there may be differences between academic and estates concerning the rooms that make up the current stock of teaching space.</p>	<p>?? Develop and implement overhaul of property database. Identify priority data needs and capture this information. Ensure fully compatible with other management information systems in place within the institution. Refer to Chapter 3 of the Estate Management Manual.</p>
<p>?? <b>Innovation.</b> Reactive/short-term planning approach in certain areas.</p>	<p>?? Provide clear vision of how estate fits into strategic plan. This in turn requires comprehensive planning related information (see point above).</p>
<p>?? <b>Design.</b> Mismatch of supply of space with need for space.</p>	<p>?? Facilitate longer term planning horizons, especially for course design. This might include preparing a Business Plan for new courses, including planned student numbers, associated space requirements and the predicted relationships between course income and resource costs.</p>
<p>?? <b>Communication.</b> Inappropriate communication and perception of space management.</p>	<p>?? Identify <b>real</b> current and future space needs based upon a formal capture of such information (eg using the space need assessment approach outlined in Guidance Note C).</p>
<p>?? <b>Techniques.</b> Inappropriate use of space management techniques. Installed but not actively promoted, managed and adapted.</p>	<p>?? Review existing space management organisational structure. Need high profile space management group, led by a ‘space champion’ who is a member of the senior executive and chairs a team accountable for all space issues. Needs appropriate ‘tools’ that are real rather than symbolic. Responsibilities to include reviewing resources and cost implications of all planned course and research initiatives against agreed benchmarks. Powers would include refusing to pass proposed initiatives on cost and resource grounds.</p>
	<p>?? Demonstrate to academic management the costs and benefits of more intensive and effective management of space.</p> <p>?? Initially all departmental timetables to be supplied to coordinating timetable unit in a standard format.</p> <p>?? As soon as possible afterwards adopt full coordinated timetabling (covering all space). Link in with other space management tools to ensure mutual reinforcement, eg revised space charging structure that charges on ‘used workplace’ basis.</p>

## GUIDANCE NOTE C: SPACE NEED ASSESSMENT

### Introduction

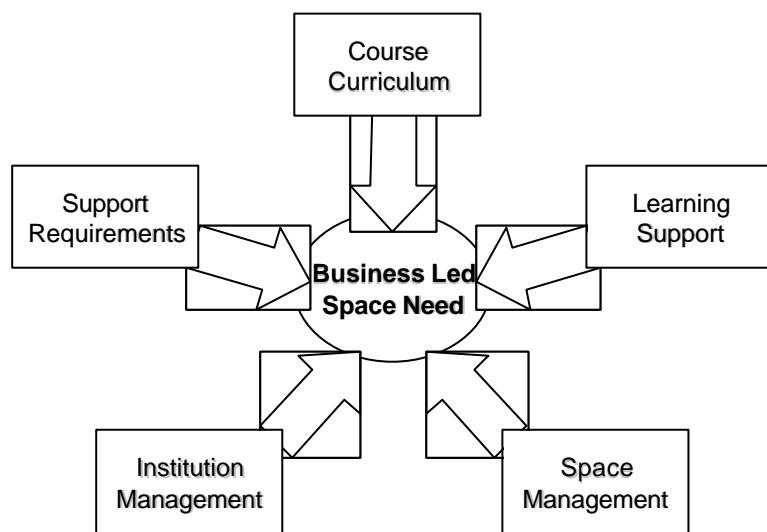
This Guidance Note discusses the application of a space need assessment process to identify the scale and form of space required to meet curriculum requirements. The primary purpose of the process was to demonstrate how space need could be realistically and rigorously identified, in line with the recommendations laid out by the NAO in their report on space management<sup>3</sup>.

A complete space need assessment exercise would normally involve assessing the teaching, research, staff and support space requirements of all departments, both academic and non-academic. This would focus both upon the current situation and what would be expected to be in place in five years time. A number of iterations of the assessment would usually be produced and discussed with academics and other users, and subsequently refined to produce an 'agreed' statement of space need.

### Space Need Process

Figure C1 below illustrates the key inputs to the space need process, which include course curriculum, learning support, space management, institution management and support requirements. In a full space need assessment each of the five 'key inputs' needs to be examined and understood in order to produce meaningful outputs. This in turn means breaking them down into meaningful and usable components.

**Figure C1: Inputs to Space Need Assessment Process**



Taking support requirements and learning support as examples, the types of issues that need to be captured range from staff offices to recreational provision under support functions, to IT spaces and opening policies under learning support.

The space need assessment process is indicated graphically below and illustrates the two essential elements in determining need. The first element is to assess the number of course groups within the department in question

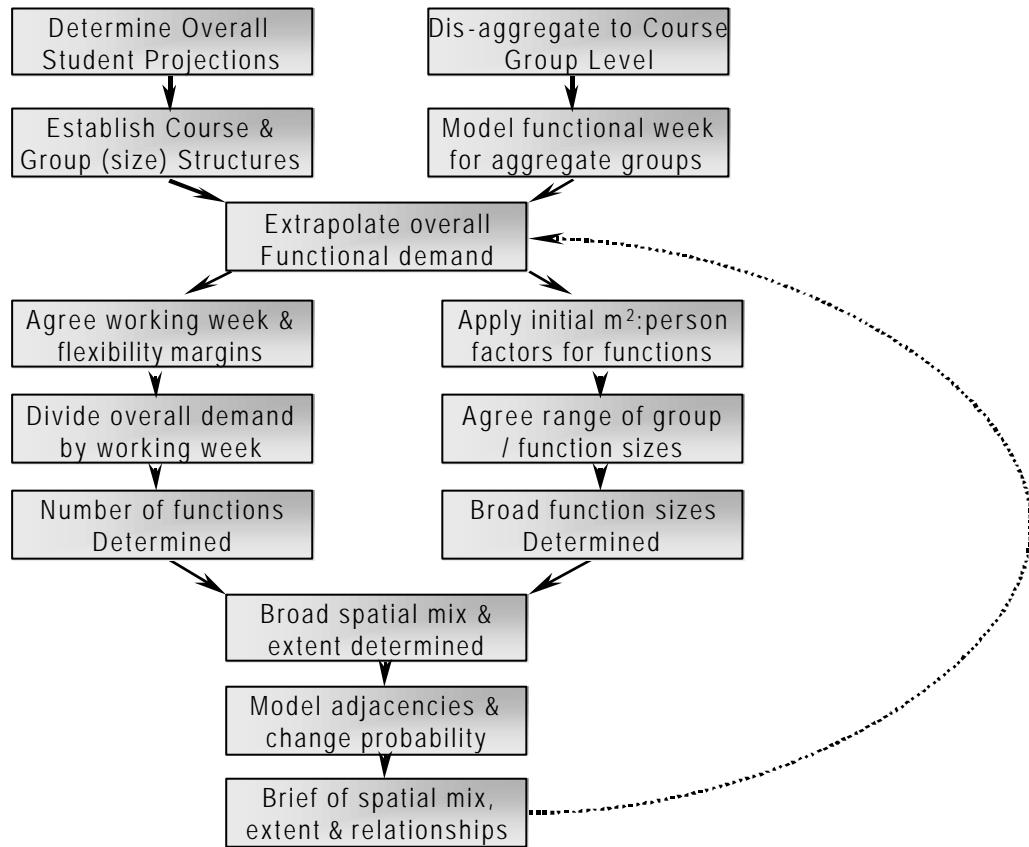
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<sup>3</sup> National Audit Office (1996), Report by the comptroller and auditor general, The Management of Space in Higher Education Institutions in Wales, HC 458 Session 1995-96, 28 June 1996, London: HMSO

together with the range of functions demanded by those groups and the time in hours demanded weekly or annually for each type of function.

The second element is to identify the size (or range of sizes) for those functions and outline specifications. The combination of the two will then yield the overall functional space demand by time for the department.

**Figure C2: Space Need Process**



In a full analysis the process covers three specific topics, namely an agreed Room Glossary, Academic Delivery Details and Senior Management Variables.

The **Room Glossary** schedules out the various room types and functions and should reflect not only the current status but also the desired configuration. Consistency in this respect is important in order to avoid duplication.

**Academic Delivery** or course details concentrates upon issues such as modes of study, academic terminology and course configuration. Discussion and agreement with the appropriate department and University's Senior Management team with respect to these issues are essential.

In a similar vein, agreement of the **Management Variables** plays a vital role. Policy decisions by the University's senior management regarding, for example, the proposed length of academic day, central ownership of space and likelihood of timetable clashes will enable a target frequency of use for each type of course or function to be agreed.

Dividing the notional academic day length by the target frequency of use then provides the actual number of hours to be allowed per function. Dividing the demanded hours for each function by the actual number of hours available in the timetable will hence indicate the number of rooms of that function required. An illustrative example is provided in Figure C3.

**Figure C3: Example of Space Need Profile**

ELEMENT	GENERAL TEACHING	IT SUITE	TOTAL HOURS PER WEEK
Graphic design	20 hours	20 hours	40
Business studies	30 hours	20 hours	50
Total demand for 22 week year	$50^* = 1,100$	$40^*22=880$	$90^*22=1,980$
Academic year (40hrs / week, 22 weeks)	880	880	880
Target frequency of use	70%	80%	N/a
Actual number of hours available	616	704	
Rooms required (demand / available)	1.79	1.25	
Practical number of rooms required	2	2	

Clearly the above is only a sample and the requirements of the department in question would extend to a significant range of functions in a full space need assessment. Understanding the number of people in a course group (a course group with a target size of 20 people, for example) then enables the size of each room to be calculated through the use of, for example, standard capacity functions for each room type.

As an illustration of the above, certain design guidelines for general teaching note a requirement for 2.1 sq m per person. Given a target course group size of 20 this would equate, using the above tabular example, to 2 general teaching rooms each of approximately 42 sq m. Similar formulae can be followed for IT suites and other types of room function including centralised and support space.

Calculations for circulation, plant rooms, toilets and other building functions can then be added to the summation of academic requirements to provide a total figure. Alternatively, the process can be applied to support services to identify their needs more accurately.

## GUIDANCE NOTE D: AN INDICATIVE SUMMARY ACTION PLAN

The Action Plan provided below is only a guide for institutions, and not all actions will therefore be applicable for all institutions. It is effectively a guide for an institution starting from 'scratch'.

ACTION	OUTPUT/PRODUCT
1. Update property database and agree system for monitoring and updating	Accurate and reliable property database. Agreed process for updating
2. Classify rooms by function	Agreed classification of rooms, including Room Glossary
3. Carry out functional suitability and building condition assessment	Up-to-date assessment of suitability and condition
4. Carry out space utilisation survey	Report on utilisation by building, department and room type
5. Prepare and implement an estates information strategy	Published Estate Information Strategy
6. Set up Space Management Committee/ Space Working Group	Produce Terms of Reference of Group, Membership and Reporting structure
7. Appoint 'Space Champion'	Produce Job Description for position and appoint staff
8. Prepare Space Management Strategy	Publish Space Management Strategy
9. Develop Space Management Guidelines	Publish set of Space Management Guidelines to users
10. Review role of Timetabling Unit	Issue details on role and line-reporting of the Unit
11. Implement the extension of computer timetabling to all space	Publish details of existing timetabling process and an agreed programme for extension to whole institution. Detailed guidance to be produced on the following: <ul style="list-style-type: none"> <li>(a) production of existing 'pooled space' timetables by Easter of each year</li> <li>(b) production of a standard proforma for collection of departmental timetable data</li> <li>(c) production of a 'dummy' institution-wide timetable, based on local and pooled timetable information</li> <li>(d) operation of a 'live' institution wide timetable</li> </ul>
12. Revise Space Charging system	Issue guidance on the operation of the new system
13. Agree process for planning space at same level and on consistent basis to staff and fiancé	Issue guidelines on Resource Planning at Faculty/School level dealing with space, staff and finance on consistent basis
14. Agree strategy for co-locating cognate departments	Strategy on co-location to be included in Estate Strategy, and indicative programme for achievement produced
15. Formally include space implications in reviewing Managed Learning Initiatives and similar	Agreed consistent reporting format on the space management implications of Managed Learning Initiatives. This should include increase/decrease in space demand, type of space change and costs/savings
16. Develop Space Need Assessment process based on: <ul style="list-style-type: none"> <li>(a) Norm based approach</li> <li>(b) 'bottom-up' approach</li> </ul>	<ul style="list-style-type: none"> <li>(a) published process of space allocation. (This should be on an annual basis)</li> <li>(b) programme for carrying out detailed Space Need Assessment using formal methodology outlined in Guidance Note C.</li> </ul>
17. Demonstrate the benefits of 'flexibility' of design via demonstration projects	Published report on costs/benefits of building-in flexibility of design
18. Identify student contact hours on a consistent basis across the institution	Published 'handbook' of contact hours by course/ department/ Faculty
19. Review current teaching periods	Agreed policy on teaching day, week and year
20. Develop and implement service level agreements for space management	Published details on SLAs covering: services currently included; actions undertake; reporting mechanisms

## GUIDANCE NOTE E: DEVELOPING A SPACE MANAGEMENT STRATEGY

A Space Management Strategy (SMS) should be a clear statement on how space is to be managed in the institution. It should describe the course of action that the institution will pursue in managing space. A list of policies needs to be included within the strategy documentation, along with the measures that are to be used in pursuing these policies.

The SMS should form a seamless link with the Estate Strategy and should be based upon the conclusions of the Estate Strategy – in other words helping to put the Estate Strategy into practice. As the Estate Strategy will be based upon the Institutional Strategy, it follows that the SMS should be in accord with the corporate objectives of the institution.

In developing a SMS it is vital that the objectives to be achieved by developing and implementing such a strategy are clearly understood. These objectives might include making effective and efficient use of existing space, and reducing space whilst meeting occupiers needs. If the objectives of the SMS are not made clear, then users of the estate can become confused as to what the SMS policies and measures are intended to achieve.

The SMS needs to be dynamic. Although the strategy needs to be based upon key strategic drivers (e.g. the Estate Strategy and Institutional Strategy), it also needs to be developed around users needs and feedback. This is important to help ensure maximum 'buy-in' to the strategy. This in turn requires that an ongoing monitoring process is in place to update and revise the strategy.

The SMS also needs to be the 'responsibility' of a senior group within the institution. This should be a Space Management Committee (SMC) or equivalent. This SMC should also have responsibility for co-ordinating and developing other space management initiatives so as to ensure the SMS is achieved and not in conflict with other measures or policies.

In developing a SMS document there are a number of broad issues that should be considered by an institution. These are summarised below:

?? What is the SMS to focus upon?

It is essential that institutions look at the advantages and disadvantages of the various space management measures, specifically in terms of how they assist in achieving the objectives of the SMS.

A regular review of the strategy should take place. This may be annually in terms of evaluating overall performance. Review on a 2 to 3 year basis may be necessary in order to consider if the overall strategy should be changed.

?? How will policy be implemented?

Below is a list of key guidelines to help in updating or producing a SMS. The list is not necessarily comprehensive, but it should be a useful starting point for an institution in assessing the suitability of their policies.

### Brevity

?? Keep the main policy document short – detail should be put in an appendix. As a guide, the main policy document should be under 10 pages. (Appendices will be in addition to this).

### Readability

?? The policy document should be capable of being read and understood by any member of the institution.

### Accessibility

?? The policy should ideally be available to anyone. This should be agreed with senior management. A realistic means of making it available should be put in place (eg on a website/intranet site, publishing note of its existence, identifying how to get hold of a copy, etc).

### Relationships

?? The relationship of the document (and policies contained within it) with other policy documents (eg Estate Strategy, etc) should be clearly spelt out. This will help ensure all policies within the institution are mutually supportive – and not working in opposition.

### Joined-up

?? Check that the policies in the SMS do support the other policies of the institution. Ideally a statement to this effect should be included within the document.

### Responsibility

?? Specify the purpose of the strategy and lines of responsibility.

?? Specify the ultimate decision-makers, and those charged with final responsibilities.

### Coverage

?? Specify all areas covered by the policy (eg all space, including departmental space, space costings, etc.). Also consider specifying what is **not** covered by the policy. This can clarify any confusion.

### Documentation

?? Detail any appropriate documents that need to be consulted in implementing the SMS (eg Estate Strategy, Timetabling request forms etc).

### Procedures

?? Detail the steps that need to be undertaken in managing space, such as requesting or releasing space or booking 'central' space. This should be in an appendix to the document. This should include worked examples as appropriate.

### Approval

?? Ensure that the senior management and governing body have approved the SMS. Ideally, the policy should be consulted upon within the institution.

In summary, the SMS should cover the following:

?? **Responsibility** - make clear who is responsible for space management from a management perspective (the Space Management Committee) and from a user perspective (all users!).

- ?? **Purpose** - provide a clear and realistic set of policies that support the strategy, including details of the objective behind the strategy.
- ?? **Communication** – indicate how information and requests will be disseminated, including key delivery and decision dates.
- ?? **Implementation** - provide details of the measures that will be used in implementing the policies (e.g space charging, space allocation process, timetabling process), and how they are to be used.
- ?? **Feedback** – describe the process to be used in obtaining feedback and input from users.
- ?? **Review** – detail the process to be used in reviewing the SMS

## GUIDANCE NOTE F: THE ROLE OF A SPACE MANAGEMENT COMMITTEE

Below is a list of the key roles of a Space Management Committee. The precise details would need to be reviewed by institutions and amended as necessary. However, they are intended as a set of guidelines that an institution may wish to refer to in setting up such a Committee.

The Space Management Committees key roles should include:

- ?? Developing, implementing and reviewing the Space Management Strategy
- ?? Developing, implementing and reviewing space management measures to support the SMS – such as space charging, timetabling and space allocations.
- ?? Producing guidelines for users of space – and communicate the Space Management Strategy and space management issues generally
- ?? Assessing Space Need on an annual basis
- ?? Reporting to appropriate senior management committees, including the key resource and planning committee.
- ?? Monitoring feedback on space use and space management by users.
- ?? Having responsibility for approving changes to space management measures (e.g. the operation of the space charging system).
- ?? Approving the property database development and changes.
- ?? Agreeing performance targets on space management matters.

## GUIDANCE NOTE G: KEY RESPONSIBILITIES OF A SPACE CHAMPION

Below is a summary list of the key responsibilities of a 'space champion'. Consideration should be given to providing this individual with an appropriate title, perhaps along the lines of 'Space Management Director', 'Space Improvement Manager', or 'Space Resource Director'.

The space champion's key responsibilities should include:

- ?? Chairing the Space Management Committee.
- ?? Implementing the Space Management Strategy.
- ?? Monitoring the implementation of the SMS and associated space management measures – including space charging and timetabling roll-out.
- ?? Membership of appropriate senior management committees.
- ?? Proposing and monitoring space management performance targets.
- ?? Liasing with academics and other users of space.
- ?? Promoting the effective use of space within the institution.
- ?? Approving all business and academic plans that require a change, or have an impact, upon space within the institution.

## GUIDANCE NOTE H: DEVELOPING A PROPERTY DATABASE

A property database needs to combine simplicity, flexibility, usability, accessibility and suitability. Whilst it will need to be developed to meet the specific needs of an institution, it is essential that it can meet a variety of needs, including external needs. In particular, the database needs to be able to provide data in a form that will be compatible with the framework developed as part of the Estate Management Statistics project.

It is recommended that the database is built up from a 'room' or equivalent basis. A 'room' may be a classroom or a corridor or a stairwell. The requirement is that it is a separately identifiable unit of space. This will provide the necessary level of flexibility to interrogate data in a variety of ways.

The actual 'categories' of information collected against each 'room' will need to be determined by the institution. By way of guidance, however, the property database should include the following fields for each 'room' or unit of space:

- ?? A unique identifier (ideally one that is understood by users and is the same as identifiers used on the ground, e.g. Room LB2)
- ?? Size
- ?? Capacity
- ?? Building location
- ?? Floor location
- ?? Primary use (teaching, research, support or other. Alternatively a proportionate split of the room by use could be used)
- ?? Department
- ?? Occupier (person using/responsibility for the space)
- ?? Facilities in the space
- ?? Space costs associated with the space

Further guidance can be found in Chapter 3 of the Estate Management Manual produced by ELWa.

## GUIDANCE NOTE I: TEN SPACE MANAGEMENT COMMANDMENTS

1. Have reliable, comprehensive, accurate and up-to-date information, accessible on a database – *data is a key platform for improving space management – if you can't measure it you can't manage it.*
2. Carry out regular space utilisation and management surveys – *the process of obtaining and managing data, and an on-going understanding of what users are doing, needs to be an integral part of the space management process.*
3. Develop effective communication and management systems - *communication is a key vehicle for success – or failure.*
4. Effective leadership is essential – a '*space champion*' is needed if real progress is to be made.
5. Effective and appropriate management systems are required – *available techniques – such as space charging and computerised timetabling – need to be carefully reviewed and implemented as appropriate, and regularly monitored. These are the instruments for change.*
6. Understanding of user needs is the key to success – *if you do not know what users want you cannot effectively satisfy their needs. This is vital.*
7. Engage academics and other users of the estate – *the mechanics and management support are important prerequisites for change, but real academic involvement is absolutely vital if real change is to be made.*
8. Plan flexibly and for the long-term – *quick fix measures are a false economy.*
9. Relate to strategic plan – *space management is intended to serve the needs of the institution – not the other way round. However, effective space management will always positively support strategic plans.*
10. Fund appropriately – *the estate is the 'shop window' for an institution, as well as where most of the institutions' activity takes place. Therefore inadequate funding can lead to loss of investment elsewhere.*

