An outline of the methodology used for space planning

Investment in space resources of appropriate quality and configuration is a key factor affecting the performance of a university as a centre of learning and achievement. For this reason it is of paramount importance that planning procedures are of proven quality and effectiveness. This priority is reflected in our method statement.

1. Establish agreed space norms

   The space norms can be taken from a recommended list, from a preferred university list or from a calculation of de facto space norms. The larger the space norm the higher the cost per student workplace and the higher the target level of space utilisation.

   Space is expensive. In England the annual cost of space in higher education is over £200 per square metre. As space utilisation falls the required income per student workplace rises steeply. As a consequence, the target space utilisation level increases and the degree of choice concerning the time and location of classes is greatly reduced.

2. Establish the current and planned demand for space

   Analyse taught and research hours to establish the current demand for space. To quantify the future demand for space requires the systematic modification of current course data:

   - revision of course or module provision;
   - adjustment of enrolled student numbers;
   - modification of hours to reflect planned delivery methods.

   The precise and objective revision of data can be achieved by the completion of prepared forms. The demand for teaching and research can be used to identify a justified area and capacity for each department.

3. There are a number of strategies that can be used to check the validity of the space analyses. The area and capacity of departments based on modelled space must be compatible with the total justified gross internal area of a university and its campuses.

   The availability of comprehensive space utilisation data enables the modelling of room profiles based on feasible timetables. The impact of growth and estimated absence levels can be taken into account in the modelling process.

4. Space modelling strategies

   The consultancy has developed the capabilities to undertake space modelling on the basis of data drawn from existing timetables, a space utilisation survey or a space needs appraisal. It is appropriate to review the merits of each data source.

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4.1 Timetable data

Timetable data can be used as a basis for defining required teaching room profiles. This data can be readily exported from the computerised timetabling system used by a university. It is, however, important to recognise the limitations of the base data.

- Timetabling is a process based on predicted space requirements. It is inevitable, therefore, that it results in data that over-estimates the demand for accommodation. As a consequence space modelling based on timetable data will generate excess accommodation that will inflate capital and operating costs.

- Timetables define the current use of space and do not identify accommodation requirements associated with future course provision, enrolment levels and course delivery methods.

- Activities such as independent study by student using on-site learning resource facilities and studio spaces are often not timetabled and are, therefore, generally not included in the data used as a basis for defining accommodation requirements.

The possibility of using timetable data for space modelling is often stressed by software suppliers. The consultants developed the methodology used by commercial computerised timetabling systems and they have extensive experience of timetabling colleges and universities. On this basis, the use of timetable data for space modelling is not recommended.

4.2 Space utilisation survey

A space utilisation survey provides accurate data detailing the current use of teaching accommodation and learning support facilities. It is possible to model room profiles based on this data. Projected space utilisation levels reflect workable timetables that take into account existing constraints on the timetabling process. It is possible to allow for a wide range of factors including student withdrawals and absence rates. It is, however, a procedure which focuses on the current demand for accommodation and does not take into account the dynamic nature of the curriculum.

4.3 Space needs assessment

An initial analysis based on planned annual growth in guided learning hours, subdivided by university sites and departments, or other defined curriculum areas, would provide overall areas and capacities. A more detailed assessment would take into account planned course provision, enrolment numbers and guided learning hours associated with future course delivery methods. The resulting output would identify the number, type, area, capacity and space utilisation levels of individual teaching facilities comprising a recommended teaching room stock. The area and capacity of the total set of teaching rooms must be compatible with a justified gross internal area and capacity.

A comparison of the predicted space utilisation levels with current best practice would demonstrate the feasibility of timetabling the modelled room stock.

Case studies illustrate the proven cost benefits of the strategies used to assess space efficiency and the power of our unique system used to model timetabling strategies and space requirements. The contribution made by the consultancy to the strategic plans of colleges and universities is recognised as of proven value and testifies to the quality of our analytical procedures.