

3 Managing a learning space project



THIS SECTION AT A GLANCE

- we discuss the project life cycle that is particular to construction projects as opposed to general project management;
- we look at the range of professional advisers you may need to include in your project team;
- we point to a set of guidance and templates that you can use for all aspects of a learning space project.

Expectations from reading this section

The intended audience for this Toolkit is a set of professionals who are already likely to have undertaken a range of projects in their working lives and who will be familiar with some form of structured project management approach. In this section we look at what is different about a learning space project.

Anyone who plays a significant role in a learning space project is likely to become involved with matters well outside their day to day professional experience and indeed their *comfort zone*. This section is intended to be read in conjunction with Section 2, Working in partnership, which points to effective means of ensuring the project team gets the input it needs to take the best possible decisions.

In particular we suggest that:

- a learning space project brings together two types of project that are in themselves complex and challenging to handle:
 - the hard aspects of a physical build; and
 - the soft aspects of a major change initiative;
- during the inevitable complications of delays, changes to specifications, escalating budget etc. it is essential to maintain a focus on the original vision for the project to ensure you end up delivering the kind of learning and teaching experience you intended.



“Birmingham Metropolitan College had to do land deals with a range of organisations and have a road moved. City Lit was involved in a planning dispute that held them up for two years. Edinburgh’s Telford College went to a tribunal over VAT and Stephenson College’s project was held up for a year while Great Crested Newts reproduced.” (Jisc 2013⁴⁶)

⁴⁶ Jisc (2013) *Learning Spaces Guide*: www.jisc.ac.uk/guides/learning-spaces/making-it-happen

3.1 What's new?

Many universities will already have a project management approach that they apply to all of their projects and many of the professionals for whom this Toolkit is intended are likely to have had some form of project management training and to have led or at least worked on projects in the past. In spite of this, a learning space project may be different to anything you have encountered before. The scale of such projects can vary from refurbishing a single room to a major new build and the type of approach you apply will take into account the scale and complexity of your particular circumstances. Two factors are however likely to be common to all types of learning space project:

- you are likely to apply a project life cycle model specific to building projects — we discuss project stages below;
- you are likely to be working with a range of stakeholders (particularly academics and students) who may not have experience of project type work and will need to be brought up to speed about the fundamentals of this kind of approach. It is not the purpose of this Toolkit to give an overview of general project management but in the resources section we point to some useful tools.

Some readers may have expected the section on project management and the project life cycle to have appeared at the start of the Toolkit and formed the framework for it. Our choice of order has been quite deliberate: we talk first about pedagogy because the overall aim of these projects is to support learning and we talk next about working in partnership because stakeholder engagement is the real key to establishing whether or not the project will be as successful as it might be.

In addressing the subject of project management we raise a note of caution about the model outlined below. Typically the stages of a learning space project will consist of the stages outlined in the RIBA plan of work⁴⁷ which applies to any large scale project. It is important that sufficient time is given to the first key stage: strategic definition, stage 0, to ensure it is properly defined. Frequently we are trying to do something that has not been done before and the use cases for most other types of build are far better established than some of the experimental learning spaces we are developing. Frameworks and models can help but only to the extent that they do not constrain thinking about what is unique about each particular project. There is no one expert we can turn to for answers hence the emphasis this Toolkit places upon stakeholder engagement.



“Every building project is a one-off.”
Eleanor Magennis

Normally for learning spaces projects the Estates department of the university will appoint a project manager from their team. If the project is large and complex there may be an external Project Manager as well as part of the external design team. Ensuring good communication channels are established and maintained from the outset is important to ensure the key stakeholders are kept informed and consulted.

3.2 Project stages

Typically the stages of a learning space project will consist of the stages outlined in the RIBA plan of work:

- 0 strategic definition (previously known as appraisal and feasibility)
- 1 preparation and brief
- 2 concept design
- 3 developed design
- 4 technical design
- 5 construction
- 6 handover and close out
- 7 in use



“Sometimes you need to slow down to speed up. Taking more time at the outset in forming the design brief and focusing on what the activities are can lead to a much better set of outcomes.”
James Rutherford

The length and complexity of each of these stages will depend on the scale of the project.

⁴⁷ RIBA Plan of Work (2013): www.ribaplanofwork.com/

Definition phase (stages zero and one)

Some projects, such as refurbishing a single classroom, may operate within constraints that make the project definition relatively straightforward. In other cases there may be a period of options appraisal in order to determine whether new build or refurbishment is the most appropriate solution. We point to some tools for doing options appraisal in the Resources section.

A number of contributors to this Toolkit have suggested that when making investment decisions around refurbishment, it may not always pay to tackle the worst space first. The point was made that upgrading ten rooms with minor problems might be cheaper and more worthwhile than the investment required to adapt a space with significant design issues.

In some cases the distinction between new build and refurbishment may be less clear cut. Paul Burt, Learning Spaces Service Owner, University College London (UCL) told us *“Refurbishments at UCL might as well be a new build. Many of the spaces are taken back to a pillar and some concrete slabs”*.



“Value engineering is seen by many as the process through which the interesting and innovative elements of a project are slashed in order to save money. We need to be clear that any cuts made for good financial considerations do not impact upon the staff and students’ ability to use and enjoy the space effectively.” Toni Kelly

Design phase (stages two to four)

This is the phase where you will really start to realise the vision for a particular type of learning environment and the phase where you should have the widest range of stakeholders involved. We cover more about your stakeholders and how to work with them in Section 2, Working in partnership. Visual representation is important at this stage. Many people find it difficult to understand plans and hard to imagine in 3D what a building will look like. It is difficult for people to buy in to something they cannot fully understand, so obtain representation quickly so that people know what you are talking about.

Taking time to meet in the space and look at the requirements and the design issues, barriers and opportunities is much more valuable than trying to make design decisions around a table on a paper plan.

This Toolkit emphasises the importance of creativity and innovation in learning space design and we talk about this in Section 1, Building a new pedagogy and Section 2, Working in partnership.

It is equally designed for busy practitioners in order to help them create usable and effective spaces and we emphasise importance of applying recognised standards to the design. There are sections to support you with this, specifically looking at functional room design standards, audio design standards, visual design standards and IT standards.

It pays to have a series of reality checks on your design ideas. Your architect and specialist advisers will help you with this but it always pays to involve people with local knowledge as well. See the Reality checks later in this section.

Construction phase (stages five and six)

The more quickly you can complete this phase the easier it is to manage costs and changes to plan. This phase is likely to involve a potentially large number of external contractors so you need a well defined management control system with only one person responsible for giving decisions and information to contractors. Effective change control mechanisms are vital at this stage. Although this phase is likely to involve Estates staff and other professionals rather than general users of the space, it is important to maintain effective communication especially where unforeseen problems result in changes to the original design. Appropriate involvement of key users of the space at this stage can also help to minimise *snagging*. Snagging traditionally means identifying defects that need fixing at the end of a building project but early identification of issues can often make them easier to solve.



Photo 4: Construction work at the Saltire Centre, Glasgow Caledonian University.

The occupancy phase (stage seven)

The day the first users move into the space is an important milestone to be celebrated but it is unlikely to mark the end of the project. There is a need for effective post occupancy evaluation to ensure that the space is functioning as intended and we address this topic in Section 6, Evaluation.

It pays to think about how occupancy might change as a result of new developments. Many learning space projects have been *victims of their own success* and seen occupancy levels far in excess of their original expectations. This can have important implications for planned maintenance and cleaning regimes. In some cases major changes have been necessary to cope with the increased footfall as in this example from a post-occupancy evaluation report at the University of Wolverhampton: *“From the onset of occupation, it became evident that the lifts could not cope with the volume of traffic ... a similar specification to other lifts within the university had been used but, due to the massive usage, this was not sufficient. As a result, higher specification machinery was retrospectively fitted”*⁴⁸.

3.3 Working with professional advisers

In a significant learning space project, particularly one that involves new build, you are likely to find yourself working with a range of professional advisers. For those who have not worked on this type of project before the range of specialists can seem quite bewildering but obtaining the right expert advice at the right time can help save you costly mistakes.

Philip Badman has led a number of new builds in the further education sector: as Vice-Principal at City Lit he found himself working with 158 individuals from 37 firms to complete a single project⁵⁰ that ran into planning difficulties in a densely built urban setting. This included 47 lawyers from four different firms, all specialising in different aspects of the law, and specialists such as a party wall surveyor, a rights of light surveyor and archaeologists. As a result of this experience Phil formed clear views on what makes a good adviser.

A good adviser (according to Phil) is one who always:

- thinks of the problems ahead for the client;
- identifies, analyses, explains the options;
- alerts the client to risks, and mitigation;
- confirms scope of services and what is out of scope;
- avoids saying *“but you didn’t ask that question”*;
- adheres to a strict reporting/instruction regime;
- translates for the academics;
- sets a realistic project process and timeline;
- is patient!



“Architects tend to lose interest in the spaces as soon as the ribbon is cut, whereas operations and building services teams need to focus on how the space will continue to operate five years down the line.” Bruce Rodger



“When faced with counter ideas from a group of resource constrained, experienced building professionals, it is easy to see why aspects of the vision might be dropped in favour of simpler or more traditional solutions. In the confines of meetings, especially given time pressures, such decisions can be made quickly and easily, but they are difficult to undo later.” (Martin 2010⁴⁹)



“On virtually every project IT and AV are last on-site. If anything else has gone wrong earlier in the project then their costs are squeezed. They are also often seen as being the cause of the hold up even though they are taking the time they said they would take.” Bruce Rodger

⁴⁸ University of Wolverhampton (2005) RIBA Post Occupancy Report: The Millennium City Building: www.architecture.com/Files/RIBAHoldings/PolicyandInternationalRelations/ClientForums/Higher/PostOccupancyreviewofbuildings/TheMillenniumcitybuilding.pdf

⁴⁹ Martin, P. (ed) 2010) Making space for creativity. University of Brighton: http://about.brighton.ac.uk/creativity/Library/UofB_msfc-ebook_FINAL.pdf

⁵⁰ Further background on the City Lit project http://fanshawe.hciyork.co.uk/metadot/index.pl?id=2573&isa=DBRow&field_name=download&op=download_file

It is vitally important that you choose the right architect and interior designers that fully understand your vision for the project and that you work together as an integrated team from the outset. There is no magic formula for this and in this type of project your general feel for what a company would be like to work with can be an important indicator from the outset as to whether or not the relationship will work. Choose your partners as carefully as you would choose your own staff and, from then on, the advice is really the same as for effective working in any project team: be clear about expectations, roles and responsibilities and decision making authority and establish effective communication channels that work for you.

The following list of professional advisers and their roles in a learning space project is adapted from the Jisc (2013) guide⁵¹ on this topic.

Architect

The project architect is the key to interpreting your vision, developing the ideas that you have, and transforming it into reality. Architects have the skills to coordinate and manage, in conjunction with your internal decision making mechanisms, the overall building project and to act as your adviser ensuring that others, such as the builder, understand and work to meet your hopes and aspirations. If you do not want the architect to take this lead coordinating role then you may need to engage a professional project management company to do so.



“The role of the architect is to turn your vision into a reality. What they can’t do is create the vision.” (Jisc 2013⁵²)

More and more university Estates departments are moving towards frameworks for their architects or design teams which are renewed on a three to five year basis. This is to ensure best value for money and save time on procuring design teams on individual projects. For large, complex projects, a separate procurement process may be followed or a design competition may be used.

Interior designer

An interior designer, as the name implies, will be concerned with the interior of a learning space although in some cases the remit may extend to the external facade of buildings as well. Interior design is about much more than decoration as it has an emphasis on functional design and effective use, and can require an understanding of technical issues such as heating, ventilation and air conditioning (HVAC), as well as acoustics and lighting. In the example of a learning space renovation project, an interior designer may design the layout of the space working with an architect who would deal with any changes to load bearing walls etc. Architectural firms often employ or partner with particular interior designers.

Mechanical and electrical engineer

One of the most difficult aspects of any build or refurbishment is the provision of mechanical and electrical systems and services including IT. Making sure you contract with a high quality mechanical and electrical engineering organisation is a crucial success factor for the implementation of technology rich spaces. With this type of space it is also advisable to make separate provision for IT systems and services by hiring in specific expertise. You do not want to risk ending up with a beautiful building in which the IT and electrical and mechanical systems let you down or cannot be easily adapted to future needs. Be wary of any companies who view IT and AV (including access control and CCTV) as simply a subset of the electrical work and who do not appear to fully understand your requirements.

Project manager

Sound project management is essential to ensuring that the project is delivered on time and within budget. You should weigh up the benefits of hiring a project management company to take on this responsibility against the benefits of local knowledge (if you have the skills to take this on inhouse). Your Estates department will be best placed to advise on whether the relevant skills exist within the university.

⁵¹ Jisc (2013) *Learning Spaces Guide*: www.jisc.ac.uk/guides/learning-spaces/professional-advisers

⁵² Jisc (2013) *Learning Spaces Guide*: www.jisc.ac.uk/guides/learning-spaces/the-architects-role

Quantity surveyor

During the design of the building and its procurement, you need to know whether your cost expectations for the planned features and facilities are realistic. For this you need the professional help of a quantity surveyor. The surveyor should be able to predict whether what you are expecting to receive for your money can be achieved and help you to evaluate tenders for each phase of the work to make sure that you are comparing like with like when selecting providers. The procurement team within a university will also be involved with contract tenders and, as for the design team, there may be frameworks for contractors. The surveyor may even be able to suggest ways in which you can save money.

Acoustician

An important aspect of learning space is how sound is controlled and managed. You should consider employing an acoustician to help model the sound within the space you are planning and to advise on floor, ceiling and wall finishes that can deliver a suitable soundscape for the space.

Lighting consultant

Lighting in learning spaces is a crucial factor. You should obtain the advice of a lighting consultant in order to ensure that the space has the flexibility to provide good lighting throughout a daily, weekly and annual cycle.

Artists

Artwork can help to provide a stimulating environment and is increasingly being used in learning spaces to add an inspirational element to the space. You should consider using one of the specialist agencies that can introduce you to a range of artists and help you select and procure artwork appropriate for the space.

Health and safety related consultants

Projects of this nature are likely to require specialist support to ensure that appropriate health and safety related specifications are met. These might include a fire consultant and a CDM (Construction Design and Management) coordinator who will focus the attention of the whole team on the health and safety aspects of the project to facilitate early identification of potential hazards.

Intelligent client

This is already a long list and there may be other specialist needs particular to your type of project. A concern in dealing with so many professionals is not only how to ensure client needs are understood but also how to ensure what is intended is implemented (or when things are not progressing as intended what questions need to be asked). You can employ professional help to act on your behalf as an interface between all, or any, of the professionals that you need to work with and with the builders. The trick here is to get the help you need without creating an extra layer that can add to bureaucracy and misunderstanding. Managed well, such an *intelligent client* will act intelligently on your behalf bringing in professional knowledge that you do not possess.

Resources

- The RIBA Toolbox contains a tool to help you specify and define project roles⁵³.

3.4 Reality checks

It pays to have a regular series of reality checks on your design ideas. Your Estates contact, architect and specialist advisers will help you with this but it always pays to involve people with local knowledge as well. This series of checklists for different aspects of the build has been adapted from Jisc guidance on Learning Spaces (2007⁵⁴) and (2013⁵⁵).

⁵³ RIBA project roles: www.ribaplanofwork.com/Toolbox.aspx

⁵⁴ Reality checks from the Jisc Learning Spaces Guide (originally published in 2007): www.webarchive.org.uk/wayback/archive/20130503220624/http://www.jiscinfonet.ac.uk/infokits/learning-spaces/design/reality-check/

⁵⁵ Jisc Learning Spaces Guide (updated in 2013): www.jisc.ac.uk/guides/learning-spaces/reality-check

General design checklist

- Does the overall design fit its surroundings and comply with any stipulations in outline planning consent?
- Does the design take full account of the layout of the site and any issues such as seasonal flooding or erosion?
- Are initial surveys still valid in the light of the final design? (For example John Wheatley College, Glasgow had to undertake further geotechnical surveys once the building footprint was known.)
- Does the layout of the site take account of all access considerations including pedestrian, bicycle, public transport, parking?
- Does the design take account of cleaning, maintenance and waste disposal considerations e.g. is it possible to clean the windows without blocking access routes?
- Have you considered the functions going on in each part of the building relative to one another in relation to considerations of noise, health and safety hazards, and special security requirements?
- Have you considered the functions going on in each part of the building relative to one another in relation to sight lines and issues of privacy and security?
- Have you considered the design in relation to your business continuity and/or disaster recovery plan to identify issues and/or opportunities?
- Have you thought enough about future changes? There may be a need to review your plans particularly where planning or other issues have caused a delay to the project e.g. a college planning to build a photographic darkroom found that the digital revolution overtook them whilst they were involved in a planning dispute.

Technical infrastructure checklist

This is an area where you would not necessarily expect architects and builders to have a lot of specialist knowledge, so you will need to ensure that you involve suitably qualified professionals in your reality check. You might start by asking:

- Have you considered the location and capacity of power sources?
- Do you know the location and precise route of other mains services?
- Do you know where your nearest Janet network connection is situated?
- Have you looked at the length of cable runs?
- Have you considered the location of server rooms e.g. to ensure you have not sited one beneath a water tank?
- Have you considered the ventilation/cooling requirements of server rooms and any other rooms with specialist machinery?
- Do you know the details of rack sizes etc. to ensure that the equipment will fit into the planned space?
- Has there been adequate liaison between technical and IT suppliers and your own technical or IT staff to ensure that new equipment is compatible with existing services/infrastructure?
- Have you checked sight lines in relation to all static audio visual equipment in teaching rooms?

- Can you get a mobile phone signal where necessary such as in reception, and in social and collaborative areas?
- Will printing/copying or other equipment cause noise in open plan areas?
- Have you fully considered all accessibility issues e.g. does the estimated footprint allow for larger screens/keyboards/wheelchair access where necessary?
- Have you thought about all the spaces people might use as learning spaces - are garden areas and study bedrooms wifi enabled?
- Is it clear what source is funding the cost of new and replacement equipment (the project, institutional or local budget)?
- Have you taken all possible steps to facilitate flexibility such as using raised floors so that services can be moved as necessary?
- Are you confident you understand the ongoing costs associated with the technology?
- Have you thought about replacement cycles and the scheduling of upgrades/replacement?

Checklist for individual spaces

The devil, in any project, is usually in the detail. Sometimes architecturally stunning buildings can suffer from a lack of understanding about how the space is actually to be used. Having said that, a stimulating space will itself generate ideas about new ways of learning and working so we need to be wary of focusing too heavily on the way we do things now. The following prompts may alert you to some potential problems without stifling your desire to be creative and innovate. You may also want to think about using space sheets⁵⁶ to ensure you have captured all requirements fully and in a way that can be accurately costed:

- Have you considered the location of any specialist, heavy, bulky equipment and ensured that it can be installed at the appropriate time?
- Are the lifts large enough to permit the movement of bulky items in future?
- Have you considered seasonal variations in relation to the processes carried out in the space? Will the space be used for occasional high volume activities such as enrolment or examinations and what are the implications of this?
- Will a space ideal for summer usage have suitable places to hang heavy coats and store wet umbrellas?
- Is there adequate secure storage for staff and student personal belongings?
- Have you looked at open access areas in relation to data protection considerations? This may be a particular issue where staff and students are using the same space.
- Have you looked at flexible spaces in relation to health and safety considerations particularly where users may rearrange furniture? You need to think about the risks involved in physically moving furniture (including the possibility that new configurations could block access to exits or essential services) and the risks of trailing power cables.
- Atrium areas, mezzanine floors and open walkways all help create a sense of height and space – have you looked at these spaces in relation to health and safety considerations particularly in relation to objects falling from one level to another? You could perhaps ensure that rails on balconies are shaped to prevent people placing objects on the edge.

⁵⁶ An example of a completed space data sheet, created by Edinburgh College: <http://bit.ly/sps-example>

- New spaces frequently attract usage levels in excess of those anticipated – can cleaning and related services cope with peaks in usage?
- Can cafeteria areas cope with peaks in usage without queuing and congestion?
- Have you considered circulation around the space at peak times, such as when large numbers of students are moving from one class to another, to identify potential bottlenecks?
- Have you considered the relationship of fixed seating to heating and ventilation outlets to ensure users are not seated in draughts or too close to heat sources?
- Assuming a no smoking policy in the building, where will smokers congregate and will this result in issues relating to access and litter?
- How will you manage noise levels where open access and flexible areas are sited in close proximity to areas where formal teaching is going on?
- Have you thought about signage (particularly in large, open plan spaces or zoned spaces) to help users use the space and locate services effectively?
- Have you thought about the costs and potential difficulty of changing signs as the building use develops?
- Where staffed help points are available in student areas will the staff have access to all of the equipment they need to deal with queries effectively?
- Have you thought about how you can ensure that staffing levels can respond to demand?
- What are the maintenance needs in each space? Avoid situations where routine maintenance becomes complex (for example where it takes a cherry picker or scaffolding to change a light bulb and in the meantime a whole study area remains dim or gloomy).
- Will there be 24x7 use?
- Have you considered security for people and equipment outside normal operating hours?
- Space for meeting privately – you may wish to consider having some private areas that do not require reservation through a booking system, in order to respond to *ad hoc* occasions such as responding to a distressed student.
- Finally have you thought enough about future changes or have you concentrated too much on how things are at present?



VIEWPOINT

Caroline Pepper, Learning and Teaching Space Manager, Loughborough University, has worked on learning space projects in facilities management and corporate services departments so has seen the issues from a range of different stakeholder perspectives and this has influenced her approach to project management.

The sheer number of different stakeholders involved can make these projects very difficult to manage. Meetings can be difficult to organise and to handle as there are many different perspectives to be considered. A structured methodology is needed in these circumstances but Caroline warns that too much emphasis on following a standard model to the letter can inhibit you recognising what is unique about your particular project. In particular, once a stage has been signed off, change can be difficult and bureaucratic to manage even though some degree of change is inevitable in long and complex projects.

This highlights the value of bringing all stakeholders to the table as early as possible. Loughborough ran a number of informal workshops to understand and influence the design of a new campus in London. The stakeholders involved included representation from all of the schools, professional services, service departments and most importantly students, to gain input to the initial ideas from all perspectives.



VIEWPOINT

Tessa Rogowski, Client Services Manager, University of Essex, emphasised the need for clarity around the decision making process in projects. Tessa made the point that as you go through the RIBA stages, the questions that you ask, and hence the options that you have available, narrow down. As she put it *“You start out at stage zero thinking pigs might fly and by stage five you realise it isn’t going to happen because you can’t nail wings to pigs”*. What this means in project management terms is that people need to know exactly what lines of authority and decision making exist (bearing in mind that this is different in every project). They need to know how to ask for changes to the brief and when it is reasonable to expect that adjustments can still be made. Tessa feels that *“Having this very clear at the start of a project makes the difference between a successful and an unsuccessful one”*.



VIEWPOINT

Sally Jorjani, Head of Academic and Business Liaison, Edinburgh Napier University, has a background in project management. Sally feels it does not matter what project methodology project teams choose to follow so long as they do use a structured methodology and it is one that gives them a holistic view. Sally does however have some concerns that the RIBA life cycle and terminology may not be very meaningful to all stakeholders and that too much emphasis on the building structure may cause project teams to miss other relevant perspectives. Sally is at pains to point out the range of stakeholder engagement and change management skills that are needed to make these types of projects successful.

Sally also emphasises that project timescales may be very different to what you are used to in other projects and the sheer length of projects can make it difficult to keep stakeholders interested and engaged. An important tip from Sally when managing projects such as this is to realise how long it may take and think about *chunking things down*. Don’t think in terms of a three year project but rather break it down into phases. She told us *“Bringing people along with you takes time and a lot of consultation. You might even need to review and rework policies to make some of the desired changes”*. Sally also advocates having somebody from your finance department on the project team, even for relatively small projects, so you can be confident that your budgeting is robust and there will be no surprises.



VIEWPOINT

Toni Kelly, Associate Director, Learning Environments, University of Hong Kong, feels it is absolutely key that you have a good working relationship with the project manager. Some project managers take the view that it is their job to deliver the brief and hand it back to you when it is finished, whereas others will hold your hand, lay down the ground rules and point out any room for manoeuvre. Toni says *“The most successful and enjoyable projects I have been involved with have featured a combination of fierce time and cost control combined with an ability to listen and act accordingly to my concerns or requests for change (not always agreed!) during the life of the project”*. She finds that as soon as you get on site you see things that will impact the user experience so you must understand where you can make constructive suggestions and where changes are possible. Toni pointed out that people in an higher education context don’t work with construction professionals very often so they can easily get into a situation where they don’t know whether they should raise an issue or not. Toni told us *“Over time I’ve just got a bit braver”*. Toni also emphasises the importance of managing and tracking changes: *“If you think you have agreed something and then the changes aren’t tracked it can be too late to do anything about it”*.

Resources

- Imperial College London owns one of the largest estates in the UK higher education sector and undertakes a wide range of refurbishment, redevelopment and new build projects. The College has developed its own project procedures based on best practice from industry, applying PRINCE2® methodology and following RIBA project management stages. The College has produced an excellent website with guidance and templates covering all aspects of building projects⁵⁷. In particular you might wish to look at the Imperial College process map which gives an idea of the complexity of a building project and the tasks and deliverables at each of the stages⁵⁸.
- Many of your stakeholders may be unfamiliar with formalised project management approaches and you might find it useful to give them some kind of overview of why such approaches are needed, what purpose particular tasks and outputs serve and an explanation of any project management jargon you may be using within the project team. A resource specifically adapted for the needs of the sector and well used for many years is the Jisc guide to project management⁵⁹.
- HM Treasury Green Book is the standard text on appraisal and evaluation in central government and provides useful guidance for other public sector type organisations⁶⁰.
- Department for Education and Skills (now the Department for Education) guidance on options appraisal is aimed at schools but contains some useful pointers⁶¹.
- The Learning and Skills Council (disbanded in 2010) produced some Guidance on College Property Strategies that is aimed at the further education sector but nonetheless contains some useful information for universities⁶².
- There is also a publication by the UK Higher Education Space Management Group (SMG) looking at how space needs modelling is approached in further education (and internationally in higher education)⁶³.

57 www3.imperial.ac.uk/estatesprojects/projectprocedures

58 <https://workspace.imperial.ac.uk/capitalprojects/Public/processmap/ProcessmapA3.pdf>

59 Jisc (2008) *Project management - A project management methodology based on PRINCE2*: www.jisc.ac.uk/guides/project-management

60 HM Treasury (2013) *The Green Book: Evaluation and appraisal in central government: HM Treasury guidance for public sector bodies on how to appraise proposals before committing funds to a policy, programme or project*: www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government

61 Department for Education (2002) *Finding the right solution. A guide to option appraisal*: tools.jiscinfonet.ac.uk/downloads/lsd/dfes-options.doc

62 Learning and Skills Council (2002) *Guidance on College Property Strategies*: http://dera.ioe.ac.uk/13355/2/Supplement_A_to_Circular_02-20_Guidance_on_college_property_strategies.pdf

63 Space Management Group (2006) *UK Higher Education Space Management Project Managing space: a review of English further education and HE overseas*: www.smg.ac.uk/documents/FEandoverseas.pdf