Capital projects: post-occupancy evaluation guidance

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This guidance provides a framework to assist colleges and universities to produce post-occupancy evaluations for capital projects.

FAO: Directors of Estates at Scotland's colleges and universities

Contact: Gill Watson, Policy Officer
Property and Capital Funding
gwatson@sfc.ac.uk
0131 313 6518

Executive summary

1   The college and university sectors are going through an extensive time of change catalysed by a substantial capital programme of works to replace and change their estate. This has been fuelled not only by estate need but also by a desire to modernise the delivery of education and to improve efficiency.

2   The Scottish Funding Council (SFC) is keen to learn from these changes, to provide lessons learned for the sector and to demonstrate to the Scottish Government and other stakeholders the significant benefits they have conferred.

3   Post-occupancy evaluation (POE) provides a structured review of the process of delivering a project as well as a review of the operational, functional and strategic performance of the building during occupation. This is a recognised way of providing feedback on the performance of the project throughout a building's lifecycle from initial concept through to occupation. The information from this feedback can be used for informing future projects and processes.

4   To gain this information, a post-occupancy evaluation should be undertaken for each project to clearly detail and measure the impact a new environment is having on learning, teaching and research, staff and students and property efficiencies.

5   The aims of SFC in producing guidance on POE are:

- to promote POE as an essential performance management and continuous improvement tool;

- to ensure that POE is completed for all SFC funded projects with a total capital cost of over £3 million. It is also suggested that the guidance should be adopted as best practice for all projects undertaken by colleges and universities over the total capital value of £3 million, as well as any innovative projects with a unique impact (such as an environmentally sustainable building using only natural materials, or a collaborative learning resource centre for both further and higher education);

- to allow project delivery data from the lessons learned in the sectors to be collated and disseminated throughout the sectors to ensure best practice and value for money;

- to utilise the information to build up an evidence base to demonstrate increasing efficiency in a way that can be measured and inform the future funding decision-making process;

- to develop and publish case studies based on previous sector experience, to enable the sectors to self-improve and build on lessons learned; and

- to demonstrate to internal and external stakeholders how the sectors are progressing and improving in the procurement of buildings and delivering projects that represent the best value for money.

6   POE is a fundamental part of the project management process and should be embedded in the structure of a project from its inception.

What is a post-occupancy evaluation?

7   POE provides a structured review of the process of delivering a project as well as a review of the operational, functional and strategic performance of the building during occupation.

8   This is a recognised way of providing feedback on the performance of the project throughout a building's lifecycle from initial concept through occupation. The information from this feedback can be used for informing future projects and processes. To be most effective, building performance evaluation must happen throughout the lifecycle of a building.

9   When a programme or project which is funded by SFC (over the total capital value of £3 million) is completed, it should undergo a comprehensive POE to evaluate whether the initial aims and objectives of the project have been met. Good feedback is an intrinsic part of good briefing and design of buildings.

10   It is also suggested that this guidance should be adopted as best practice for all projects undertaken by colleges and universities over the total capital value of £3 million, as well as any innovative projects with a unique impact (such as an environmentally sustainable building using only natural materials, or a collaborative learning resource centre for both further and higher education).

How does a post-occupancy evaluation help?

11   The principal benefits of POE include the following:

- fine tuning and evaluation of existing buildings;

- assessment of building functional suitability and fitness for purpose;

- to improve the design of future buildings;

- to improve future procurement processes;

- to demonstrating best value; and

- to involve users.

Complementary guidance

12   With increasing pressure to operate more cost-effectively, colleges and universities will be in a position to improve future performance by focusing on the performance of the estate. With this in mind, the Association of University Directors of Estates (AUDE) commissioned the University of Westminster to undertake a study on POE.

13   The study report, *Guide to Post Occupancy Evaluation*, was published by the University of Westminster for AUDE in 2006 and can be found at the AUDE web site: www.aude.ac.uk . The Council's guidance is based on the findings of the AUDE study, and has been adapted to suit the needs of Scotland's colleges and universities. It may be helpful to use the study as a reference to assist with the completion of the review summaries included in the Council's guidance (Appendix A, B and C).

14   The guidance covers undertaking a strategic review and initiating POE at the inception of the project stage to bring more rigour to the process and set standards for all to adopt and follow.

15   POE is also highlighted in *Construction Works Procurement Guidance* published by the Scottish Government, and is part of the Council's gateway approval process. The Council's gateway review guidance is currently being produced and once available will be accessed on the Council's web site: www.sfc.ac.uk .

How is a post-occupancy evaluation undertaken?

16   Colleges and universities will be asked to undertake a comprehensive review, using the *Guide to Post Occupancy Evaluation*, and to complete the outcome summary forms included in this guidance for projects that receive funding support from SFC.

17   The amount of information required to be provided will vary depending on the size and scale of the project.

18   There are three stages in the POE process, which are:

- operational review and project delivery phase, which is undertaken 3-6 months after occupation (Appendix A);

- functional performance review, which is undertaken 12-18 months after occupation (Appendix B); and

- strategic review, which is undertaken 3-5 years after occupation (Appendix C).

How are the review stages delivered?

19   The three levels of suggested investigation at each of the three stages are indicative, investigative, and a more in-depth diagnostic review.

20   An indicative review provides a snapshot of the project. In this method some interviews are combined with a walk-through of the building and a quick questionnaire might also be circulated. The aim is to highlight major strengths and weaknesses and the value of the review is to provide useful information quickly and also to form the basis of a more in-depth study.

21   An investigative review is a more thorough investigation using more rigorous research techniques to produce more robust data. With this method, representative samples of users are given questionnaires backed up by focus group reviews and interviews to gain more information on problems identified by the questionnaire responses.

22   A more in-depth diagnostic review is a thorough analysis of the building's technical systems and general performance.

Who should be involved?

23   As part of the internal review of delivery of the project, it is important that users (students, staff and other stakeholders) are involved in the POE. Depending on the focus of the POE, different

key people will need to be involved. The reasons why it is important to involve other people in the evaluation include:

- to get information from them on different aspects of the buildings, such as how it has affected the learning experience – different types of information come from different people; and

- to make them feel confident that issues of concern to them are being addressed.

24   A POE that responds to users needs will assist in the resolution of any challenges being experienced. It will promote co-operation and team working and will assist future projects by demonstrating successes, defining challenges and maximising on the impact of any lessons learned.

25   When technical advisers are appointed to undertake a capital project, the briefing and appointment documentation should state that they are to be involved in the POE process. The documentation should include

- the purpose of the review; and

- a clause stating that POE is a condition of appointment.

26   The documentation should also set out what is expected of the technical adviser, or contractor, and state that the following will be undertaken post project:

- review of the gateway and procurement processes; and

- review of the operational, functional and strategic performances.

How is a POE managed?

27   It should be stressed that a whole life approach to projects will be taken, supporting the needs of the college or university over the long term. A systematic approach will be required and the key requirements for influencing the effective implementation of a POE will not only include input from the technical advisers and contractors as a condition of appointment, but also:

- clear communication that the process is championed from the senior management of the organisation;

- support from all users of the building through their involvement;

- that the POE is included in the project plan from the outset;

- all stages of the POE are undertaken with a consistent approach, and

- an effective process that is appropriate for the organisation.

28   It is suggested that POE is undertaken by a party or body separate to the internal and external parties involved in the project, for projects with a capital value of over £3 million, and is recommended for those with a capital value of over £10 million, to ensure that an unbiased and consistent approach is applied to the review.

Post-occupancy evaluation (POE) outcome summary: Operational review

Institution:	
Project:	
Date of project completion:	
Period building occupied:	

Operational evaluation methods used:	

Operational review (3-6 months after handover)

The main focus is the process of delivering the project from inception to occupation of the building.

Identification of the project

Purpose of the project and aims and objectives:	
Scope of the project including funding sources and programme for delivery:	
Process for acquired funding:	
Participants (internal management and external consultants):	
Consultant involved in POE (was this a condition of appointment?):	
Any additional stakeholders:	
Any additional influences:	

Please use check box format, and/or provide additional comment as and when required in the space provided (a sample summary is provided overleaf).

Sample summary – for information only

Process

Date of operational review:	
In summary, did review identify:	
immediate operational issues after handover:	Yes ☒ No ☐
This is where the summary will detail where the review identified immediate operational issues after handover. The text of your comments should be entered in this space provided.	
immediate technical issues after handover:	Yes ☐ No ☒
immediate improvements to operation and functionality:	Yes ☒ No ☐
This is where the summary will detail where the review identified immediate improvements to operation and functionality. The text of your comments should be entered in this space provided.	

Process

Date of operational review:	
In summary, did review identify:	
immediate operational issues after handover:	Yes ☐ No ☐
immediate technical issues after handover:	Yes ☐ No ☐
immediate improvements to operation and functionality:	Yes ☐ No ☐
issues with the development of the business case:	Yes ☐ No ☐
issues with the involvement of key stakeholders:	Yes ☐ No ☐
was the gateway procedure and approval process followed:	Yes ☐ No ☐
issues with brief development - the way in which the team developed the concept on which the design was based including cost control:	Yes ☐ No ☐
issues with procurement – the way in which team selection, contractual and technical processes were undertaken including time and value aspects:	Yes ☐ No ☐

issues with commissioning – the way in which the final commissioning of the building was managed, including final adjustments and the provision of documentation:	Yes ☐	No ☐
issues with occupation – the way in which the handover process was managed including the rectification of last-minute snags and the organisation of the allocation of space:	Yes ☐	No ☐
any changes required to improve performance:	Yes ☐	No ☐
the technical performance (physical systems, adaptability, environmental, durability):	Yes ☐	No ☐
essentially, was the project delivered on time and within budget?	Yes ☐	No ☐
What were the perceptions of students?		
What were the perceptions of staff?		
Were there any change management issues, perhaps involving a change in culture or working practices?	Yes ☐	No ☐
Were there any changes in pedagogy delivery, learning and teaching practices?		

What were the unplanned benefits of the project?	
Was there any shared-service collaboration?	
Did the project affect the wider community?	
Any other lessons learned?	
Now that the project is complete, at this stage post project is there anything you would have done differently?	
Link to estate strategy:	
Cost to date of any amendments to buildings:	
What has been the wider benefit of the new buildings?	

Contractor/consultant performance

Would you procure the services of the external contractors and consultants involved in the project again? (Please note that identifying the company is desirable but not essential and responses will be liable for Freedom of Information or Environmental Information requests)	
Architect:	Yes ☐ No ☐
Lawyer:	Yes ☐ No ☐
Quantity surveyor:	Yes ☐ No ☐
Client advisor:	Yes ☐ No ☐
Project manager:	Yes ☐ No ☐
Client advisor:	Yes ☐ No ☐
Mechanical and electrical engineer:	Yes ☐ No ☐
Structural engineer:	Yes ☐ No ☐
Planning supervisor:	Yes ☐ No ☐
Environmental advisor:	Yes ☐ No ☐

Contractor:	Yes	☐	No	☐
Any others?	Yes	☐	No	☐

Case study

Would you be prepared to grant permission for your project to be detailed as a case study on SFC's web site? By developing and publishing case studies based on previous sector experience, it is envisaged that SFC will be able to assist the sector to self-improve and build on the lessons learned in the procurement of buildings.	Yes ☐ No ☐

Post-occupancy evaluation (POE) outcome summary: Functional performance

Institution:	
Project:	
Date of project completion:	
Period building occupied:	
POE outcome summary, operational – date of completion:	

Performance evaluation methods used:	

Functional performance review (12-18 months after handover)

The main focus is on the performance of specific area and functions and a more in depth view of the technical and functional performance. The performance review will establish where adjustments and corrections are needed to the building and its systems as well as identifying cost in use.

Please use check box format, and/or provide additional comment as and when required in the space provided.

Date of performance review:	
In summary, did review identify:	
if the building has met the brief: (including strategic value, space, comfort, amenity, serviceability, operational cost):	Yes ☐ No ☐
strategic value – achievement of original objectives:	Yes ☐ No ☐

were the aesthetics and image as anticipated by stakeholders:	Yes	☐	No	☐
student experience – effect on recruitment and retention:				
staff experience – effect on recruitment and retention:				
if the building is supporting users activities:	Yes	☐	No	☐
effect on curriculum delivery:				
space – are the size, relationships, adaptability as anticipated:	Yes	☐	No	☐
effect on use and management of space and facilities:				
if the project required change, what were the effects of this change and how was it managed?				
comfort – environmental aspects as anticipated (lighting, temperature, ventilation, noise, user control):	Yes	☐	No	☐

the technical performance as anticipated (physical systems, adaptability, environmental, durability):	Yes ☐ No ☐
any changes required to improve building performance:	Yes ☐ No ☐
Cost to date of amendments to buildings:	
Any other lessons learned?	
Now that the project is complete, at this stage post project is there anything you would have done differently?	Yes ☐ No ☐
Any strategic issues for the future?	Yes ☐ No ☐
Link to estate strategy:	

Post-occupancy evaluation (POE) outcome summary: Strategic performance

Institution:	
Project:	
Date of project completion:	
Period building occupied:	
POE outcome summary, operational – date of completion:	
POE outcome summary, performance – date of completion:	

Strategic evaluation methods used:	

Strategic review (3-5 years)

The main focus is on organisational change and building response, asking how the buildings might respond to change in the future, and how they have responded to medium term needs and changes.

Please use check box format, and/or provide additional comment as and when required in the space provided.

Date of strategic review	
In summary, did the review identify:	
issues with technical performance (physical systems, adaptability, environmental, durability):	Yes ☐ No ☐

issues with life cycle cost performance:	Yes ☐	No ☐
issues relevant for a strategic review of the estate to assist with forward planning:		
Has the building met the long-term expectations of stakeholders?	Yes ☐	No ☐
Any other lessons learned?		
Now that the project is complete, at this stage post project is there anything you would have done differently?		
Link to estate strategy:	Yes ☐	No ☐
Has there been an economic effect for the university/college and on the local community?	Yes ☐	No ☐
Cost to date of amendments to buildings:		

Benchmarking

Space utilisation improvement:	
Environmental:	
Elemental cost breakdown:	
Operational costs:	
Life cycle cost:	

Post occupancy review completion

Date POE report completed:	
Date POE sent to SFC:	
SFC – date file closed:	