Evidence based learning from existing buildings

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Post Occupancy Evaluation and Evidence Based Design

POE and Evidence Based Design

Agenda

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Today:

- What
- Why
- Where

Tomorrow:

- WhenHow
- Who

John, Donahue & Kentle (1991) The Big Five Inventory. University of California, Berkeley.

Hands up if you know what POE is?





POE and Evidence Based Design

What is a POE?

"The process of evaluating buildings in a systematic and rigorous manner after they have been built and occupied for some time"

"A building's performance indicates how well it works to satisfy the client organization's goals and objectives, as well as the needs of individuals in that organization"

Wolfgang Preiser



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What is a POE?





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Post-occupancy evaluation

From Wikipedia, the free encyclopedia

Post Occupancy Evaluation (POE) has its origins in Scotland and the United States and has been used in one form or another since the 1960s.^[1] Preiser and colleagues ^[2] define POE as

"the process of evaluating buildings in a systematic and rigorous manner after they have been built and occupied for some time"

The unique aspect of Post Occupancy Evaluation is that it generates recommendations based on all stakeholder groups' experiences of subject buildings' affects on productivity and wellbeing.

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1 Purposes of POE
2 Building interest groups
3 Components of POE
4 POE at any stage after building occupancy
5 Any built environment accommodating people
6 Independent evaluation
7 Other building studies
8 Relevant Organisations
9 References

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Evaluation ces 2 pane F Occul 0 Post-5 nuo 2 British Guide

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Fundamental part of the design cycle







Stage 7 In Use is a new stage which includes Post-occupancy Evaluation and review of Project Performance as well as new duties that can be undertaken during the In Use period of a building.

Design

RIB Inter Regional Golf Tournament

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- Government Soft Landings and Building Information Modelling (BIM)
- Skills Funding Agency (2014)
- BREEAM 05 Management Aftercare
- Well Building 'Standard'
- Homes:
 - LEED for homes
 - Good Homes Alliance
 - HQI



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Measuring project success and value



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Design feedback: "without a feedback loop every building, to some extent is a prototype – spaces and systems put together in new ways, with potentially unpredictable outcomes" (Cooper)



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Inform the design process and focus expenditure



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Proactive building management

"prevents minor problems developing into longerterm chronic irritants" (Bill Bordass & Mark Way)

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Change management & communications



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"In the best companies, the customer drives everything ... the construction industry tends not to think about the customer ... little systematic research on what the end-user actually wants"



Sir John Egan, Rethinking Construction (1998)

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What is in a POE?





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What is in a POE?





NIA = 12,800 m², Staff = 799 Density = 16 m²/person

Primary circulation = 2,944 m² Tennant efficiency ratio = 77%

Cellularisation = 26%



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What is in a POE? Utilisation/occupancy



1st 100% Heat Spots y da 90% 75-100 50-74 80% 25-49 Unoccupied 0 1-24 70% 00 60% Temp Unocc 50% 40% 3rd 30% Heat Spots XX 75-100 20% Occupied 50-74 25-49 10% 0 1-24 0 0% õõ Time/Day

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What is in a POE?

Environmental monitoring







Energy, Water, Waste & Cost

 $\overline{\text{SPL}(L_{AT}/L_{eq})}$



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Where to conduct a POE?





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Where to conduct a POE?





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Final comments





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Thank You

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