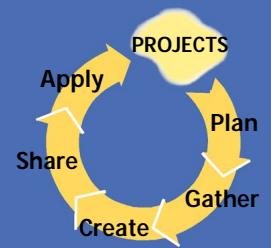


Buro Happold

Learning Histories



Background

Buro Happold is an international multidisciplinary practice of consulting engineers. They have 850 staff working in 12 offices around Europe, North America, the Middle East and South East Asia.

They based their pilot trial of the Learning Toolkit on a £21 million project to replace the Natural History Museum's 1920s zoology building. The new Darwin Centre accommodates 22 million specimens stored at low temperature in 450,000 jars of alcohol, together with laboratories and offices. Many of the specimens have historical value as the first of their kind — including some collected by Darwin himself.

The project originated in 1994 when the Museum commissioned HOK Architects to develop a masterplan for their Cromwell Road site. Buro Happold were later appointed as structural, services and fire engineers, and Phase One was opened to the public in October 2002. The NHM is currently raising funds for Phase Two, scheduled to open in 2007.

The project involved several engineering challenges, not least the safe housing of such a large amount of potentially explosive spirit in fragile containers.

Using the Learning Toolkit

Buro Happold have recognised for some time that project teams learn many potentially valuable lessons in the course of their work, but they have had no effective way to capture them or disseminate them around the practice. Procedures require a close-out meeting at the end of every project but these rarely happen, and even when they do their learning value is small. Buro Happold seized on the techniques explained in the Learning Manual as a way to make learning work better and share lessons learnt more effectively.

They chose to use:

- a **Hindsight Review** process (their work on Phase One of the Darwin Centre was already complete)
- a **desk review of project records**
- **individual interviews** to capture tacit knowledge, because staff were already 'workshopped out' and it would be difficult to gather the Darwin Centre team together again for a group event (especially as some had since left the practice). Buro Happold judged that the time saved travelling to a workshop would more than pay for the interviewer's time.
- a documentary report in **Learning History** format to disseminate lessons learnt and make a durable record which would be a valuable addition to a new project database they were developing.

The review of project records revealed a number of problems which had arisen in the project and other issues which promised to repay particular attention. It also gave the interviewer the background information she needed to conduct the interviews flexibly and 'intelligently', avoiding the limitations of a rigid script.

Eight people were interviewed, including representatives of all the three engineering disciplines involved in the project. Those who had left the practice were interviewed at their new places of work. Nobody was interviewed from the client side, the other design practices involved in the project, or the contractors, partly because of uncertainty about their willingness to take part in the process and partly because a number of clients were being



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interviewed in a separate exercise. The project principal was interviewed first to get a comprehensive overview of the project, and to check and extend the list of significant issues identified in the desk review of the project records. All interviewees were briefed in advance on the objectives and format of the interviews, and reassured that they would not be used in personal assessments and quotations in the report would be anonymous. All the interviews were tape recorded to avoid splitting the interviewer's attention between questioning and note taking, and to allow verbatim transcripts to be produced.

The interviews were structured broadly on the What happened? — Why did it happen? — How can we do better? model suggested in the Learning Manual. Although there had been some initial resistance to setting time aside, everyone spoke freely and openly once interviews had started. Each took between an hour and an hour and a half, several going on beyond the planned time.

After the interviews were completed the tapes were transcribed and analysed alongside the project records to identify lessons and ideas for improving practice which were likely to be valuable in Buro Happold's future work, and the results documented in 'Learning History' format developed at MIT. The main features of this are:

- a basic division into **'chapters' dealing with particular episodes and issues** — in Buro Happold's case, the main stages of the project from appointment, briefing, scheme and detailed design to implementation, together with a number of cross-cutting themes such as production information, programme and relationships.
- a secondary division into **'segments' focusing on particular dilemmas, questions or anecdotes** such as (in the chapter on briefing) client input and client priorities. Each segment begins with a short **prologue** which explains what it is about, and summarises the main facts and events which are relevant.
- the main text beneath the prologues is in a **two-column format**, with distilled **lessons learnt** on the left juxtaposed with **verbatim quotations** on the right to give them life and make them memorable. The quotations are attributed only by profession and generic job title, not by name.

The Learning History has been circulated to senior staff and will form part of the new project database. Buro Happold are still considering how best to share the lessons learnt more widely.

How it worked

Buro Happold found that the Learning Manual techniques they chose to use worked well, and represent a real step forward from conventional close-out reviews. They have already used them to review another five projects since the original pilot, and they expect to develop the process further alongside their project database, client interviews, office seminars and other knowledge management activities. They are convinced that interviews are a better mechanism than workshops for gathering information in their circumstances, and that (with suitable choice of staff) they cost no more. Having found a thoroughly effective way to tap into project teams' tacit knowledge and capture lessons learnt, they are keen now to find equally good ways to share the knowledge around the practice and extract the maximum business value from it.

Lessons learnt about Learning from Experience

- A deliberate, structured approach to learning is much more effective than conventional project review meetings in which learning is secondary to management.
- Interviews need cost no more than workshops, and they can be a more flexible and practical way of gathering information when people feel themselves to be very busy and are geographically dispersed. On the other hand, they lose the benefits of interaction, which can be vital in revealing team knowledge — knowledge which the team possesses collectively, but which is spread around in pieces that mean nothing until they are put together.
- The Learning History format makes for a vibrant record which helps readers absorb and remember. It can be good for larger projects, but is too labour-intensive for small ones.



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