Into the Future: Evaluating the Wellcome Wing Project at the Science Museum, London

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In 1996 the Science Museum, in London, began one of the most ambitious projects in its 150-year history—developing a 10,000-square metre extension which will be the world's leading centre for the presentation of contemporary science and technology. This article briefly outlines the unique evaluation strategy that has been developed for what we believe to be the most comprehensive evaluation project ever undertaken.

The £50 million Wellcome Wing project[1] consists of four floors of exhibitions as well as an IMAX® (large screen) 3D-film theatre, simulators and new retail and catering facilities. Over 120 interactive exhibits are being developed for the new exhibitions, along with object-based displays, electronic resources, special events programmes, artworks and many other exciting and innovative features. When completed, in the summer of 2000, the Wellcome Wing will increase the size of the museum by one-third.

A key aim of the Wellcome Wing project was to produce "visitor-centred" exhibitions, to illustrate the impact of contemporary science and technology on ordinary people's lives. The exhibitions have to be appealing and accessible to a non-specialist family and school audience while also being up to date. In addition there will be a series of rapid response exhibitions about science in the news which will change on weekly and monthly basis and an exhibition aimed at children under eight years about patterns in science.

Evaluating the Wellcome Wing Project

Given the scale and importance of this project and its avowedly visitor-centred approach, it is unsurprising that this has also proven to be one of the largest and most challenging evaluation project ever undertaken.

The sheer number of exhibits together with the complexity of the subject matter and the determination of the project teams to produce something unique, has demanded an enormous amount of front-end, formative and summative evaluation.

At the start of the project the museum ring-fenced 3% of the exhibition budget (approximately £100,000) specifically for evaluation. Three "audience advocates" were appointed early in 1996—one for each of the main exhibition teams. Their role was to ensure that the needs, wants and expectations of visitors were taken into consideration throughout the project and at all levels of decision making.[2] From the beginning, the audience advocates were part of the team and attended all key meetings, providing a constant stream of information about the Wellcome Wing's target audience.

Early Days…Front-End Evaluation and Visitor Awareness Training

During the early stages, a series of 16 focus groups were conducted to assess visitors' reactions to the planned exhibitions and their awareness, understanding and interest in contemporary science and technology. This information helped the team to define realistic target audiences for the exhibitions, interpret the chosen topics in a relevant and appealing way for these target audiences, and identify subject areas that would need particular attention and creativity to turn into effective exhibitions. This was especially important for the school groups—a notoriously demanding segment of the audience that has very specific needs. One of the key outcomes from this work was convincing the team of the importance of including an exhibition about contemporary information technology, despite the inherent difficulties.

A series of in-depth qualitative surveys were conducted to assess visitors' awareness of various issues in contemporary science and technology. A detailed review of the public understanding of science literature yielded yet more information. This data gave the team an insight into our visitors' perspective on contemporary science—from their misconceptions about DNA to the number of visitors who have access to the Internet.

A key task of the audience advocates was to ensure that lessons learnt from the summative evaluation of previous projects were applied to the Wellcome Wing. Given the size and timetable of the project, it has been imperative that that as many problems as possible were forestalled. A series of small temporary exhibitions about contemporary science and technology (Science Box) had been running since 1992. Summative evaluation of four of these (on Alzheimers disease, genetically modified food, genetic screening and the fat-substitute olestra) provided insights. Much was learnt from visitors' responses to issue-based exhibitions, and on how to interpret controversy and uncertainty in science and technology.

Five focus groups with teachers explored their reactions to the new BFI IMAX® cinema that opened in London in 1999. The results will be used to develop a marketing strategy for the Science Museum's IMAX® cinema.

Another key element of the early work was our visitor awareness training programme, which gave the team a bet-

ter understanding of the museum experience from the visitor's viewpoint.

All members of the team, including senior managers, took part in a series of exercises as outlined below.[3]

• **Accompanied Visits**: Team member joins a group of visitors (families, groups of adults or school parties) and shadows them as they move through the museum, observing what they do and where they go, and listening to what they say.

• **Horrible Visits:** An attempt to provide our colleagues with the experience of being a reluctant museum visitor. Each team member is asked to select a friend or relative who has an interest or hobby that the team member emphatically does not share. They are then asked to visit an exhibition on this topic with their friend or relative. Participants complete a pre-visit questionnaire and a post-visit questionnaire that explore how their experiences matched their expectations.

• **Observation Exercises**: Since many of the team only see visitors as they rush through the museum on their way to a meeting, the aim is to provide them with the chance to spend time just sitting and watching how visitors behave at different types of exhibits in different locations around the museum at different times.

• **Assisting with the Data Collection** in visitor surveys and observation studies.

• **Attending Focus Groups** of visitors, as silent observers.

Early Mock-Ups

Between June 1998 and April 1999, a series of crude prototypes of many interactive exhibits were developed by ourselves and the project team members. Many of these were quite literally made out of string and cardboard, yet still proved to be extremely useful. Through this testing we were able to identify problems that the exhibit developers and designers would need to tackle—concepts visitors found difficult to understand, activities that were too complex or lengthy, terminology that was unfamiliar to a non-specialist audience, etc.

Full-Scale Prototype Testing

In May 1999, the project swung into the production phase. By then the evaluation team had been expanded to five full-time members of staff. Detailed briefs for each of the 120 or so interactive exhibits had been produced and exhibit development companies commissioned. A key part of the contract with these companies is an agreed programme of evaluation. Payment of fees is linked to the delivery of a set number of prototypes on specific dates. Each prototype is then tested on about 30 to 60 visitors over a 10-day period, and a very short report is produced outlining visitors' reactions to the exhibit, ergonomic and usability problems and design faults, plus suggested solutions to these problems. The exhibit developer is then briefed and detailed discussions about changes are held. The majority of exhibits are taken through at least three rounds of prototype testing to ensure that the changes made (a) correct the design faults identified and (b) have not added new problems for visitors.

And Finally…

The final phase of this large-scale evaluation project will be to conduct detailed summative evaluation of the whole exhibitions, the IMAX® cinema, and of each of the interactive exhibits. In addition, formative evaluation will be built into the development programme for each of the rapid response exhibitions. It is estimated that this process will take at least 18 months to complete.

The Wellcome Wing is a unique and ground-breaking exhibition environment. Many things attempted in these exhibitions have never been tried before, but are likely, if successful, to appear in many future exhibitions around the world. This is a unique opportunity to learn new lessons—how to develop relevant and accessible exhibitions about contemporary science, how to keep them up to date, and how to tackle controversy and uncertainty. This also has been an opportunity to develop new evaluation techniques and new strategies to integrate audience advocacy into a project and could be a new model for exhibition development—one that could truly meet the challenges of the new century.

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[1] The Wellcome Wing website is http://www.sciencemuseum.org.uk

[2] A more detailed description of the role of an audience advocate can be found in "Putting learning at the heart of exhibition development: a case study of the Wellcome Wing project." Jo Graham and Ben Gammon in *Communicating Science, Contexts and Channels,* published by Routledge (1998).

[3] Full descriptions of these exercises can be found in "Putting Value Back into Evaluation" by Ben Gammon in *Visitor Studies Today!* Vol. 1, Issue 1 p. 6-8; 1997.