



# Evaluation Guide



Institute *of* **Physics**

## Evaluation

Evaluation is an issue that has steadily risen up the agenda for everybody involved in the funding and delivery of Public Engagement with Science and Technology (PEST) projects. The following is a very brief guide to some of the most commonly encountered issues in evaluation, and some of the ways in which they can be resolved.

### Why evaluate?

There are several very good reasons why organisers of projects should want to evaluate their work. Three favourites are:

#### *Funders like it*

And with good reason. Funders come from a wide variety of backgrounds and have many different reasons to be involved in PEST. Virtually the only thing they have in common is the need to demonstrate that their money has been used efficiently and with the greatest possible impact. This is good news. If you can demonstrate to a funder that you are able to deliver a project on time, on budget and with a set of measured outcomes you will be in a good position to attract further funding from more sources.

#### *It makes you a better communicator*

The only way to improve your skills and build up expertise in science communication is to learn from your mistakes. Everybody makes mistakes and the best communicators are the ones who have learnt the most from them. Evaluation will help you to understand your audience and how best to communicate with them effectively.

#### *It is the easiest way to organise a project*

For more ambitious projects, dealing with evaluative issues at the very beginning of planning will produce a project plan (or business plan) that will be coherent, rigorous and credible. You will have a well identified audience, a suitably crafted message and a set of measurable outcomes; in short you will know what you are trying to achieve. Putting that plan into action, you will be able to track what is happening within your project and whether or not progress is being made. This should allow you to identify problems early on, before they become critical or too expensive/difficult to deal with.

## What to do

### *Design*

Since evaluation and good project management go hand in hand, you should be able to answer all of the following questions, and in the process design both your project and your evaluation. For illustrative purposes, example answers have been taken from the Institute of Physics funded project "Science on the Buses".

### **Aim**

- Q. What is the aim of your project? Can it be easily stated in a few words? Can you point to some outcome that you believe can be achieved?
- A. To increase the level of participation in informal debates about science.

### **Audience**

- Q. Do you have a clearly defined audience in mind? Are they relevant to the aims listed above?
- A. Young adults (16 – 35).

### **Message**

- Q. What message do you wish to take to the audience? Does it support the aims above?
- A. Science is a major part of daily life.

### **Medium**

- Q. How will your message be taken to the audience? What sort of activities will you use?
- A. Posters displayed inside buses.

### **Indicators**

- Q. What are the indicators of success? How will you know if you have reached the audience in mind with the message you had planned?
- A. Members of the target audience will suggest that science is an integral part of everyday life.

### **Measures**

- Q. How will you measure the indicators above? What results will be considered a success?
- A. In questionnaire based interviews conducted on buses showing the campaign, a substantially higher proportion of the target audience will respond as above when compared to other age groups.

## **Data Collection**

With all of the above in the front of your mind, it should be clear to you where and how you will need to collect data to evaluate the project. There are a number of methods available, and your choice should be determined by the nature of the information you wish to illicit and the nature and needs of the audience. Some of the most popular methods are:

- **Count them**

A simple record of the number of people who have attended an event, been exposed to a poster etc. Very little can be said about the experience of the audience or what impressions they take away with them. This method is cheap, simple and most useful when describing the scale of a project.

- **Questionnaires**

A simple questionnaire can produce some fairly detailed information on how an audience has reacted to a project. However, questionnaires must be very brief if they are to be filled in by members of the public, relying for the most part on “closed” questions. Response rates will often be very low (less than 10%). There are ways to encourage more people to respond; entering the completed questionnaires into a prize draw is a popular technique.

- **Interviews**

Talking to people and filling in questionnaires as you go along (so called questionnaire based interviewing), will generally allow you to probe more deeply and ask more “open” questions. Care should be taken with questionnaire design and with the conduct of the interviewers to avoid bias. This technique is time consuming, but listening to members of your audience during face to face interactions can be very illuminating.

## **Reporting**

Reports should be written in a clear, accessible style, and should be as short as possible, without skipping any important details. The length of the evaluation report should be proportional to the overall budget for the project. You should always include a short summary of your main findings and conclusions. Describe your methodology briefly and say why you chose it. Present your findings clearly, using tables and charts **ONLY** if they are obvious and will reduce the word count substantially. Always ensure that your conclusions really do refer to findings presented in the body of the report.

Above all, **be honest**. Your report is your opportunity to tell the world exactly what you did and why. No project has ever been an effortless road to glory, and many others will be interested to learn from your experience. Remember that funders, in particular, are always pleased to find project managers who have learnt valuable lessons from their experiences.

## Questionnaire Design

The most important feature of a successful questionnaire is its length; keep it short!. Decode exactly what information will be most useful to you and concentrate on that. Collecting additional data is time consuming for you, frustrating to your audience and will confuse your analysis later.

Keep a space at the top of the page to number each completed form before data entry. This will allow you to trace any data back to the original source quickly and easily.

There are three kinds of question you can use:

### **Closed questions**

The respondent must choose from a selection of predetermined categories. Closed questions can be answered very quickly by the respondent so long as the category they wish to use is on the form.

### **Open questions**

Respondents are free to answer in any form of words they choose. Open responses are usually slower to collect and require more analysis. They are, however, a very good guide to the feelings of audience members.

### **Likert Scales**

Respondents can position themselves along a spectrum of feelings or opinions. If the coding is consistent (i.e. 1 always equals excellent and 5 always equals poor), then respondents can reply to several Likert type questions in rapid succession.

## ***Demographics***

Demographic data can be used to characterise an audience in different ways. Basic demographic data can include:

*Age* – Most easily collected by offering respondents a choice of age groups.

*Sex* – A straight either/or choice.

*Educational attainment* – Can be chosen from a list.

*Social Class* – Usually determined by occupation. The most popular scale is

AB	Senior managers and professionals
C1	Skilled non-manual workers
C2	Skilled manual workers
D	Unskilled manual workers
E	Long term unemployed

*Ethnicity* – Can raise a complicated set of issues. The categories used to define an individual's ethnic origin have been debated and revised many times. Best practice in this area would be to comply with the category scheme used by the Office of National Statistics:

[http://www.statistics.gov.uk/about/ethnic\\_group\\_statistics](http://www.statistics.gov.uk/about/ethnic_group_statistics)

It is important to recognise the sensitivities of audience members in this area and to take all reasonable steps to avoid causing embarrassment or discomfort. Simply guessing an individual's ethnic background on the basis of their physical appearance is not an acceptable method.

## ***Project Specific***

You may wish to gather responses to a number of questions relating to your project, for instance:

- How did they hear about it
- Why did they come
- Did they enjoy it
- What was the best bit
- What was the worst bit
- Was the venue appropriate
- Was the science content too hard, too easy, relevant, boring

Sample evaluation questions are included on the following page for guidance.

## Sample Evaluation Questions

### Example: Closed Questions

How old are you?

16-25	<input type="checkbox"/>	1
26-35	<input type="checkbox"/>	2
36-45	<input type="checkbox"/>	3
46-55	<input type="checkbox"/>	4
56-65	<input type="checkbox"/>	5
66+	<input type="checkbox"/>	6

What is your highest qualification?

None	<input type="checkbox"/>	7
GCSE (O-Level)	<input type="checkbox"/>	8
A Level	<input type="checkbox"/>	9
Diploma	<input type="checkbox"/>	10
Degree or higher	<input type="checkbox"/>	11

### Example: Open questions

What is your job title?

Please state \_\_\_\_\_ 12

What did you expect from this event?

Please state \_\_\_\_\_ 13

### Example: Likert scales

How important are new technologies in your life?

Very important

Not at all important

1                      2                      3                      4                      5            14

The length of the event was

Too long

About right

Too short

1                      2                      3                      4                      5            15