

Evaluating Science in Society initiatives: a Framework for Evaluation

Context

Science in society initiatives encompass a wide variety of programmes and projects that work to integrate science and society, from large-scale awareness raising campaigns (such as 'Science Week'), to targeted interventions focused on specific accessibility issues such as gender balance and low representation of black and minority ethnic communities in science professions. They reflect a number of policy agendas and actions – such as the '*Science and Innovation Investment Framework – Next Steps 2004-2014*' and the '*Science, Technology, Engineering and Mathematics (STEM) Report*' – which in turn highlight a number of issues that currently preoccupy policy-makers. These include concerns about the UK lagging behind in global research and technology (RTD) investment; a decline in the numbers of students studying Science Technology Engineering and Maths (STEM) subjects; a perception that the UK needs to improve its science, technology and engineering skills base; and the recognition that science can play a major role in contributing to improved quality of life and in promoting social inclusion.

Against this background, an evaluation framework is considered timely because:

- Although there are a large number of programmes and initiatives aimed at raising public awareness of science and supporting greater participation in STEM education and careers, there is little inter-connection and integration across these different actions. For example, the STEM Mapping Review in 2004 revealed over 470 STEM initiatives run by DfES, DTI and external agencies.
- There has been significant investment in Science and Society programmes and initiatives. The DIUS will spend £9 million in 2007 on its 'Science and Society' programme alone.
- The evidence based on the outcomes and impacts of this investment, and on 'what works', is poorly developed and varies from sector to sector.
- There is no systematic 'evaluation culture' associated with Science and Society programmes and initiatives. Evaluation practices vary in quantity and quality, and evaluation is not adequately grounded across the board in robust, rigorous concepts, models and methods. As the British Association advice to OST concluded in 2002, "*there is little published evaluation of activities and no systematic programme to assess, for example, which modes of engagement best support effective dialogue between scientists, the public and decision-makers.*"

It is therefore hoped that the framework will facilitate the creation of a robust evidence base in the domain of science in society.

Project Objectives

The aim of this project, which ran from 2006 to 2007 and was commissioned by the Office of Science and Technology (OST) (now the Office of Science and Innovation) in association with the Economic and Social Research Council (ESRC), was to produce an evaluation framework for evaluating 'science in society' initiatives.

Methodology

The project was undertaken in two stages:

- Production of an evaluation framework for evaluating science in society initiatives;
- Piloting the framework in a real-world evaluation of a science in society initiative.

Stage one involved conducting a scoping exercise through which the project team gained an understanding of the policy environment in which OST, ESRC and the science in society programme operates, via stakeholder interviews, and an 'audit' of relevant data sources and contracts. Following this, we reviewed current evaluation 'state of the art' against the mission and purposes of the programme; assessed the effectiveness and relevance of particular evaluation approaches and methods in this field, and developed an appropriate evaluation model and tools for subsequent pilot testing.

A lack of existing evaluations in the sector combined with the great variety of projects which come under the umbrella of the science in society programme has resulted in a framework which does not employ a contingency model. That is to say, there is no prescription of the type: 'if you are evaluating this type of programme you need this type of method'.

Instead, the framework details the process evaluators need to go through in order to design and evaluation approach appropriate to the programme or project being evaluated, and recommends some tools to aid this process. The framework particularly emphasises the importance of a scoping phase during which the characteristics of the programme and its context are mapped, and the relevance of these to the evaluation strategy is explored.

In stage two the framework was piloted in an evaluation of SETNET (the Science, Engineering, Technology and Mathematics Network), leading to further refinement of the framework.

Client: Economic & Social Research Council (ESRC)

Funding Period: 2006-2007

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