

Strategy recommendations

Science Communication Conference—Strategy for Improving Impact
24 and 25 May 2004
jointly organised by the BA and the Royal Society

prepared on behalf of conference participants by the Royal Society and the BA
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Summary

Conference took the view that a number of key actions were needed by government, the scientific community, the science communication community and others to avoid a state of inertia over public support for science engineering and technology and the risk that in 10 years time no progress would have been made. These included:

1. taking steps to **reward scientists** (in sufficiently large numbers) for engaging (see end of document for definition) with the public which would almost certainly mean reviewing the impact of the RAE and other ways of assessing performance because of their perceived negative impact on communication;
2. providing **sufficient funds** for engagement activities on a large scale, with diverse groups from all backgrounds and at all levels, including more opportunities for adults;
3. recognising the value of the **contributions of the public** and other non scientists to policy making and generally adopting good practice in engaging with the public;
4. working with academia and industry to **ensure those emerging from undergraduate and postgraduate studies are equipped** to play leadership roles and to be good communicators;
5. **bringing the science and social science communities together** to agree on the principles of engagement and their implementation as well as other issues like the involvement of the media and uncertainty in science, and their training implications;
6. the development of new and creative ways of working with the **broadcast media** to reach and interact with the public at large.

It will be necessary for the science community as a whole and science communicators to work together to ensure the implementation of these recommendations. The Royal Society and the BA will work with other players to address each of the above areas.

Context

The conference took place against the backdrop of the government's consultative exercise on its 10 year Investment Framework for Science and Innovation in which engaging with the public over science are seen as of critical importance.

"Government, researchers and policymakers must earn public confidence and trust in science through addressing public priorities and concerns. In this way the scientific community working with government and other partners can ensure that society's understanding and acceptance of scientific advances move forward and does not become a brake on social and economic development in the UK".

"...there is a concern that one of the principal risks to reaping the full benefits from the UK's investment lies within society's complex and ever changing relationship with science".

In setting the scene for the conference, the chair for day one Professor Kathy Sykes highlighted the 10 year plan and encouraged delegates to address questions of access by non scientists to scientists on a sufficiently large scale while ensuring good quality interaction; engaging non scientists in dialogue and giving them an opportunity to contribute to policy-making; exciting an interest in science among people of all ages and backgrounds and building bridges between science, the social sciences, philosophy and ethics.

The overall strategy for engaging with the public is of necessity multifaceted taking account of a wide range of factors not confined to those above but including also - the plethora of stakeholders with related but different agendas, the intellectual as well as the practical challenges facing scientists, science communicators, social scientists, philosophers and ethicists in working together; the high cost of engagement activities based on well tried methodologies; the values and attitudes of scientists and the public; the fact that the quest to earn and retain trust is an everlasting endeavour; the distorting influence of funding mechanisms for science such as the Research Assessment Exercise which uniquely values research performance; the challenges of reaching and engaging qualitatively with millions of people up and down the country; the desirability of science being accepted as an integral part of our culture; the need for science communication to be integrated into the cultures of scientific organisations and science-based industry; the importance of addressing the issue of the international dimension of science communication; the issue of industry's interactions with academia; the false notion that there is one "public".

Conference addressed all of these issues and more in its 2 days of presentations, debates and workshops which involved policymakers like Professor Glynis Breakwell Vice Chancellor of the University of Bath, Professor John Lawton Chief Executive of NERC and Suzi Leather Chair of the HFEA and policy influencers/business leaders like Sir John Egan President of the CBI and Professor Robert Winston of Imperial College as well science communicators, academics and representatives of a cross section of organisations from the science community, industry and NGOs. 175 delegates attended the conference, including 11 international delegates from South Africa, Australia, Ireland and the Netherlands. There was a 31% increase over last year.

In its final session, conference agreed on a number of strategic priorities and associated actions. These priorities build on and complement the science and society strategy outlined by Dr Tony Whitehead of OST which has of course been crafted out of the responses provided in the consultation exercise conducted on OST's behalf by the BA amongst the science community.

1. Rewards for Scientists

High priority was given to the implementation of a workable system which would reward scientists for their efforts to engage with the public.

Conference believed scientists should receive recognition in terms of the value placed on their science communication work, their status and career development and should have access to earmarked funding; rewards should also be available to groups and departments and indeed to Vice Chancellors. This would mean the DfES recognising that there should be complementary processes to the Research Assessment Exercise for judging achievement by research staff and a stream of funding from the Higher Education Funding Councils to support science communication activities.

In making it clear that it wishes the UK to be at the forefront of international research and that the application of much of that research should lead to greater social and economic wellbeing, the perceived over emphasis on research ratings looks misplaced. This is especially inappropriate when the government is at the same time declaring that public engagement has an essential part to play in delivering scientific progress. Conference believed public engagement will not happen to any appreciable extent unless scientists receive full recognition of their efforts and a supportive infrastructure is created in which engagement can take place. A conceptual leap is required by government to recognise that the current funding of science in higher education based only on student numbers and research performance appears actually to be preventing engagement to take place. Thus a change of policy and funding priorities is required to bring about the scale of science communication activity which will earn the trust the government seeks, lead to adequate numbers of schoolchildren and adults being engaged with science and the achievement of the investment objectives.

The timing is right – the community has had 4 years in which to embrace the messages contained in the House of Lords Science in Society report, the 10 year plan for science and innovation will emerge shortly with associated funding allocations; the Research Assessment Exercise is under scrutiny with the remits of its various panels being decided over the next 18 – 24 months and pressure is building for action on the international stage through deliberations of amongst others the United Nations and the European Parliament as well as individual governments on key issues of science policy.

Professor Breakwell was forthright in her support for academic scientists playing their full role in communicating with the public – “it is the job of universities to build trust in science and scientists” – but adamant that little new activity would take place without additional resources. She expressed readiness to play a prominent role in engaging with relevant bodies like Universities UK (UUK) and HEFCE to try to resolve the issue. The Royal Society drew attention to a study it proposes to carry out to obtain evidence of the extent to which the RAE and other factors may be limiting the participation by research scientists in science communication activities.

Action: to arrange with Professor Breakwell to take forward a case first to UUK and ultimately to DfES through the funding councils providing her with the necessary support, working in partnership with OST and other relevant organisations.

2. Adequate Funding for Engagement Activities

Professor Lawton added his voice to a call for an increase in scale and effectiveness of activity and made the welcome statement that in his view the NERC should triple or quadruple its expenditure on public engagement. However this estimate may also be too modest. Quality engagement involving deliberative methods is expensive as is known from the experiences of organisations like CoRWM, NICE, the Royal Society and others. The next key element of the strategy is therefore to cost realistically the amount which the Science, Education and other Departmental/Devolved Assembly budgets should be committing to engagement and awareness raising. In a parallel operation, industry should be invited to calculate its costs. Target groups should include individuals from all backgrounds and at all stages in their lives and funding should include provision for non-award-bearing science programmes in Higher Education and in FE and Adult & Community Education. Conference called for a specified percentage of the science and education budgets to be devoted to engagement activities. The returns for the government would be a scientific workforce of adequate proportions and the achievement of its innovation strategy.

Reference by Tony Whitehead of OST to a “pilot project” in this area was well received but seen only as a start. The view was that government should be much more ambitious at an early stage. Conference recognised that existing activities like the science ambassadors schemes and the Pimlico project were ones to build on in terms of exciting an interest in science among young people.

Action: to work with OST, the Research Councils and RCUK over an analysis of the scale of funding needed, based on OST’s needs analysis and the quantifying of a critical mass of activity, and to make a case to relevant departments for realistic levels of funding.

3. Valuing Public Contributions/Adopting Good Practice

Conference heard from Lord Whitty that scientific policy making needed a balance of inputs and that in the case of public involvement this should not simply be lip service. Professor Lawton concurred. Delegates were convinced that the public needed to receive payback through demonstrable influence on science policy. Without it, there would be no sense of joint ownership nor of influence and as a result mutual trust would not develop. Thus, there needs to be a commitment on the part of policymakers to show members of the public taking part in dialogue that their contribution has been valued and acted on. Suzi Leather was able to tell conference that this practice had been pursued by the Human Fertilisation and Embryology Authority in responding to its consultation over sex selection. In effect, this was a call to those participating in engagement activities to adopt good practice.

Action: to work with government, regulatory agencies, research councils, industry and other policy making bodies over the development of policies and procedures which will demonstrate that influence flows from dialogue.

4. Industry’s role: Equipping Graduates

An important element here, conference heard from Sir John Egan and John Randle, was “fitness for purpose” i.e. the need to ensure that those entering industry from university were properly prepared for a life of entrepreneurship and leadership. Both acknowledged the

need for scientists to understand public views and attitudes, particularly where lack of trust in an industrial area was having a negative impact as in the case of the chemical industry, and agreed that training in all of these skill areas was necessary. At one point, John Randle expressed the view that industry and the science communication community were living in parallel universes. He and Sir John agreed that industry is not doing enough by way of interacting with the public and NGOs and that there is a place for open-ended questions in such interaction. Sir John argued for accuracy in these interactions accepting that this needed to apply on all sides.

Action: to engage with industrial representatives over a strategic approach to public involvement, based on good business cases, and with industry and UUK over training for undergraduate and postgraduate students.

5. Achievement of Intellectual Convergence

It was clear from the presentations by the social scientists that an essential foundation stone on which all this work needs to be built is an agreement between the science community and social scientists, philosophers and ethicists on the intellectual basis of deliberation and the methods of delivering deliberative processes. The social scientists complained that their work was not recognised sufficiently by the science community and this is slowing progress. This presents a huge challenge but also a huge opportunity for these sectors to work together to achieve understanding and perhaps new knowledge, though Professor Breakwell called on the science community to use the knowledge which already exists.

Action: an exploratory workshop will be set up to prepare the ground for a series of interactions involving all the relevant disciplines in discussing and determining the best ways to proceed. It was recommended by some that members of the public, experienced in dialogue, should also be involved as they would make a valuable input.

Scientists are well aware that a great deal of uncertainty surrounds much of science and that there are challenges involved in conveying scientific uncertainties to the public. The ways and extent to which those uncertainties are currently conveyed need to be examined.

Action: to encourage a small group of scientists, science communicators and social scientists to address how best to communicate uncertainty and make recommendations for action.

6. Key Contribution by Mass Media

The media needs to figure prominently in the strategy and the challenge here, conference felt after a lively debate, is to adopt a new attitude to the broadcast media, especially television, as a way of reaching and interacting with mass audiences. New and creative methods and forms of partnership will need to be identified not only to devise interactive methods of engagement but also to stimulate greater interest in science engineering and technology by the public. Lord Winston played a leading role in this debate and readily offered his help. An important element of this approach will be to encourage substantial numbers of scientists to undertake media skills training. This would remove the sense that working with the media is a chore or a threat. A recent survey has shown that the public as well as scientists believe the mass media to be the most effective way of engaging.

Action: to involve Lord Winston in plans to approach and work with the broadcast media seeking to work in particular with some of the younger producers, and with natural and social scientists.

OST's Cross Government Science and Society Programme

All of the above will build on the welcome existing plans of OST in its Science and Society programme which feature three principal strands – public engagement, building the science workforce and developing the vision for science in society in particular through mainstreaming science in society in government policy. Underpinning these will be qualitative and quantitative research, the development of a database of activity and a needs analysis survey.

Outcomes

To justify the allocation of significant amounts of extra cash, the science community and government will have to be clear about the outcomes they expect and an interweaving element of strategy will therefore be to identify these outcomes – which in ill-refined form for the present will concern:

Evidence of trusting relationships emerging from engagement exercises; a good working relationship developing between the media and the science community; constructive engagement between the science and civil society communities; demonstration by policymakers across government and the science community that they have heeded and acted on views emerging from deliberative processes in a transparent manner; schoolchildren who are interested in science whether as citizens or as future scientists and engineers; an inclusive approach to reaching people of all backgrounds; sufficient number of graduates going into careers in science and engineering to respond to the demands of the research community and industry; an agreed target number of scientists who have undertaken communication skills training sensitive to engagement issues and media skills training; training on public engagement as well as leadership and business skills to be incorporated into undergraduate and postgraduate science courses and at least the first of these into courses offered to lecturers by the Institute for Learning and Teaching; meeting of minds between the sciences and social sciences etc; creative and innovative involvement of the media in reaching and engaging interactively with the public; achievement of the various elements of OST's science and society programme.

Definitions/clarifications

Science: Science engineering and technology

Public/publics: non scientists; it is accepted that there are in fact many publics and different models of "the public"

Engage/engagement: informing, listening, enthusing, discussing, involving members of the public, in both science and issues involving science

Deliberation: to consult with another or others in a process of reaching a decision; to carefully consider by weighing of alternatives, facts and arguments with a view to a choice or decision.