The Science Communication Conference – Scotland

6/7 April 2006

Final Plenary Session

The aim of this session was to discuss and agree recommendations for policymakers on issues which had arisen during the conference.

After brief feedback on the key points from the Working Lunches, the Chairs of each of the plenary sessions presented a brief synopsis of what they had felt were the issues emerging from their sessions. A similarly short presentation was made by one of the conference delegates, acting as 'the voice of the conference' and discussion followed.

A: Working Lunches – key points

1. Science Education

Linking formal and informal science education: curriculum enrichment

As science communicators we:

- welcome the new direction of travel of the proposed changes in the school curriculum (Curriculum for Excellence)
- welcome the opportunity to engage in the process and feel that we can add significant value to both pupils and teachers, providing:
    - access to resources, including people
    - relevance, innovation and creativity
    - continuing professional development (CPD) – developing capacity through increased knowledge and confidence in science subjects and in current research
    - the 'wow' factor

2. Science in Society

Toolkits for Dialogue

- Although the Working Lunch offered to provide a toolkit, it was clear that there is no such thing as a 'best fit option'. Successful dialogue requires a combination of approaches specifically chosen to match your needs and the needs of your audience
- It is vital that, before we start any dialogue process, we take time to think clearly about what we want out of it. Why are we running this and what do we want the outcomes to be?

3. Science Communication

Working with the Media

- In order to create a partnership with the media, encourage scientists to speak to journalists early on. Comment on other research, so that when the scientist wants to tell their science story, journalists already know them. It's a two-way relationship – if you help the journalist first, then they'll return the favour.
- Trust was the key word that was raised. Trust the journalist to report correctly and the journalist will trust the scientist to provide a quote.

General agreement was signified to these points by the participants, with the additional comment that science communicators could have a huge impact in the curriculum review and should continue to be involved in contributing to it. Further, it was suggested that we are at risk of the science communication community being perceived to only comprise large organisations. It should be remembered that there are also many individuals working the field who form a significant, important and, it was felt, sometimes under-valued part of this community. Indeed, these people often perform crucial roles that go largely unrecognised.

B: Plenary Sessions – key points

Partnerships in Science in Society

- There is a need for clarity in the purposes for engagement, particularly with regard to feeding into policymaking. But at what level should this occur and what are the appropriate mechanisms for channelling outcomes?
- The partnerships that do, or could, exist vary hugely – there is a great need to share best practice between and among them.
- There is a need to understand how engagement can become more 'bottom up' – and also ensure greater inclusivity.
- The RAE is still regarded as a major barrier for practising scientists wishing to engage in science communication – because of its lack of provision for recognition and reward – although there are some welcome signs that this may be changing.

Science Education

- Under the Curriculum for Excellence, the acquisition of skills will become more important than rote learning of facts. This will require a new mindset for all in education and there remain challenges to be faced with respect to assessment. Introduction will be phased.
- The place of enterprise and engineering in education need to be better understood.
- There should be scope for greater creativity and innovation in teaching. The use of drama, for example, has been shown to be particularly valuable, enthusing both teachers and pupils.

Partnerships in Science Enterprise Education & Economic Development

- The "Make it in Scotland" partnership programme aims to inspire and engage future scientists.
- It works very closely with industry – industry involvement is crucial to its success. However, a major challenge to the programme is how to get the SME's engaged with it.
- There is a national focus and framework for the activity, but it embraces some diversity. The size of the programme means that it represents a huge logistics exercise, only manageable by a national agency but dependent on local contributions.
- Strategy needs to become action.

Science Communication and the Practising Scientist

- A culture change is required within companies and universities to encourage/enable more involvement by scientists in communications (it is rewarding in itself, but institutional pressures make it difficult).
- Training is required, especially for dealing with the media.
- The Royal Society of London is trying to change the definition of an 'excellent' scientist – to be one who undertakes both research and communication.

The Voice of the Conference

If the overall objective is to make Scotland "Smarter", we acknowledge that partnerships are the way forward and that we must get on with creating and working in them, but we need:

- Inspiring examples
- Practical guidance on how we can become involved
- Support to ensure that we can include the many groups practising science communication and maintain the diversity and range of audiences reached
- Support for and guidance to ensure that:
    - best practice is shared
    - there is adequate funding
    - initiatives are sustainable
    - outcomes and learning are disseminated

Networking is vital to this, but greater representation/involvement is required from funders and the Scottish Executive.

Comments & Discussion

It was suggested that there is already considerable duplication of work and activities, and that there is a need to be able to access resources and evaluation from other projects to prevent this happening; we need to learn from others and what has been done before.

It was agreed that there was a need for 'better linking at the top of the ladder' and acknowledged that better connectivity is developing, but slowly. For this connectivity to work well, it needs both a logical, systematic approach and to be driven both bottom-up and top-down. Any attempts to ensure greater connectivity, however, must take account of, and value, the diversity which exists in the broad field of science communication. It is not essential that there only be one model for partnership working. In this respect, it was noted that the Scottish Science Centres Network had agreed ways to work more closely together and in partnership – and they are very diverse organisations.

There was widespread acknowledgement that trust is needed for the development and success of partnerships. There are many individuals and organisations who have, or are perceived to have, vested interests in the success or otherwise of partnership working. It was suggested that some clustering of disparate groups, perhaps on a geographical basis, might be a way of encouraging better partnership working.

There was then some discussion on whether communicating 'science' is an end or a means to an end. While communicating some science topics, climate change for example, are vital for the survival of society, others are perhaps less so. It was suggested that the focus should, perhaps be on the 'redeployment' of science, rather than the science itself. There was general agreement that public attitudes are key to the success of science communication and the suggestion was made that there might be an awareness campaign launched, which did not have an explicit focus on 'science'.

It was felt important that people were made aware of science enquiry and its role in entrepreneurship.

While it was agreed that evaluation of science communication activities should become more 'scientific' and rigorous, with academic studies of their impact being carried out and published, it was noted that it is not always easy to find sufficiently rigorous measures by which to evaluate impact. It was pointed out that HMIe and the Scottish Science Centres Network are proposing to discuss how best to develop some suitable measures. Ways to improve the development of 'thinking skills' among the population at large – as well as among young people – should be found.

In considering specific points which might help to guide the future direction for science communication, it was suggested that a regional strategy might produce some good learning points,

but that practical action was needed, not more 'talk'. It was acknowledged that there might not be a simple answer to guiding the direction, because there are many varied and legitimate aims for science communication. The *Progress Report on the Science Strategy for Scotland* and the new *Scottish Science Centres Network Strategy,* however, provide some guidance, a framework and recognise the value and potential of the 'wider science communication community'.

C: Recommendations

- Greater recognition that the science communication community comprises many diverse components, not all of which are large organisations, and that each has a valid contribution to make. This to be coupled with increased support (financial and other) to facilitate greater partnership working. Any increase in resources should be targeted at facilitating greater partnership working.
- Continued efforts to encourage the culture change required within the corporate and higher education sectors to ensure the removal of the barriers to the appropriate recognition and reward for practising scientists to engage more widely with society. (The efforts of HEFCE, Research Councils UK, the BA and the Royal Society, among others in this area were noted and acknowledged.) A separate Scottish working party could be formed to look at these issues in the Scottish context and to feed into UK wide work. The Scottish Funding Council is involved in this work already and stronger links should be formed.
- More training in science communication is required – particularly with regard to practising scientists engaging with the media.
- Mechanisms must be found to ensure the sharing of good practice among science communicators.
- Evaluation of science communication activities should become more 'scientific' and rigorous – noted that HMIe and the Scottish Science Centres Network are proposing to discuss how best to develop some suitable impact performance measures.
- If science in society engagement is on issues of general public concern or relevance, then there has to be clear guidance from policymakers and influencers on how the outcomes of these activities can be relevant, timely and appropriately channelled into the policymaking/shaping processes.

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Working Lunches supported by