Event summary: Leading science engagement in a changing world

‘Leading science engagement in a changing world’ was a half-day event held on 1 June 2017, organised by British Science Association and hosted by the Royal Society of Chemistry, with support from Institute of Physics and the Wellcome Trust. The event aimed to provide space for reflection and conversation among leaders and influencers in the science engagement sector, such as learned societies, the media, government, cultural organisations, museums and discovery centres, think tanks, education and higher education institutions. The following document is a summary of the conversations and ideas that came from the event.

Where is science engagement now?

‘Leading science engagement in a changing world’ was organised during a time of serious upheaval, and the political context of Brexit, Donald Trump, “post-truth”, the 2017 General Election, and an upcoming government industrial strategy. Despite the uncertainty, there is a need to be unified as a sector to address the challenges and opportunities facing science, and we’re in a time when the UK is reflecting on the relationship between the public and its institutions. In addition to this, there are more long-term questions around understanding what we are aiming for in our work, how we measure the impact of that work, and how we make it more inclusive to people that are often excluded from experiencing science.

The opening session provided a platform to share approaches, reflect on our aims and challenge each other to improve.

The state of the sector

There is a question about how we scale-up to engage on a much bigger level. Most attendees see a need for multiple voices at the table to allow our organisations and activities to expand, not just professionals and practitioners of science engagement. The infrastructure around the sector is seen as almost non-existent. This encourages an agile approach which is beneficial for innovative, value-for-money activities, however, it also means the sector lacks a core knowledge base to direct newcomers and collaborators towards.

Drivers of our work

Attendees acknowledge that we have diverse aims as a sector. However, there is a shared view that it is the responsibility of the scientific community to listen to those outside science and enable them to benefit from science, and influence scientific research. The key benefits of science engagement that were discussed by attendees are:

- To provide people with skills, not necessarily knowledge. Science engagement should empower citizens to feel confident in challenging points of view, and to be better at critical thinking. This particularly applies to enabling citizens to distinguish between uncertainty and falsehoods around societal challenges, such as health and the environment.
• To normalise science as a cultural activity, and to create a supportive environment for science
• To inform people of the outputs of taxpayer-funded research and give them the opportunity to influence the direction of future research
• To encourage people to take up science-related education and career paths

How we use evaluation
Attendees see a disconnect between the evidence we collect as a sector, and the level to which it is shared and applied. Impacts of science engagement are seen as varied and unpredictable, and the sector is lacking a common language to share learning. Most feel that to achieve our aims, we need a better way to understand what the questions are from the public (i.e. using evidence to inform our work), and a way to segment our audiences to better target activities. Better coordination and collaboration between bodies is seen as essential to achieving this.

Lack of diversity
Attendees see a lack of diversity as a significant weakness of science engagement. Most agree that as a sector, the “Uninterested” should make up more of our target audience, but this is not reflected in our current programmes, which over-represent and target the “Expert” and “Engaged” groups (a map of “audience zones” is included at the end of this document).

Leading science engagement in a changing world: what does this look like?
Attendees were split into ‘challenge groups’ to reflect on the issues raised in more detail, and to propose ideas to help the science engagement sector move forward.

Empower the public to ask questions, not to accept facts

This could look like...

1. Getting scientists to genuinely listen to the public. Models mentioned at the event included: a method developed by James Lind Alliance to agree research priorities with public audiences (http://www.jla.nihr.ac.uk/jla-guidebook/); science shops model developed in the Netherlands (https://en.wikipedia.org/wiki/Science_shop)

2. Handing over control to the public and letting communities serve themselves. Models mentioned at the event included: Fun Palaces campaigns and engagement events (http://funpalaces.co.uk/)

3. Focusing on communicating the scientific method as something people can apply to their own lives. This starts with putting researchers in the public’s shoes — how do the public get access to information, for example?

4. Identifying and respond to people’s ‘flashpoints’ when they suddenly have a need to engage on a science subject

5. Providing authentic experiences and appealing to emotions and values
How do we make this happen?

- Identify existing ideas and resources
- Pilot new engagement models

**Work towards a joined-up funding system**

This could look like...

1. Acknowledging what we know already by concentrating on evidence of what works when designing funding programmes
2. Bringing smaller funders into conversation and helping them to develop strategies and processes
3. Signposting between different funding organisations – societies, trusts, corporate and government – to find the best “home” for proposals without having to continually reformat and resubmit
4. Starting a funding panel in which small- or medium-sized organisations can pitch to, similar to the “Dragons’ Den” method used by entrepreneurs and start-ups. This could include: The Clore Duffield Foundation, The Wellcome Trust, and the Government.

How do we make this happen?

- Identify where evidence has informed science engagement activities
- Work with the National Forum for Public Engagement in STEM to trial new processes

**Co-develop our ideas**

This could look like...

1. Introducing ‘partner review’ where organisations pair up to be a ‘critical friend’ to each other
2. Improving the ecosystem for engagement to enable signposting and sharing resources. For example, providing a ‘github’ (https://github.com/) for science engagement organisations to post information about their goals, resources, what works, and raw data that others can use (sharing evaluation plans, as well as reports, is seen as being potentially valuable for collectively answering questions)
3. Identifying key markers for our societal impact: visibility for science engagement at a policy level; excellence in formats and outputs; influencing decision-making by government, non-government, and corporate organisations; and evaluating how we appeal to the emotional aspect as well as the factual.

How do we make this happen?

- Identify the most commonly-used markers of societal impact
• Assess what does and doesn’t work for a shared resource

Build an evidence base

This could look like...

1. Challenging the top funders to change practice on what is required re: evaluation, to make evidence more usable and build on it in a more productive way. For example, myth busting and thinking through what works and how it works (it could work for one group but not another, for example)

2. Synthesising science engagement research and pedagogy for newcomers/time-poor practitioners

3. Prioritising the need to measure long-term impacts better and more, and differentiating between research into wider benefits of science engagement and evaluation of individual projects. These measures could (should?) be undertaken independently and by different organisations.

4. Collecting evidence on non-users – do they know we even exist?

How do we make this happen?

• Identify who is collecting what evidence, how often, and how it is used

• Assess training and CPD provision across the science engagement sector

Commit to diversity

This could look like...

1. Moving away from thinking about “access” and “barriers to access”. This makes the issue one-dimensional, assumes that people will automatically engage once we “remove barriers”, and stops us making change. We need to think about a co-creation model with the public that takes into account practitioners, funders, and transforming products and practises

2. Building allies across the sector so it isn’t always the responsibility of a couple of token people within an institution — we need to share the load, so inclusivity is everyone’s responsibility. There needs to be a widespread change of attitude, which could be accelerated with training on being open to change, inclusive, and not fearing the outcomes

3. Embedding and incentivising inclusion at the core of organisations (funders, as well as fundees), not as separate programmes.

4. Addressing how we categorise and target specific groups, e.g. low-socioeconomic background, women, BME. This approach assumes homogeneity, is siloing people, and is in itself lacking diversity
How do we make this happen?

- Identify how the sector segments audiences and designs activities to achieve their aims
- Campaign for diversity across science and science engagement

Next steps

British Science Association are collecting reflections and examples from the science engagement sector:

- Which of these ideas stand out to you?
- What are you working on already?
- What would you like to see more of going forward?

‘Leading science engagement in a changing world’ has influenced the British Science Association to include diversity of audiences as a strategic objective, rather than a ‘nice-to-have’. The event has also helped us think about more productive ways for the science engagement sector to work together and share resources.
Appendix I: Audience zones

The British Science Association has a mission to support, grow and diversify the community of people who are interested and involved in science; and to strengthen their influence over science’s direction and place in society.

Our audience model, splits the UK into four zones based on their relationship with science. We ask everyone who gets involved in our programmes to fit themselves into one of these zones, and we’ve used these questions in external surveys and evaluation.

Each of the zones are steps along our journey to science engagement.

- Uninterested: see science as not for them.
- Interested: potentially open to science but make no particular efforts to engage.
- Engaged: enthusiastic about science and actively seek out information and events.
- Experts: professionals who produce or curate scientific knowledge.

Critically, the model represents our desire to bring people and science together, whether or not they eventually take up a science career. We want to recognise the value of people outside science having a relationship with it because we believe that creating a generally engaged public will naturally help to address skills shortages through a population-wide increase in science capital.

We worked with the Cultural Institute at King’s College London to run an online survey of a representative sample of 2,000 people from across the UK.
Appendix II: Summary of external speakers

Three scene-setting talks gave a perspective on strategic direction, evidence and inclusion from voices outside the sector.

Kate Dale, Strategic Lead, Brand and Digital at Sport England

Kate told the story of the “This Girl Can” campaign, and shared advice with attendees.

- Know your audience: Sport England knew that there was a large group of women that they weren’t reaching, and the initiatives aimed at attracting them (such as putting creches next to sports centres) weren’t having a significant impact on participation. When they dug deeper, they found that:
  - Women were embarrassed about appearance, worried about getting sweaty and wearing tight-fitting clothes, felt like they didn’t look like an athlete or the models, and were too shy to do sport
  - Bad experiences at school have a lasting impact
  - Lack of knowledge or perceived lack of knowledge was a barrier – for example, not knowing the “right way” to use of gym equipment
  - A huge sense of judgement on them – “women aren’t supposed to be competitive”, “trying hard isn’t cool”
  - Priorities – for e.g. mothers are busy and can feel guilty for spending time on themselves, causing them to feel like bad role models
- Tone of voice is important – use the right one. Don’t tell people what to do – have conversations and engage. Use a sense of humour and authenticity
- “Show, don’t’ tell”: use real stories and real people. Don’t just attract one type of person. Mirror your target audience, and have people tell their truths (Jess Ennis Hill will inspire the next Olympians, but not the next every day active woman). If we rely on authority figures in a post-truth world it will reinforce bias, so use people that are relatable
• Be targeted, relevant, and active on social media – use media monitoring, and get involved in conversations rather than staying at arms-length

• Share information, open up your data. Test, learn, refine, repeat!

Caroline Fiennes, Director of Giving Evidence

Caroline presented a new way to think about evaluation and evidence:

• Over the past 15 years, charities started measuring impact, but still, lessons of failure (and even success) are rarely shared

• Organisations are reluctant to admit programmes have not gone to plan, and funders do not want to admit that their money hasn’t been put to good use

• There’s a collective fear of “being found out” – taking part in a controlled trial risks funding (or perception that funding will be lost), so charities do impact research badly

• Furthermore, funders and founders rarely use the evaluation material!

• Do we need to think about radically reforming the way we do evaluation? Rather than producing research, would a better approach be to use research? Support activities with existing evidence, rather than evaluating badly in an attempt to justify the work

Stephen Frost, Director of Frost Included

Stephen demonstrated where our attitudes to diversity are failing:

• There is an innate value of diversity, for example, homogenous teams can outperform diverse teams in the short-term, but not the mid- to long-term

• Still, we tend to gravitate towards people who are most like us, and we don’t recognize those biases. In fact, the higher our IQ, the less likely we are to see ourselves as biased

• Humility is the source of better decision making. As leaders, we should be designing our organisations and programmes to create opportunities for everyone, rather than distributing existing opportunities among a select group

• Working together is important – we need collective voices, and we need people to champion those different to them. By making these changes in our own organisations, we’re better equipped to design more inclusive programmes.