

Dialogue with the public: Practical guidelines

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An Appendix 1 is available electronically, giving details of organisations which may be useful for contacts or resources. Go to www.research-councils.ac.uk/guidelines/dialogue/appendix1.shtml

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Foreword

by Lord Jenkin of Roding

There is a blissful moment in the Moliere play, *Le Bourgeois Gentilhomme*, when the principal character, M. Louis Jourdain, discovers that all his life he has been talking prose. There may be a few readers of this Study, 'Practical Guidelines for Developing Public Dialogue' who experience a similar revelation – that in their efforts to engage the public in dialogue about science, they have actually been doing it quite well.

However, I suspect that there are many more who will find the advice and guidance in this Study opens up pathways to a much more effective process of dialogue with the public than they have so far been able to tread. When the House of Lords Select Committee on Science and Technology published its Report 'Science and Society' in March 2000, we found an audience in the science community that was ready to heed our main messages, but which was uncertain how to set about it.

Perhaps our single most important message was that aiming at 'the public understanding of science' was no longer enough to engage today's more sceptical and less deferential public. The phrase has a condescending, even demeaning, tone which, so far from engaging the public in debate, tends to turn people off. In its place, we called for a new mood of dialogue: instead of the one way, top down process of seeking to increase peoples' understanding of science, there has to be a two way dialogue, where those seeking to communicate the wonders of their science, also listen to the concerns of the public. "Dialogue requires ears as well as voices" was how one of our witnesses put it.

Do not misunderstand me; since the Committee on the Public Understanding of Science was set up in 1985, a great deal of excellent work has been done. Indeed, it is the very success of the Committee's work, evidenced by the large numbers of scientists and engineers who have been stimulated to communicate their work to a wider public, that makes it appropriate now to find ways to do this that are better attuned to engaging today's public.

Since 'Science and Society' was published, a lot has been happening as new efforts are made to engage with the public and stimulate public debate. But as the Chairman of the Sub-Committee which produced that Report, I have become uncomfortably aware that, while calling for dialogue, we left it to others to discover how this might be done.

This Study, commissioned jointly by the Research Councils UK and OST, goes a long way to meet this need. I warmly commend it to all those who, whether as scientists and technologists, or as concerned citizens, may find themselves at one or other end of that process of dialogue for which we called.

Patrick Jenkin

1. Introduction

Background

In recent years there has been a shift away from the simple promotion of science through attempting to improve public understanding of science and a move towards recognition, by some organisations, that science's relationship with society is complex and dynamic. The concerns about the science world's ability to communicate effectively and interactively with "outsiders" were described most notably in the "*Science and Society*" report published by the House of Lords Select Committee on Science and Technology in February 2000.

One of the most often quoted recommendations within this report was:

"That direct dialogue with the public should move from being an optional add-on to science-based policy making and to the activities of research organisations and learned institutions, and should become a normal and integral part of the process."

The House of Lords report stopped short of describing how this might be practically achieved. These guidelines have been produced as part of a project commissioned by a consortium of six Research Councils¹ and the Office of Science and Technology with the express purpose of addressing this outstanding issue.

Who is this guide for?

This short guide is intended primarily for those relatively new to communicating science or who are making the first steps to move from a monologue approach to a dialogue style. Thus some more experienced communicators may find that there are sections in this guide that cover ground they already know. We hope, however, that the sections sub-titled "Guidelines" and "Organiser's Checklist" within each chapter, will provide a useful aide memoir for all practising communicators seeking to increase the opportunities for dialogue and the exchange of ideas and views in their activities.

The guide generally refers to activities. This is because "dialogue" is not limited to face-to-face conversations. It is just as feasible to conduct dialogue in writing and using electronic communications as it is by talking with people. There are also many possible models for dialogue. It can be one-to-one, one-to-many, many-to-many or even many-to-one. In the section titled "Ways of encouraging dialogue within traditional formats" we will explore how it is possible to maximise interaction within familiar activities. It is not always necessary to construct entirely new mechanisms to promote dialogue and much can be achieved by planning the structure of an individual activity in such a way as to encourage interaction.

¹ The participating Councils were Biotechnology and Biological Sciences Research Council (BBSRC), Council for the Central Laboratory of the Research Councils (CCLRC), Engineering and Physical Sciences Research Council (EPSRC), Medical Research Council (MRC), Natural Environment Research Council (NERC) and Particle Physics and Astronomy Research Council (PPARC). They gratefully acknowledge the advice of the Economic and Social Research Council when setting up the project.

Since 1 May 2002, the councils use the collective name of Research Councils UK when working together.

Dialogue does not always have to include you or your organisation; the ripples of conversation that spread from your activity are also contributing to dialogue. In Annex 1 we offer definitions of “engagement”, “dialogue” and “consultation” and seek to clarify the different roles that these play in an overall communications strategy. In essence, achieving engagement is the first step in stimulating people’s interest and is of particular relevance to those who wish to use science communication to attract young people into science and engineering careers. Dialogue consists of informal two (or more)-way conversations. This is informal in that it might not feed directly into decision-making, but crucial if the goal of making science a part of everyday culture is to be achieved. Consultation is the formal process of using a two-way exchange of views to inform decisions.

All of these processes will be underpinned to some degree by the provision of information. While the term public understanding of science is rightly losing credence, the degree of background knowledge that people bring with them can have profound effects on their views or indeed whether they have a view at all. It is important therefore to give people easy access to the relevant technical information so that they can construct arguments that reflect their own views, concerns, hopes and morality. Equally, to undertake any of these communication processes successfully, it is important that the organiser of the activity understands the potential audience(s).

Using this guide

The chapters that follow cover the issues, in chronological order, that you, as an activity organiser, might expect to encounter. Each chapter follows a similar format with a brief discussion followed by some guidelines on issues to think about, some examples and an organiser’s checklist. The three examples that we will be using are developed through the guide to show how different techniques can be applied to different events for different audiences. The intention will always be to help you maximise the audience that you reach and the interaction with that audience that you achieve.

Although this guide is constructed in a step-by-step fashion, it is important to remember that there is no magic formula that will give you “the right answer”. Your professional judgement, experience and knowledge of the constraints (e.g. budget) that you are working within will combine with this guide to help you build a structure that will best meet your objectives.

The following chapters focus on:

- Setting objectives;
- Understanding audiences;
- Attracting audiences;
- Encouraging dialogue within traditional formats;
- Identifying appropriate techniques to facilitate dialogue; and
- Evaluation.

2. Objective setting

Background

The first step in organising any event or activity must be defining the purpose of the event. From this all else, such as the nature of the audience, how to attract them, the structure of the event and how you evaluate it, follows. Ask yourself the questions:

“Why am I (or my organisation) doing this? What do I/we want to achieve?”

Be honest when addressing these questions, the answers set the framework within which you are working and will define the goals that you set. The purpose of this guide is to help you achieve these goals.

It is often suggested that there are as many reasons for wishing to run activities as there are people running them. However, we suggest that there are six principal objectives that motivate people and organisations to develop activities to communicate science. These are:

1. To promote an awareness of science as “part of the fabric of society”;
2. To promote an individual organisation;
3. Public accountability;
4. To recruit the next generation of scientists and engineers;
5. To gain acceptance of science and new technologies; and
6. To support sound and effective decision-making.

In the old world of public understanding, there was often a view that a monologue approach could achieve the first five of these objectives and that non-expert opinion had no role to play in the last. However, with the increasing recognition that dialogue and multiple inputs are crucial factors in underpinning sound decision-making in science, it has become accepted that two-way communication is a more robust way to address all of these objectives. In the Science and Innovation White Paper “*Excellence and Opportunity*” published in July 2000, one of the most telling phrases is:

“...science is too important to be left to scientists. Their knowledge and their assessment of risks is only one dimension of the challenge for society. When science raises profound ethical and social issues, the whole of society needs to take part in the debate.”

Most organisers ought to recognise one or more of the six factors listed above as representing the main driving force behind a proposed activity. Having identified the primary function of the activity it will then be possible to set out what you want to achieve. Beware of the allure of trying to make one activity all things to all people, the more tightly you focus, the better the chances of achieving your goals. Remember that you do not have to change the world by yourself and that many other organisations are active and it is therefore quite acceptable to seek to work in a niche area, with a manageable goal. You might wish to consider running a series of activities aimed at different audiences or with different objectives. In this way over a period of time you will be working towards achieving all of your objectives, whilst keeping each individual activity focused and manageable.

The Research Councils all run extensive programmes of activity and will be able to give you information about the bigger picture of science communication to help you focus your efforts.

Guidelines

When setting your objectives, focus on the things that matter and also try to include things that it is important to measure. The twin pitfalls are setting objectives that you believe are important, but against which you can't measure your success and setting objectives because you know they are measurable, but are actually of little importance.

For example, a genuine aim of your organisation might be to increase the number of people graduating in physics. This is a number that is easy to find, but can you honestly find a causal link between your activity and national behaviour patterns? You might measure the number of people who take part in your activity - this is an important thing to know - but simply knowing it tells you little about the success of the activity. Ten participants all more positively inclined to study physics is a far more successful piece of work than two hundred participants who vow that physics is now the last thing that they will study. So think about setting outcome targets associated with the impact on participants. This will help you to gather information that tells you whether you are likely to be contributing to your long-term goals. With this example you might want to know how many people participated, what their initial views were and what their final views were.

The outputs and outcomes that you set for an individual activity might include:

- A target for the number of people that the activity engages
- Targets for the types of people that the activity engages
- A target for the number of people that actively participate
- A target for the number of people positively influenced by the activity
- A target for the number of people taking in part in follow-up activity
- Proving that a particular mechanism is a practical way of engaging people at a reasonable cost

How you set quantities for these targets is a combination of resources, judgement and experience. Many of the organisations listed in the appendix "*Useful Contacts*" will be able to offer advice if you need it. There are also at least two relevant Internet discussion fora. These are "Big chat" run by the British Interactive Group, whose website is:

www.big.uk.com

There is also "psci-com" run by the Wellcome Trust, which can be found at:

www.wellcome.ac.uk/en/1/homlibinactpsi.html

You may want to take a "snapshot" of attitudes as part of the process of running the activity as some activities lend themselves to exploring whether or not the views of participants are changing. There are further thoughts on how to do this in the evaluation section of this guide. However, **it is extremely unlikely that an individual activity will have a traceable long-term impact on general public attitudes**, so this is unlikely to be an

outcome that is sensibly measured for most activities. “*Science and the Public*”² sought to establish benchmarks for the overall national picture of the position of science and engineering within society. Repeated large-scale exercises will be required to monitor whether or not national attitudes are changing over time.

Examples

1. **You are planning a public event as part of Science Week.** This might be intended to meet any of the reasons for communicating described above, but you should try to be clear about your primary aim. Realistic objectives might include:
 - A target for the number of local people participating
 - A target for the number of certain professions participating
 - A target for the number of certain attitudinal groups participating
 - A target for the number of school students participating
 - A target for the percentage of participants who reported that they had had the chance to present their views about the topic in question
 - A target for the percentage of participants who reported that they had learnt something new about the science or your organisation
 - A target for the number of long-term partnerships formed
 - A target for the number of people positively influenced by the activity

2. **Your laboratory is planning to hold an open day for the local community.** The most likely aims of an event like this are to demonstrate your public accountability, to promote the organisation or to attract the next generation of scientists and engineers. Realistic objectives might include:
 - A target for the number of your colleagues participating
 - A target for the number of local people participating
 - A target for the number of school students participating
 - A target for the percentage of participants who reported that they had had the chance to present their views about your establishment and its work
 - A target for the percentage of participants who reported that they had learnt something new about your organisation and its work
 - A target for the number of long-term partnerships formed
 - A target for the number of people positively influenced by the activity

3. **You are developing a consultation to identify major priorities for a new scientific programme.** This type of activity is most likely to be designed to demonstrate accountability and to support sound and effective decision-making. Realistic objectives might include:
 - A target for the number and range of stakeholders participating
 - A target for the percentage of participants who reported that they had had the chance to present their views about the programme
 - A target for the percentage of participants who expressed contentment with the way that the consultation process was managed e.g. transparency, openness, accessibility

² *Science and the Public: A review of science communication and public attitudes to science in Britain*, The Office of Science and Technology and The Wellcome Trust, **October 2000**. ISBN 1 841290 25 4

- A target for the number of long-term partnerships formed
- A target for the number of people positively influenced by the activity

Organiser's checklist

- What is the purpose of the event?
- Have you got clear and measurable objectives?
- Have you agreed these objectives with partners/funders?
- Have you identified desirable outcomes and established how you will measure these?

3. Understanding audiences

Background

Having thought through what it is that you want to achieve, the next question is “who must participate in order to achieve it?”

The combination of your objectives and the audience required to achieve them, should play a fundamental role in underpinning the design of your activity. The increasing sophistication of communication in general means that many science communicators now actively plan to communicate with very specific audiences at specific times.

The increasing recognition that the public is not one homogeneous mass is causing much more careful analysis of intended audiences. However, you may find that the “*there is not one public, there are many publics*” argument is at best misleading and possibly unhelpful. The popular Oxford dictionary defines ‘public’ as “Of or concerning the people as a whole” so there can only be one public. What is much more use to you, as a communicator, is to recognise that the public can be sub-divided along many different lines. Traditionally we have tended to segment the public by:

- Gender
- Age
- Ethnicity
- Social class³
- Profession
- Geographical location

and so on. This is because we believe that people of the same gender, for example, have something in common, such as the way that they look at, or think about, a particular issue. An event run for women only on contraception would produce a different type of conversation about different issues from that which would result from a meeting of men only or from a mixed gender meeting. Any information presented and the way it was presented to the audience might also be different.

Another way to group people is by their attitude to the subject of interest, in this case, science. The report, “*Science and the Public*”, identified six attitudinal groups:

- Confident Believers
- Concerned
- Not Sure
- Technophiles
- Supporters
- Not for Me

Tables 1 and 2 give brief descriptions of some key features of these groups. Table 1 gives some insight into their attitudes and demographics. Table 2 outlines the types of activities they spend their leisure time doing and their media use, the former is explored in more detail in Annex 2. Much more detailed information can be found in the two reports

³ See Annex 3 for definitions of social grade

“*Science and the Public*”⁴ and the companion report to this guide “*Practical guidelines for developing public dialogue – Policy report*”⁵.

“*Science and the Public*” found that attitude was highly correlated with socio-demographic characteristics. Tying together attitudes and other types of information about your audience will enable you to start developing strategies for targeting different groups, by using different types of venues and media. It will also help you to ensure that you talk to them appropriately and are prepared for the way in which they respond. It should colour your choice of activity and presentation style. Indeed it may even affect the people you choose to facilitate activities and present information.

With an understanding of the variety of attitudes to science that people hold, you can build your programme and the marketing strategy.

To take an example, the Technophiles and the Supporters are much more trusting of scientists than the Concerned. So, if you want to run an event that will engage those who are sceptical of the science (the Concerned) you should ensure that you have a speaker from outside the scientific establishment. While this sceptical group are concerned about the science, some of their concerns are related to the political management of issues. You may therefore want to have someone who can talk from that perspective. Including at least one female speaker would be especially suitable as 60% of the Concerned are women. You should also ensure that you have good moderator(s), as the debate may become heated and may need to be actively managed and diffused.

You should also be clear about what you want to take out of the event. Is it an understanding of their concerns? What do you want them to take away from the event? Do not set out to “convert” them.

To consider another example, the Not for Mes and the Not Sures are going to be significantly less interested, and therefore harder to engage in science, than the other groups. The former recognise science is important but don’t see it as relevant to them personally, while the Not Sures are more generally unengaged. Moreover, both of these groups tend to have low incomes. So it is very likely that you will have to go to them. Their interests are much more closely related to things that impact directly and visibly on their lives and in entertainment. So any event will need to be fun, cheap and local.

It should be noted that identifying and classifying individuals or groups by attitudinal characteristics may be difficult, particularly for less experienced communicators. People’s attitudes may vary according to the subject at hand or their own personal experiences. The fundamental rule is that people’s attitudes to science are diverse and the more you try to understand the attitudes and perspective of your potential audiences, the better your chances of engaging with individuals and groups.

Any activity will attract people for different reasons. Some people may participate because of their work, some because the topic has local relevance and others out of personal interest in the subject. Understanding the different motivating factors will help you to construct a

⁴ Available from www.wellcome.ac.uk/en/1/awtpubrep.html

⁵ Available from members of the commissioning consortium

potential audience profile, this profile will then help you to decide on appropriate techniques and or venues for this audience.

There is no “right answer” to the question “which audience should my activity be aimed at?” This will depend upon the specific objectives of your activity and the range of audiences is as wide as the possible range of objectives. If you have carefully focused your objectives, then it will be much clearer to see who the critical audiences are going to be that will allow you to meet those objectives.

Table 1 The “Science and the Public” groups – Attitudes and demographics

Name of Group	More likely to agree that...	Less likely to agree that...	Demographic features
Confident Believers	<p><i>“The benefits of science outweigh any harmful effects.”</i></p> <p><i>“Even if it brings no immediate benefits, scientific research which advances the frontiers of knowledge is necessary and should be supported by the Government.”</i></p>	<p><i>“What people like me think will make no difference to the Government.”</i></p> <p><i>“Science is getting out of control and there is nothing we can do to stop it.”</i></p> <p><i>“The speed of development in science and technology means that it cannot be properly controlled by Government.”</i></p>	Relatively well off, well-educated, middle aged, equally balanced between men and women.
Concerned	<p><i>“It is important that young people have a grasp of science and technology”</i></p> <p><i>“Science is getting out of control and there is nothing we can do to stop it”</i></p> <p><i>“Scientists seem to be trying new things without stopping to think about the risks.”</i></p>	<p><i>“The benefits of science are greater than the harmful effects.”</i></p> <p><i>“Because of science engineering and technology there will be more opportunities for the next generation.”</i></p>	This is the most female of all the clusters, 60% are female. Their social grade, household income and education levels tend to mirror the population as a whole.
Not Sure⁶	<p><i>“I am not interested in science and don’t see why I should be.”</i></p> <p><i>“I don’t understand the point of all the science being done today”.</i></p>	<p><i>“Science and technology are making our lives healthier, easier and more comfortable.”</i></p> <p><i>“Science is such a big part of our lives that we should take an interest.”</i></p>	Tend to have the lowest household incomes, the lowest level of education and to fall into social grades D and E (unskilled manual workers and those wholly dependent on state benefits). Most likely to have young children.
Technophiles	<p><i>“Because of science, engineering and technology there will be more opportunities for the next generation.”</i></p> <p><i>“It is important to know about science in my daily life.”</i></p>	<p><i>“The achievements of science are overrated.”</i></p> <p><i>“I am not interested in science and don’t see why I should be.”</i></p> <p><i>“Politicians support science for the good of the country.”</i></p>	Best educated in science, this largely ABC1 group is 55% male and tends to be in their thirties, likely to have children aged between five and ten.
Supporters	<p><i>“Science and technology are making our lives healthier, easier and more comfortable.”</i></p> <p><i>“Politicians support science for the good of the country.”</i></p>	<p><i>“I am not interested in science and don’t see why I should be.”</i></p> <p><i>“The achievements of science are overrated.”</i></p>	This relatively young group’s social grade, household income and education levels tend to mirror the population as a whole.
Not for Me	<p><i>“Because of science, engineering and technology there will be more opportunities for the next generation.”</i></p> <p><i>“I don’t understand the point of all the science being done today”.</i></p>	<p><i>“It is important to know about science in my daily life.”</i></p>	Over three-quarters have no science qualifications. Half are 65 or over. Just over a quarter are social class E otherwise they are more likely to be social grade C2 (skilled manual workers) than the average.

⁶ The response “Don’t know” or “neither agree nor disagree” tends to dominate this groups responses reflecting their unformed views on science and scientists.

Table 2 The “Science and the Public” groups – where to find them and how to reach them

Name of Group	7 Places/events more likely to visit	Places/events less likely to visit	Media used
Confident Believers	Cinema, historic house or garden, visitor centre, museum or science centre.	Art gallery, zoo, theme park.	Most likely to read a broadsheet, but still only 19% read a daily broadsheet regularly, compared to 45% who read a tabloid. Almost a third do not regularly read a daily paper. Watch “moderate” amounts of TV and are more likely to watch “heavyweight programming” than most of the other groups. Least likely group not to listen to the radio, but listening hours quite short. Above average access to the Internet.
Concerned	Cinema, visitor centre, historic house or garden, theatre.	Concert/opera, art gallery, zoo.	Moderate TV watchers, but most likely to watch BBC2. Broadly average levels of newspaper readership 4:1 ratio of tabloid to broadsheet readership. Average levels of Internet access and usage. A fifth of this group reads the Daily Mail, compared to 15% of the population.
Not Sure	Cinema, theme park, sporting event, zoo.	Meeting/debate, lecture/talk, art gallery, museum or science centre.	Relatively high levels of TV watched, dominated by ITV (most watched channel by 50% of the group). Below average radio usage, which is dominated by music stations. One of the least likely groups to regularly read a broadsheet (6%) but 57% regularly read a tabloid paper. Very low levels of Internet access (20%) and usage (15%).
Technophiles	Cinema, visitor centre, museum or science centre, visitor centre, historic house or garden.	Meeting/debate, art gallery, zoo.	Low levels of TV watching, with much lower than average levels of ITV watched. Least likely to read a daily newspaper (40% do not regularly read a daily paper) 3:1 ratio of tabloid to broadsheet readership. Highest levels of Internet access (47%) and usage (38%).
Supporters	Cinema, visitor centre, theme park, historic house or garden.	Art gallery, meeting/debate, zoo.	Most likely to read a daily paper (only 27% do not regularly read a paper). Tabloids dominate by 6:1. Average levels of TV watched with viewing habits mirroring national average. Average levels of Internet access and usage.
Not for Me	Cinema, historic house or garden.	Lecture/talk, meeting/debate, art gallery, concert/opera.	Highest levels of TV watched 25% watch more than 36 hours per week. Most likely group to not listen to the radio (23% do not listen to the radio at all). Slightly higher than average readership of a daily paper, tabloids dominate by 14:1. Lowest levels of Internet access (12%) and usage (8%).

Guidelines

What is important is that you have given serious thought to **who** the desired audience is and **why** you wish to attract this specific group of people. In making the final decision on the target audience for an event, your professional judgement is important, but there are some useful broad guidelines that can help even the most experienced communicator to reflect on the most appropriate audience for an event.

1. The more tightly focused the target audience, the smaller the pool of people available.
2. The more tightly focused the target audience, the easier it will be to find ways of communicating with them.
3. The more tightly focused the target audience, the more likely it is that they will be comfortable as a group and more confident about actively participating in dialogue style activities.
4. Having audience members with different backgrounds and experiences can help to open up areas of discussion. However, this is generally less effective if there is a large majority of audience members with one perspective.
5. Research with potential members of the audience in advance will indicate the level of technical detail that they require or are comfortable with.

Examples

1. **You are planning a public event as part of Science Week.** The desired audience may include:
 - o Members of the public with an interest in, or concern about, the scientific subject;
 - o Local schools or colleges to support science teaching; or
 - o Local organisations with an interest in, or concern about, the scientific subject in question.

The hardest of these audiences to identify will be the first as they are likely to be spread within a community. However thinking about whether there are specific types of people that you want to attract will help you to build your strategy. Do you want people who are interested and positively supportive or people who are concerned, whose fears you want to hear and understand?

To get people to participate you must first attract their interest. Don't forget that few people are likely to find the subject as inherently interesting as you do, indeed many will not find it interesting at all. So what are the angles that you can use to spark people's interest? Are they potential beneficiaries of a new product or process or are they likely to be worried about the implications of your work? What is it that might lift this activity above the mass of news, issues and events that each of us encounter on a daily basis in addition to the basic tasks of running our lives, jobs and households? The attitude groups will help you to identify the sorts of people who are more or less likely to be either interested or concerned.

Schools and colleges are much easier to identify, as are local organisations. For adults you are unlikely to know the levels of background knowledge that people bring with them, so identifying the right level of technical content could be an issue.

For schools and colleges early discussion with teachers will give you a simple practical way of establishing the appropriate level. Teachers can also help you to develop methods of communication that are appropriate for their students.

2. Your laboratory is planning to hold an open day for the local community.

The desired audience is likely to include:

- Members of the public with links to the institution, such as family members of researchers.
- Local schools or colleges that may want to demonstrate the nature of scientific careers; and
- Members of the public with an interest in the scientific subject;

The easiest audience to identify and by far the easiest for you to reach, is those members of the community with a personal link to the institution, these might also be the most interested. The opportunity to actively involve your colleagues in the process of identifying and recruiting the audience should not be wasted. Depending on the aims of your event, linking to local education providers might be an important way of building your audience. It will be crucial that you talk to teachers to identify what will be of most use to them and then make sure that your marketing literature communicates the fact that you are addressing teachers' needs.

Looking more broadly into the community, it may well be that for publicly funded bodies, the principal reason for wanting to attract visitors is to meet a transparency requirement. Stating that the purpose of the event is to show what goes on, might be used as a way of attracting people who are sceptical or cynical of the work carried out at your institution.

3. You are developing a consultation to identify major priorities for a new scientific programme. The desired audience is likely to be those people with an interest in the programme, its management and the results it will yield. This will include:

- Researchers
- Potential funding partners
- Commercial users of research
- Interested lobby groups
- Policy users of research

It is likely that most of these people will be well known to you and that the methods of reaching them well established, so the disparate nature of the potential participants will not prevent targeted invitations from reaching intended participants. In addition you can anticipate that all of these groups will have a common basic understanding of the subject, although different levels of expertise. This will provide a starting point for briefing speakers on the "level" of the content of any presentations.

Increasingly it is also becoming important to establish the views of the general public. You cannot make the same assumptions about level of background knowledge and eliciting responses from people outside of the traditional "stakeholder" environment

will be more difficult. The most cost effective way to add public views to the mix is to use one or more of the research-based techniques described in chapter 6.

Organiser's checklist

- What is the purpose of the consultation?
- Who *needs* to be present?
- Who else would you *like* be present?
- What level of technical content is required for different sections of the audience?
- Have you researched whether your target audiences are likely to respond?
- Do you know why your target audiences are likely to respond?
Understanding their interests and perspectives will help you to develop the content of the any presentations or papers.

4. Marketing and publicity

Background

This chapter might equally be entitled “methods of recruiting/attracting audiences”. Having decided what you want to achieve and who you need to have present in order to achieve it, the next step is making sure that the right people firstly know about your activity and more importantly engage with it.

There are three basic tools available for attracting audiences:

- Free publicity;
- Paid publicity; and
- Direct recruitment.

Free publicity is achieved by promoting activities using available media to attract people’s attention. The most common tool here is the press release to attract media coverage. Drafting press releases that result in coverage rather than being “spike fodder” is an art, but fortunately there are people who can help you with this and some suggestions are offered in the “Useful Contacts” section of this guide. Targeting the right media is important, don’t target the national press for a local event and think about the timing of your releases. If the purpose is to encourage people to attend an event you want coverage in advance and with details of the event. Think about what makes your forthcoming event newsworthy and make your pitch accordingly. Personal contacts are important and if you don’t personally know people in the media you want to target, see if there are others in your organisation that do. If you are funded by one of the Research Councils, their communication team may well be able to help.

There are also other avenues that might provide free (or very cheap) ways of attracting people, for example posters in local shops, village or community notice boards or distributing handouts.

Paid publicity is essentially advertising, but the myriad of media avenues currently available, again means that targeting is important, as are the constraints associated with cost. In terms of targeting, the medium that you use has to be one that reaches your target audience. If you cannot afford to buy space in the right medium, it is better not to use any paid publicity than simply buy what you can afford. This approach is unlikely to be suitable for the majority of events run on small budgets, where it is likely to be more effective to spend time in trying to get free coverage and money on direct recruitment.

Direct recruitment consists of specifically targeting people that you want to participate and attempting to proactively recruit them. The most common method of direct recruitment is to write to people with personal invitations. The success of this method varies greatly and the degree to which the invitation is genuinely personal is a factor. We all know that the latest “pre-approved application” for a credit card is not at all personal, but an invitation to take part in an activity on a subject in which we have an interest and a contribution to offer is much more likely to attract our attention. So try to think from the recipient’s perspective, make sure that the invitation is relevant to them, that it is sent sufficiently in advance to give time for busy people to plan their

diaries (approximately six weeks is a useful rule of thumb) and has an easy mechanism for replying.

A staged approach may be helpful, this might consist of an initial contact allowing people to express an interest followed by a more detailed contact that seeks to confirm attendance. This is one way to achieve more personal interaction with people that are interested in your activity, while not expending large amounts of resource on those who are less interested. Mixing media can be helpful and while it can be time-consuming, telephone contact has the benefit of achieving direct personal contact.

An alternative method of direct recruitment is to use agencies to recruit people to match specific profiles. This is very common in market research and the basic principles apply equally well to any situation where particular types of attendee are required. Using recruitment companies can be very effective, but is likely to be costly, with the cost becoming greater as the recruitment criteria become more demanding. The charges of a recruitment agency could range from a few tens of pounds per person to well over a hundred pounds per person. They will often expect that a financial incentive will also be offered to the participants being recruited as discussed below. The Market Research Society's "Research Buyer's Guide" includes a listing of recruitment agencies. This can be accessed on the Internet at:

www.rbg.org.uk/recruitment_agencies.htm

Recruitment agencies can recruit to any profile you set, including mixtures of all the possible audiences identified in chapter three. However the more complex the profile that you set and the more minority groups that you want to reach then the more it will cost. For example the Concerned are only 13% of the population and will thus be harder to find than say "men of any age" who form 50% of the population.

Going to this sort of trouble and expense to find an audience is probably only worth it if you explicitly want certain people's views on specific issues. For more general events traditional marketing will probably suffice.

Underpinning any recruitment process are the **incentives** that provide a reason for people to attend. The incentive you offer can again vary according to the nature of your activity and how much you want specific people to attend. The cheapest incentive is the motivation that individuals have to participate based on their own interest in a subject. For many science communication events this will be the only incentive on offer, so it should be maximised. Explain what people will get from the event and **how it is relevant to them**. The science itself may be fascinating for you and your colleagues, but it is far more likely to be the impact on people's lives that will excite the non-specialist audience's interest.

A further incentive may **the opportunity to shape or influence a decision** and the attraction of this can be substantial, however do not promise what you cannot deliver. Make sure that if you are asking people for ideas on a way forward that there is a process to incorporate these views and that you have a feedback mechanism to let them know how their input was used. The **opportunity to network and build contacts** can also be an important intangible incentive and if this is likely to be a feature of your activity remember to emphasise this.

It is also possible to offer incentives based on a **tangible reward** of some description. This may be the free pen with which people take notes or fill in a questionnaire, or some similar small gift, membership of, or access to, something that would otherwise be unavailable or cost money. Another tangible reward is of course remuneration. The latter is only likely to be relevant when you either want someone, or a specific type of person enough to either pay them or pay their expenses, however it may be that attracting that person or group is fundamental to achieving your objectives.

The market research world is one where it is standard practice to offer a **financial incentive** to people to participate in some kinds of activities. Again, costs vary according to the difficulty of attracting different types of people and can range from tens to hundreds of pounds. All public sector organisations need to be aware that there are guidelines set out by the Cabinet Office on the use of incentives in “*Guidance on Government Research into Public Attitudes and Opinions*”, these are available on the Cabinet Office web site at:

www.cabinet-office.gov.uk/central/2000/guidance_on_government_research_attitudes.htm

Guidelines

Assembling the audience is one of the most important parts of constructing any activity and you should allow sufficient time and resources for this task.

1. Don't assume that people are intrinsically interested in your subject.
2. Identify what it is about the subject that might be important for the audience you are targeting. Try to see it from their point of view. Some research, even if only with family or friends, will help.
3. Be clear about the role that participants are expected to play in the activity.
4. Make sure that you have identified ways of getting invitations to the people you want with enough time for them to be able to find space in their diary.
5. Make replying easy and provide confirmation to people of their participation and any information they need prior to the activity.
6. Decide whether you need to provide any tangible incentives to participants and make sure that these are appropriate for the target audience.
7. Think about whether or not the venue is suitable for the target audience. For example, some people might be intimidated by certain venues.

Examples

1. **You are planning a public event as part of Science Week.** The desired audience includes:
 - Members of the public with an interest in, or concern about, the science undertaken
 - Local schools or colleges to support science teaching
 - Local organisations with an interest in, or concern about, the science undertaken
2. **Your laboratory is planning to hold an open day for the local community.** The desired audience includes:

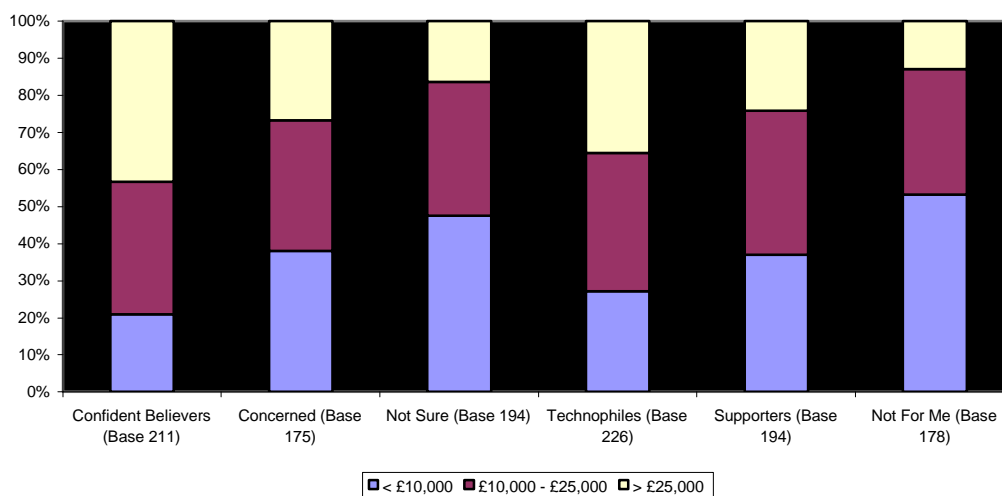
- Members of the public with links to the institution, such as family members of researchers
- Local schools or colleges that may want to demonstrate the nature of scientific careers
- Members of the public with an interest in the science undertaken

It is worth considering these two examples together as they have common features. While “**members of the public with an interest...**” provides the largest potential pool of attendees, they are also likely to be the hardest to reach and the most difficult to motivate to participate. These are the people for whom free publicity is your most important tool in trying to reach them. When generating this material try to think through what it is that is most likely to attract people’s attention. Doing some research, even if it is only with friends, family or colleagues who do not work in the same field as you will help. It might be the possible benefits that the science is delivering or it could be that it raises important questions about its impact on society and the decisions that people make about lifestyles.

It is probably not appropriate to think in terms of using financial incentives to attract this group, although the provision of small gifts or “goodie bags” for people to take away is a method of helping people to remember the event afterwards. Offering an incentive via local media, for example offering the local paper a number of “Free tickets” for the first batch of their readers who contact you is one way of attracting publicity.

Bear in mind that some sections of society are inherently more difficult to engage than others, this might be due to lack of interest, lack of time or lack of confidence, factors that may often be linked. In “*Science and the Public*” it is demonstrated that the two groups professing themselves to be the least interested in science and science-based issues, the Not for Mes and the Not Sures have markedly lower than average incomes. Figure 1 shows that just under 50% of the Not Sures and just over 50% of the Not for Mes have household incomes of less than £10,000. According to the Office of National Statistics “*Family Spending*” report 2000-2001, the average income in the UK is currently £26,000 per annum.

Figure 1 Incomes of the six attitudinal groups



Engaging these groups is going to be difficult because for many of them, their lifestyles are seriously constrained by their income. This does not mean that you should not try to reach them. Indeed the Not Sures show many of the characteristics associated with people described as socially excluded and there are specific regeneration initiatives that may help you to reach them. Your local authority may be able to help you identify some of these regeneration initiatives. At a national level, the Neighbourhood Renewal Unit www.neighbourhood.dtlr.gov.uk or the social exclusion unit in the Cabinet Office www.cabinet-office.gov.uk/seu may also be helpful sources of information.

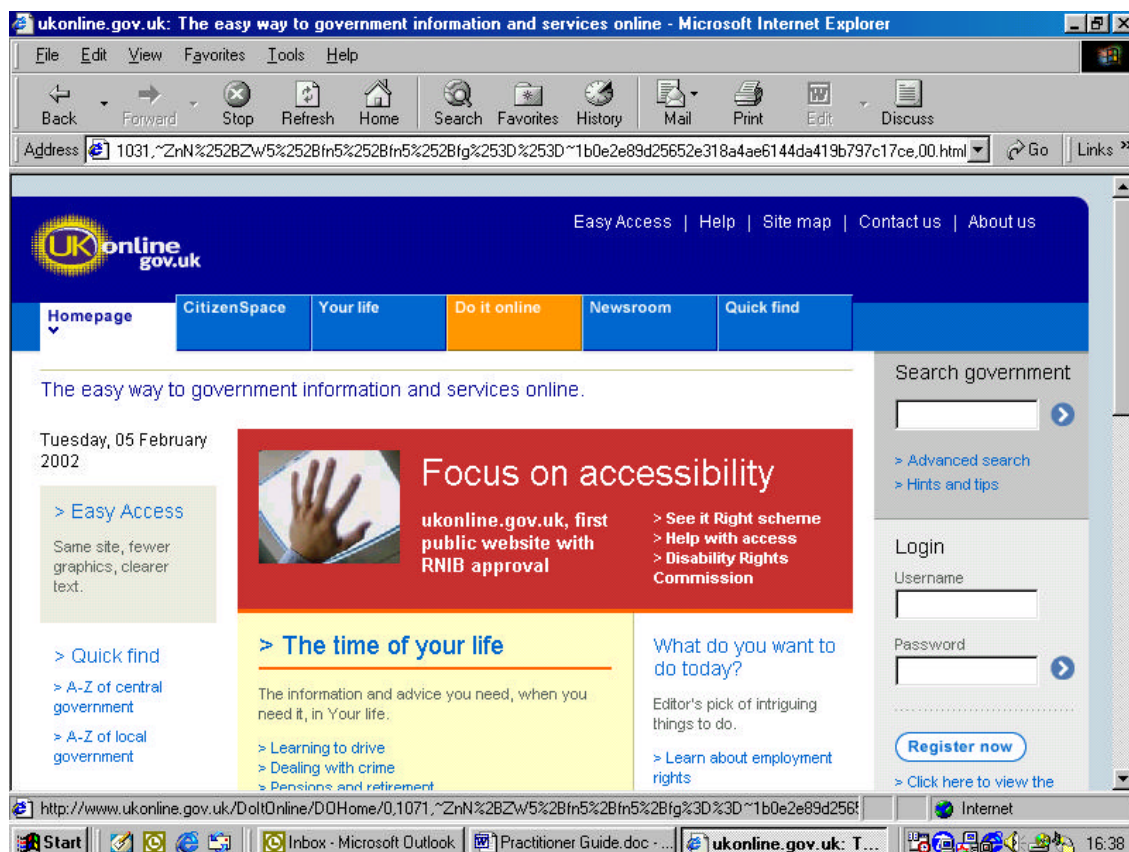
Considering the open day example, it is vital to engage your own colleagues, as they will play a number of important roles. They know the questions that people ask of them so they can help you construct a programme that addresses these questions. They will play a crucial part in providing resources to make the day work. Perhaps most importantly they are also able to play a major role in promoting the event through their friends, families and social groups.

It is quite likely that organised groups will be a relatively efficient way of attracting the audience you want and nowadays it is possible to do a good deal of initial research and planning using the Internet.

Dealing first with schools, it is quite straightforward to identify local schools, using Government Internet resources. The gateway site is:

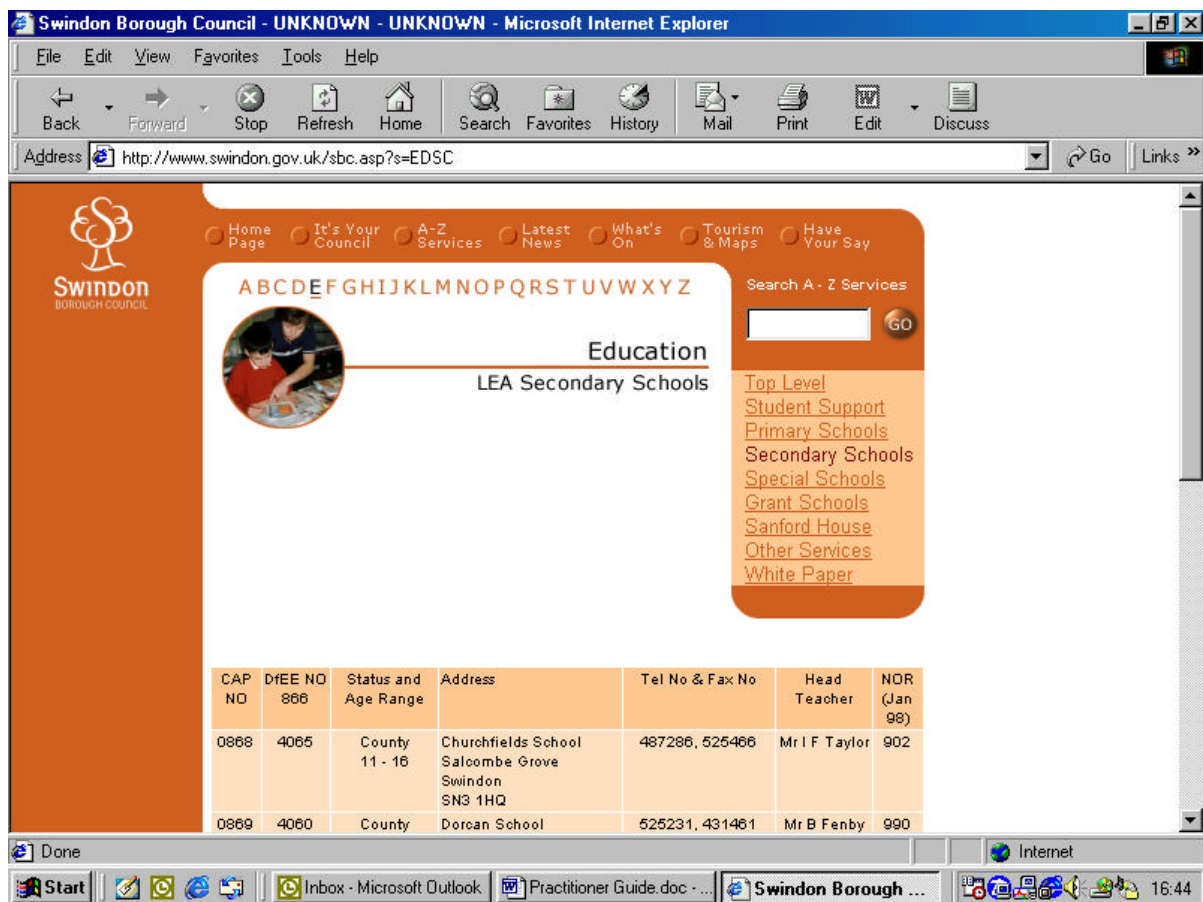
www.ukonline.gov.uk

Figure 2 UKOnline web site



On the homepage (shown above) is a fast link to an A-Z directory of local Government, which leads to an alphabetical listing of local authority websites for information about council and community services. Your local council site should contain information about local schools. The picture below shows an extract from the Swindon Borough Council site as an example. This site gives information on the types of schools in the locality; their addresses, telephone numbers, head teachers and numbers enrolled and this is typical of the sort of data available.

Figure 3 Education page from Swindon Borough Council web site



Before starting to contact individual schools and colleges, remember that the data on the website may not be up to date. A sensible first step is to ring the school and ask for help in identifying a named contact with whom you can work. In the first instance this may well be the head teacher or the head of the appropriate department, be it science, maths or design and technology. Ideally, if the school audience is likely to be a major part of the overall audience, you should try to identify a local teacher who can advise you on ensuring that the event is relevant to the needs of teachers and pupils and supports the curriculum.

A head teacher that we talked to during this project advised that the practical mechanics of initial contact are very important. Cold leafleting has to be very good if it is to attract attention, most will not. Equally cold telephone calls will usually receive the response "can you send me some more details?" Time available for telephone calls

is very limited and constrained by teaching duties to the break periods. The best method would be an initial call to briefly explain the event with an offer to post printed material (to a named recipient agreed in the call). The printed material should arrive within a week of the initial call and within another week, there should be a follow up call. This is a clear indication to the teacher that you are interested and willing to make time available to meet the teacher's needs. The focus should be on **what** the talk is going to cover and **how** it will be relevant to the curriculum. Think of them as your customers – they will see you as providing a service to them, however keen they are to work with you.

The location of the event might be an important factor affecting the ability of schools to attend the talk and you should explore the limitations that timetabling sets with the individual school. Transport might well be a factor and the offer to pay for coaches if necessary may be a significant incentive in attracting schools. Schools in deprived areas may well be short of resources and parents unable to subsidise costs. Schools in these areas are generally less likely to take part in activities, so any tangible support that you can give them will be welcome.

Local organisations and societies might provide ready-made routes to access people who would find your event of interest. Try using web searches to identify “what’s on” sites and local directories. From these you will be able to construct relevant lists of local organisations, for example hobby-based clubs such as astronomical or conservation societies or groups that have a wider general interest agendas, but include talks on topical issues in their regular programme of events.

Remember that national organisations are likely to have their own web-sites that will give you details of local branches. For example:

www.roundtable.org.uk; and
www.womens-institute.co.uk

A similar approach to that recommended for schools i.e. telephoning a key contact such as the secretary of a club followed up with written material, is a sensible way to build contacts with these organisations. Again, it is not likely to be appropriate to offer significant financial incentives to local organisations, but offering a special deal for parties such as a guaranteed number of tickets in exchange for an early confirmation might be a way of developing a partnership arrangement that gives the other organisation a stake in supporting the success of the venture. A different option is to offer to go to them, if it is an organisation that holds regular events of its own.

The local authority is also a potentially valuable partner. Increasingly the economic development teams in local authorities are looking to highlight a locality's expertise in science and technology as part of promoting the area more widely or underpinning regeneration activity.

Often economic development teams will hold a great deal of background information on a locality that will help you to better understand the likely audiences. This information is likely to include regional figures for employment, average income and qualifications as well as information about major employers and industrial sectors that are important to the local economy and thus potentially of interest to local people.

You can also access economic and social data through the official UK statistics site at www.statistics.gov.uk.

With all types of partnership activities, remember that a positive initial interaction might well lead to the development of other activities, perhaps driven by the partner, that will help you to meet your goals.

3. You are developing a consultation to identify major priorities for a new scientific programme. The desired audience includes:

- Researchers
- Potential funding partners
- Commercial users of research
- Interested lobby groups
- Policy users of research
- The general public

It might be assumed that because these people are generally well known to you that the construction of an invitation list is easy, you may even have lists available from previous events. However, the simple fact that you and these audiences probably know each other well opens up new issues. It is quite likely that people like these will expect personal invitations, so it will be crucial to spend some time confirming that the contact details that you have for people are up to date. You will also want to ensure that the mix of people includes fresh faces and new perspectives, so it will be worth asking existing contacts for new nominations.

For this event the strongest motivation that people will have for attending is the potential to shape a future agenda and add to what they know. You will need to make clear at an early stage the boundaries that you are working within and the degree of freedom there is to influence the programme. You will also need to ensure that there is a mechanism in place to provide feedback to the participants. Shaping the agenda is also a strong motivator for the general public and making clear to participants in public activities how their views are feeding into your overall programme is particularly important.

Despite the incentive that shaping the agenda offers, you may decide that there are some people without whom the event cannot work, for these people you may need to offer additional incentives such as expenses or even a fee. This will require careful consideration as it is unlikely that you will have the resources, or desire, to pay all attendees.

Organiser's checklist

- Who *needs* to be present and how should you contact them?
- Who else would you *like* be present and how should you contact them?
- Have you confirmed the resources (people and budget) that are available for putting this event together?
- Have you developed your strategy for achieving free publicity?
- Have you developed your strategy for direct recruitment?
- Have you identified and contacted key partners?

- Have you constructed an invitation list? Remember this needs to be larger than the final audience that you are expecting.
- Have you developed your invitation and publicity material, and if possible tested it with the target audiences?
- Have you set a deadline for responses that will allow you to gauge the likely size of the final audience so that you can assess whether the domestic arrangements such as the size of the room(s), number of staff available or amount of refreshments need modifying? This is useful even for open meetings where most people will accept that it is a matter of courtesy to indicate that they intend to attend. Remember that drop-outs are more likely for free events.
- Have you briefed speakers and other participants from your organisation (or sub-contractors) on what you want them to cover, the make-up of the audience, any particular needs of the audience and, most importantly, your objectives?

5. Ways of encouraging dialogue within traditional formats

Background

The emergence of “dialogue” as a critical feature of science communication has led to the suggestion that traditional avenues of communication are outdated and of little use. This is not the case at all. Dialogue simply needs to be given the time and space to develop and this can easily be done within the most traditional of formats.

A straight public lecture is probably going to be a monologue event. A lecture with questions however, is starting to build a dialogue. Further down the dialogue path is a talk where not only questions, but comments are invited. Moving further still, an event could be constructed where one or more speakers introduce a topic and associated issues or perspectives. The “audience” then breaks up into small groups to discuss the topic and build lists of comments and questions that are shared with everyone else and to which the speaker(s) respond. An event that is basically still a talk is now generating significant amounts of dialogue.

The critical thing in promoting dialogue is providing not only the time for “audience” participation, but using techniques that positively encourage it and providing information that supports it. It is relatively easy to turn a straight talk into an activity that promotes dialogue, and there are a number of ways of encouraging widespread participation:

- Maximising the time available for audience participation.
- Using questions and answers to aid clarification, but also give the “audience” time for discussion amongst themselves.
- Using small groups to encourage discussion, some people won’t talk in a big group. These groups can be constructed in a number of ways. You might put similar people together to encourage them to explore the issues in depth from a number of perspectives. Alternatively you might create mixed groups to give people exposure to different viewpoints.
- In a longer event, perhaps half a day or a full day, you might have people changing groups to encourage even wider mixing of ideas and debate.
- Even within small groups, conversation can be dominated by strong personalities. You might choose to use moderators to ensure that everyone within the group gets the chance to participate. This can also be a reason to have people changing groups during the day.
- Simple IT resources such as PowerPoint allow the rapid collection and subsequent presentation of key points and questions from the different groups. Feedback, comments and questions can either be presented by group members or your moderators if the group members are not comfortable doing so.
- Conclude with an opportunity for people to provide final written comments. You can also use this to gather information about your audience. This is a critical part of evaluation and we will discuss this further in chapter seven.

The same principles of “time and space” apply to other activities just as much as talks. A dialogue is a conversation or discourse between two or more persons, thus a dialogue can take place in writing, which opens up the possibility of conversations

held publicly in the written media for example in newspapers and this can easily be extended into the virtual environment, where “chat rooms” or “discussion fora” are ways of constructing the freedom for dialogue. You can choose to have these electronic groups moderated or not depending upon your objectives.

You can use written or visual material to promote dialogue in many ways, posters in a shopping centre accompanied by feedback/comment forms are a way of having dialogue with many more individuals than you might manage through the small number of scientific staff able to be present and hold conversations in person. You might also use your own newsletters or other publications to publish a “think piece” and provide feedback mechanisms for people to respond and thus start a conversation. This will also stimulate wider dialogue within the community.

It is possible to use relatively simple ways of representing material to open up discussions of technical issues. One often quoted example is the material used by The Wellcome Trust in its “Public Perspectives on Human Cloning” project details of which are available from www.wellcome.ac.uk/en/1/awtpubrepcln.html. The Office of Science and Technology took a similar approach in “The Public Consultation on Developments in the Biosciences” copies of which can be obtained by calling 020 7215 5658.

For different groups of people it will be important to identify the best ways to both introduce background material and allow them to make their contributions. For example the relatively high levels of educational attainment amongst the Confident Believers and the Technophiles might mean that reasonably wordy written documents are an appropriate way for them to receive information. To counter the low levels of self-confidence amongst the Not Sures and the Not for Mes, it might be appropriate to construct activities specifically for them. The aim of these activities would be to provide a supportive environment to encourage these people to contribute and emphasising how these contributions would be valued and used will play a part in creating this environment.

An important thing to bear in mind about all of these ways of stimulating dialogue is to consider how you might collect and analyse the views that you stimulate and gather. In annex 1 we say that “*dialogue may not lead anywhere in terms of decision-making*”. However, you might think that elements of the conversation should be brought to the attention of other people within your organisation. If this is likely to be the case, consider the resources that you will need to analyse the conversations/feedback. As in chapter four, the market research world is experienced at gathering, coding and analysing data of this sort and again taking initial advice from this quarter may help to save resources in the long term. The Market Research Society’s Research buyer’s Guide can be accessed on line at:

www.rbg.org.uk

Guidelines

1. Ensure that your agenda/timetable has time in it for active participation by the audience.

2. If you are running a large-scale meeting consider breaking the audience up into small groups, people are generally more comfortable about contributing to discussions in small groups and the levels of participation and discussion should improve.
3. Think about the make-up of the smaller groups, do you want like with like or do you want to mix people or perhaps do both at different stages?
4. If you have the resources, provide moderators or facilitators to help everyone to contribute.
5. Build feedback mechanisms that allow participants to contribute their own views and comments.
6. Make sure that feedback mechanisms provide enough time for participants to reflect on other's contributions. This applies just as much to written and virtual dialogue activities as to meetings.
7. For written or virtual activities make contributing as easy as possible and provide clear instructions on how to participate.
8. Ensure that you have mechanisms in place for capturing and analysing the discussion/feedback.

Examples

1. You are planning a public event as part of Science Week.

There are many possible formats for a science week event but it is possible to build opportunities for dialogue into all of them.

We have discussed talks at some length above, but other possible activities are exhibitions, hands-on activities and debates amongst others. All of these offer the potential for direct spoken dialogue between attendees and you or any of your colleagues who are there. However you can also use feedback/comment forms to gather extra information and you can structure activities such that you include open forum sessions, where attendees are invited to offer their comments and opinions.

As well as encouraging reactive dialogue, you could also seek to bring the audience's views into the planning of the event's structure. One option is to ask participant's to send in questions and comments in advance.

2. Your laboratory is planning to hold an open day for the local community.

This type of event offers the opportunity to use a very wide range of techniques to stimulate dialogue and feedback. You might include talks and demonstrations that lead in to discussions about the science and its implications. While you might include some large-scale events, the potential to have a number of smaller activities is often more likely to encourage people to talk. You can also stimulate written feedback (either using pen and paper or IT) that might be used to capture initial views and build longer-term conversations. If resources permit you might also use video technology to capture instant comments.

A situation like an open day offers so many chances to initiate dialogue that the important question you need to think about is how you best deploy the resources you have available both on the day and in planning and later analysis. The resources will include people, equipment and venues and all of these will have their own constraints.

The judgement that you have to make is which techniques are going to be most likely to encourage participation by the different audiences you have assembled. So you might expect young people to be comfortable using IT whereas older people may be happier using written mechanisms. If you have groups visiting then members of the group may be more comfortable about speaking publicly within the group rather than as part of the larger audience.

3. You are developing a consultation to identify major priorities for a new scientific programme

An event like this is bordering on formal consultation, so the critical things to achieve here are the full, active and considered participation of all the audience. Using the techniques described in example one above will maximise the amount of dialogue achieved on the day. However in addition to this it is likely to be important to back up the event with further opportunities for participants to contribute, probably in writing or using e-mail. This will allow considered discussion as well as the more immediate conversations that you will generate on the day.

It will also be important to build feedback mechanisms that will communicate the outcomes of the conversations to the participants. You must communicate at the outset of the meeting the role it will play in the decision-making process and then subsequently demonstrate to people how this has been achieved. It is only through this sort of transparency that you will be able to engage people in similar sorts of activities again in the future.

Organiser's checklist

- Have you constructed a timetable/agenda that gives time for two-way exchanges?
- Will it be necessary to sub-divide participants to maximise the opportunities for individuals to contribute?
- Have you got the resources available for break out rooms and/or moderators at a meeting?
- Have you got the resources to moderate Internet discussions?
- Have you got the resources to cope with a written dialogue or to analyse feedback/comment forms?
- Have you matched the techniques that you are going to use to the resources available?
- Have you planned how you will use the results of your activity?

6. Strengths and weaknesses of existing techniques

Background

In chapter five we explored ways of building dialogue into traditional formats. There are however a number of methods that have been specifically developed, within market and social research, to support consultation and dialogue. A number of techniques are described in detail in “*Practical guidelines for developing public dialogue – Policy report*”, within this guide tables 3, 4 and 5 summarise the key features.

Guidelines

The tables talk in general terms about how you might use different techniques for different purposes. Ultimately your judgement will play an important part in deciding whether or not to employ one or more of them. The underlying principle is to identify what you want to achieve from an activity and then select the method (or combination of methods) that is most likely to allow you to achieve this, within your resource constraints.

Table 3 briefly describes the selected techniques.

Table 4 looks at audiences and whether or not the methodologies are suitable for different audiences and purposes. For example, the most important thing might be to have an audience that is nationally representative, this will immediately mean that certain options are excluded. Alternatively it may be far more important to you to have an in-depth understanding of the attitudes, concerns and hopes of a certain group of professionals, again this will narrow down your choices of method.

Table 5 gives some broad indications of the scale of different techniques and cost. For any major investment, competitive tendering will help you to establish the most cost effective solution.

All the different methodologies are in theory applicable to discussions about any branch of science or engineering. That said the effectiveness of some methods will depend upon the background knowledge of participants and the degree to which the subject is a “hot” or contentious issue. The Research Council brief for this project proposed the following “rough classification” of issues:

- Funding policies and priorities for research;
- Controversial issues in the public domain;
- Less contentious issues, but important to society;
- Issues with a high scientific interest, but public unaware or not interested;
- Important areas of science and expensive, but public unaware of applications or benefits;
- Issues attracting high public interest, but not very contentious,
- Not contentious at present, but may become so in future;
- Hot news items with underpinning science.

We suggest that this initial classification can be built into a scale according to whether or not a topic is controversial and in the public domain as follows:

1. Issues that are currently causing public controversy;
2. Issues with a clear potential to cause public controversy;
3. Issues where the impact on society is not yet established; and
4. Issues that are interesting but not controversial.

At the top of the scale we can clearly recognise the “hot topic”, possibly identified by the fact that it is being covered in the news sections of the papers and on the TV or radio news. Addressing these topics is one way of providing a valve for people to express themselves and their hopes and concerns.

The next broad category includes issues where scientists might well know that there is the potential for significant controversy. For example, a current technology may be considered to be extremely useful but emerging research might suggest unforeseen problems or a subject that is definitely contentious is currently too far from realisation for most members of the public to be concerned about it. It is important to have dialogue activities addressing these issues, as they will help to build mutual understanding that might ultimately lessen any controversy that does erupt. It will be important to identify places that information gathered in these sorts of activities are fed in to appropriate policy fora. You might want to pass information on to appropriate managers, funders (such as Research Councils) or Government departments to help them better understand the potential response to emerging issues.

The third category is one where horizon scanning and scenario development will be important parts of underpinning conversations. It will be hard to engage public audiences in issues like this that might not seem real.

The final category may initially seem unsuitable for communication based on dialogue, “if there is no controversy, what is there to discuss?” This perspective however misses the point that simply because there is no controversy does not mean that people have nothing to say.

Where an individual topic sits within this scale will naturally vary over time and can move quickly. At the time of writing, vaccines sit firmly in the first category, yet two months ago would have been in the second. Nanotechnology probably sits in the third category, yet a breakthrough in miniaturised robotics could shift into any of the other categories depending on the nature of the breakthrough. The role and future of “big science” is likely to oscillate between the third and fourth categories unless there are major concerns being raised over public spending priorities, in which case it may well move.

The Research Councils have devoted effort to identifying issues of existing and emerging concern and will be able to offer advice on where a particular scientific topic might sit at any given time within this schema. Underpinning all of these areas is the critical issue of developing long-term strategy and funding decisions.

Do not be seduced by the feeling that to be worthwhile an activity has to be at the cutting edge of science, science policy or at the forefront of controversy. The aim of “promoting an awareness of science as part of the fabric of society” will rely on a steady stream of activities focusing on topics that come into the fourth category above and this should not be neglected.

For many of the techniques highlighted in this chapter you are unlikely to have the expertise to run these sorts of activities yourself. Theatre meetings, web discussions and written consultations are the likely exceptions. If you are contracting work out then **competitive tendering** is a very useful tool that is available to you. We have mentioned competitive tendering in connection with establishing a cost effective solution, but it can also play an important role in helping you to identify the most appropriate techniques for a given activity. You could take the approach of stipulating the outputs you require (as discussed in chapter two) and outlining any constraints such as budget, timetable and the need to provide background information to both the sub-contractor and participants and let bidders suggest appropriate methodologies.

The bidders are likely to have more experience in the use of some of the techniques and be practised at refining or mixing techniques to yield the outputs that you want. The competitive process may well give you different options to compare, with background arguments as to their relative merits. This information could leave you in a much stronger position to decide the methodology that you think is right for your specific situation.

There are number of places where you will be able to identify potential sub-contractors we have already mentioned the Market Research Society handbook, another useful reference work is “*Open Channels*” published by the Parliamentary Office of Science and Technology. This is report No. 153 and can be obtained through www.parliament.uk/post/report.htm.

Examples

The flowchart at figure 4 explores the applicability of the different techniques for these different categories. It is important to recognise that public awareness of an issue does not necessarily indicate public knowledge and you will need to tease apart these two factors in deciding which techniques are appropriate.

Organiser’s checklist

- Have you established your objectives?
- Have you identified the audience(s) that you want to engage with?
- Have you taken advice on the nature of your subject matter e.g. is it contentious?
- Have you identified the resources available?
- Have you used a competitive tender to explore other people’s ideas on methodology as well as to ensure best value for money?

Table 3 Summary of techniques

Technique	Summary
Theatre meetings	Meetings have traditionally been the bedrock of science communication. They can be all day events or what might be described as one-third day events, that is morning, afternoon or evening. Time of day will also colour who participates. To involve a variety of people meetings must be held in the evenings and in a range of locations, geographical and institutional. The venue will impact on the image of the meeting and the people willing to go. Universities, museums, even hotels are unfamiliar places to many people. Schools, hospitals and religious premises all come with certain images and values.
Interactive meetings	As described in chapter 5, it is relatively easy to turn a traditional monologue style of meeting into a much more interactive dialogue style by building in time and space for the audience to ask questions and state their views. Using techniques such as break-out groups and moderated table discussions can encourage greater levels of interaction.
Deliberative Polls	Deliberative polling is based on the Greek model of direct democracy and the New England town meeting, rather than representative democracy as practised in the UK. As conducted so far in the UK, a representative sample of the population is polled on a particular topic and invited to a weekend debate at a central venue. During the weekend those who attend (typically this has been about one-third of the 1,000 originally polled) are given presentations by key players in the topic and an opportunity to question them. A large part of the time is spent in small groups where debate about the issues takes place led by a qualitative researcher trained in moderation techniques. At the end of the weekend participants are polled again on the issue. In one case participants were polled several months after the deliberative event to see how, if at all, opinions had subsequently changed.
Consultative Panels	A consultative panel is an attempt to combine the need to impart information on the subject under discussion with the opportunity to debate the issue and to measure the views of participants. Panels can be large enough to allow nationally representative samples, or smaller with specific expertise according to the needs of the organisers.
Focus Groups	Discussions, loosely structured around a “topic guide” that acts as an aide memoire for the researcher, usually take place in the evening and last for between 1½ and two hours. If the group to be interviewed do not work (e.g. mothers of young children, retired people) groups may be held during the day. The most common (and cheapest) location is the recruiter’s home or that of the respondent or their place of work. Hotels are also used. Increasingly clients want to view discussions and there are a number of viewing facilities around the UK fitted with one-way mirrors to enable several people to view a group at the same time. This can be a powerful way of demonstrating to “experts” how non-specialists relate to subjects. Clients can sit-in on groups held in other types of venues but only one at a time or the dynamic of the group is affected.

Citizens' Juries	A jury is usually run on three to four consecutive days. Presentations are made and jurors are able to call for evidence from people they select, although this is usually based on a list provided by the organisers. During the time spent together, in addition to presentations and questioning those presenting information, there is considerable moderated debate. A final report is drafted by the moderator and agreed by the jurors.
Consensus Conferences	Participants meet at weekends. One or two weekends, some weeks apart are used as briefing sessions. These are held in private and allow the members time to get to grips with the issue. There is then a public phase where experts are called and questioned. The participants write the final report. Conferences tend to be run over fairly long time periods of several months.
Delphi Technique	Participants are sent a series of questionnaires. The first questionnaire asks each participant to engage in individual brainstorming so as to identify the issues and generate as many ideas as possible for dealing with the issues. The second questionnaire contains all the ideas sent in response to the first questionnaire and provides space for participants to refine each idea, to comment on the strengths and weaknesses of each idea for addressing the issue, and to identify new ideas. A third questionnaire then summarizes the input from the second questionnaire and asks for additional clarification, strengths, weaknesses, and new ideas. This stage can be repeated if it is felt necessary. The end product is a list of ideas with their concomitant strengths and weaknesses.
Multi-criteria Mapping	This is very similar to the Delphi Technique but it allows for differences between the participants and the result is a map of concerns whereby different categories of specialists concerns can be identified.
Web Discussions	Most commonly a keynote paper by someone well known in the field introduces the debate and people are invited to comment on the article or put forward their views. It is also usual to have the debate moderated in some way to stop abusive or otherwise inappropriate comments being circulated. This can be very labour intensive, particularly if a fairly instant turn round on moderated debate is required.
Written Consultations	A document is drafted by the organisers that lays out the issues and raises questions. Views are then canvassed on the document. These documents may be quite open or they may be highly structured. It is becoming increasingly common for central Government to consult in this way on draft regulations or guidelines. It is now virtually standard practice to put the consultation document on the website of the organising body.
Quantitative Surveys	The main theoretical concept behind quantitative surveys is that all respondents are asked the same question in the same way. Interviewers are therefore trained to read out the question, but not to elaborate. Great efforts should be extended to ensure that the questions are understood and elicit the required information. Major surveys pilot questionnaires to ensure this. Interviews in the UK are often conducted face-to-face and carried out in the street, on the doorstep or in-home. Street and doorstep interviews cannot last more than 10 minutes but in-home interviews can last considerably longer. A usual rule of thumb is that longer than 40 minutes will begin to affect the response rate and therefore the accuracy of true probability surveys and data quality in all surveys. Interviews can also be conducted over the telephone and by post. There are also other ways of distributing self-completion questionnaires, but to provide representative results distribution must be appropriately controlled. There are limitations and benefits to each of these approaches.

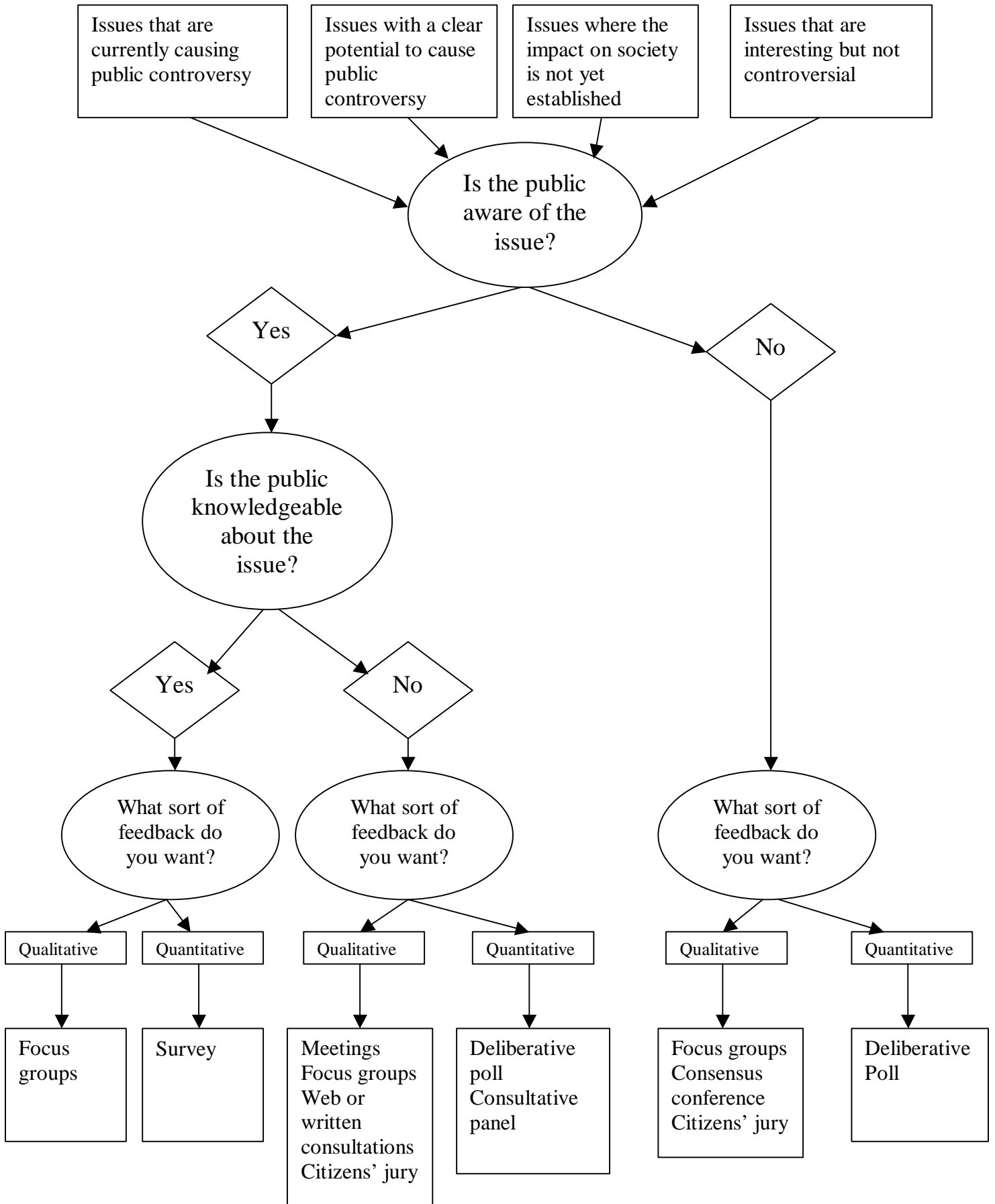
Table 4 Application of techniques for different groups

	Nationally Representative	General Population	Hard to Reach Groups	Pressure/ Interest Groups	Scientists	Policy Makers	Other Professionals
Theatre meetings		X		X	X	X	X
Interactive meetings		X	X	X	X	X	X
Deliberative Polls	X	X		X			
Consultative Panels	X	X					
Focus Groups		X	X			X	X
Citizens' Juries		X					
Consensus Conferences		X					
Delphi Technique				X	X	X	X
Multi-criteria Mapping				X	X	X	X
Web Discussions				X	X	X	X
Written Consultations				X	X	X	X
Quantitative Surveys	X	X	X	X	X	X	X

Table 5 Techniques' Scale and Costs

	Scale	Cost
Theatre meetings	About 500 people would be the maximum number that could be catered for.	Few hundred to £100,000 depending on the scale and quality of the venue.
Interactive meetings	About 500 people would be the maximum number that could be catered for.	Few hundred to £100,000 depending on the scale and quality of the venue.
Deliberative Polls	Maximum of a few hundred at an event. Over 100 needed to be in anyway representative.	In the region of £250,000 for about 300.
Consultative Panels	Maximum of 1,000. Over 100 needed to be in anyway representative.	In the region of £250,000 for 750 people.
Focus Groups	Usually 8 people in a group but can vary depending on subject. Number of groups will depend on topic. Usually at least four groups but not more than 20.	£2,000 per group of 8, but more if specific attributes are required.
Citizens' Juries	12-16 participants.	£20,000 to £25,000
Consensus Conferences	16-20 participants	£100,000 +
Delphi Technique	Not usually more than 500 but special software is needed for analysis.	£5,000 plus depending upon numbers involved and whether conducted by post or email. Considerably more if participants are to meet.
Multi-criteria Mapping	Up to about 50.	
Web Discussions	No limit but more than a few hundred would make producing a final report difficult.	Depends on the number involved, whether instant moderation is desirable, and the number of participants for the final report.
Written Consultations	No limit but if more than a few hundred responses, specialist help with coding replies is likely to be needed.	
Quantitative Surveys	A few hundred to over 10,000 for an ad hoc survey.	£30,000 plus for a sample of 1,000 depending on sampling method, numbers interviewed, length of interview and method of interviewing.

Figure 4 Identifying techniques for different topics



7. Methods of evaluating the effectiveness of dialogue events

Background

Evaluation is always said to be “very important” often described as “very difficult” and often done very poorly. The principle of evaluation is finding out whether you achieved what you set out to achieve and how well you did it. This is not difficult and the more clearly you have set your objectives at the start of the planning cycle the easier it will be to set up a system to assess whether or not you have been successful.

There are two components to evaluation, the first is assessing whether or not you achieved your objectives, this might be termed evaluating the impact of the activity. This will play an important part in justifying the resources used and possibly securing resources for future activities. The second is assessing the process and is equally important as assessing the impact. This is the part of evaluation that will help you to learn from the process of developing the activity and by so doing help you to develop future activities that give a greater impact for the resources you are using.

For the majority of smaller activities, it is entirely appropriate to manage the evaluation yourself or in-house. For some large projects the scale of the work, transparency, accountability and the fact that participants may speak more freely to someone not involved in the project, may demand an independent evaluation. However, always remember that you are the principal customer for the evaluation, its primary purpose should be to help you to improve what you do. So if you are having an external evaluation it must not be treated as something that is bolted on to your activity, but should develop alongside it, capturing information about the process as well as the outputs and outcomes. If an objective for your activity is to cause a change, be it in behaviour or attitude, remember that you will need to measure the baselines before you start.

The standard way of capturing evaluation data for most activities is some sort of questionnaire for participants and this is likely to form the core of any evaluation. You could however consider adding other information. For instance you may use a separate and more detailed questionnaire for principal contributors, such as speakers, to add their perspective. Speakers may be prepared to give more in-depth feedback by telephone. They will also have experience of other events that may be useful to you. Using your own and colleague’s notes kept throughout the planning and management of the activity will also add depth and quality to the evaluation by highlighting problems encountered and the solutions that you devised.

Turning to the subject of audience questionnaires for immediate feedback, you will need to think carefully about what goes into these, it is not usual to go beyond a 2-sided sheet of A4 for most general audiences. This gives you a limited number of questions and they all need to work hard for you. The way that the questions can be combined in later analysis will also add significantly to the amount of information that you obtain. Further follow-up after the event either by post or telephone will allow you to undertake more in-depth questioning and allow people some time to reflect on the activity.

Guidelines

1. Beware of the temptation to simply count that which is easy to collect. “Did you enjoy the activity?” might be a very important question if it is addressed to people with whom you are engaging for the first time and you would like to return for future activities. It is less likely to be relevant to stakeholders who know you well and have participated with the intention of shaping future policy.

2. Address the areas that you think were important, so if it was important that people felt able to contribute their ideas ask them if they could, and if not why not so that you can learn from this.
3. If it was important for you to have certain types of people in the audience, make sure that you capture this data.
4. Make sure that you have identified the necessary resources (time or money) to analyse the data you collect and report it to those with an interest. This could be sponsors, your own management or the participants themselves. Simply collecting the data, without subsequently making it work for you is a waste of your efforts and other people's time.
5. If you want to build long-term relationships with participants ask them if you can contact them in the future and ask for contact details. Remember that the Data Protection Act may apply to data that you collect. Guidance is available from:

www.dataprotection.gov.uk

Examples

In this chapter we are going to consider underpinning ideas rather than the three case studies that were developed in chapters 2-6. For each of those examples one or more of the following categories of information may be particularly important depending on the initial objectives of the activity.

Who was present?

There are a tremendous number of variables that can be explored and these are described in chapter two. You need to focus on what matters in relation to your objectives, is it people from a geographic location, of a particular age or a certain mindset that were important to you. Did you want a mix of gender and or ethnicity or were you specifically targeting one group? To get basic socio-demographic information use simple tick boxes, some examples of which are shown below.

Do work in any of the following jobs/professions?	
Food Processing	
Transport	
Food Retailing	
Journalism	
Market Research	
Teacher	
Agriculture or agricultural/plant research	
Which of the groups listed below do you consider yourself to belong to	
White	
Black-African	
Black-Caribbean	
Black - Other	
Pakistani	
Indian	
Bangladeshi	
Chinese	
Other (please write in)	

What was your age last birthday?	
Less than 16	
16-30	
31-45	
46-50	
51-65	
Over 65	

What were they like?

For attitudinal information it is probably more appropriate to use Likert scales and some examples are shown below:

For the following statements do you agree strongly, agree, neither agree nor disagree, disagree or disagree strongly

Statement	Agree Strongly	Agree	Neither	Disagree	Disagree Strongly	Don't Know
<i>The speed of development in science and technology means that it cannot be properly controlled by Government</i>						
<i>Science is getting out of control and there is nothing we can do to stop it</i>						
<i>It is important that young people have a grasp of science and technology</i>						
<i>The benefits of science are greater than the harmful effects</i>						
<i>Science and technology are making our lives healthier, easier and more comfortable</i>						

Selecting key statement combinations derived from table 1 will help you to approximately categorise participants in relation to the six attitudinal groups identified in Science and the Public. You will not be able to do a similarly detailed cluster analysis as that study was based on a long in-home bespoke survey, however it will be clear if you have engaged, for example, people who tend to be concerned about the impact of science.

Did the event work?

If the primary function was to give participants the chance to contribute their views and comments, as may well be the case for a dialogue event, it is important to see whether this has been achieved and what factors have enabled, or hindered, effective participation. If information provision was part of the process was it accessible and useful? Similarly, if you were using “experts” how was their contribution rated?

The examples below show some of the questions that you might consider asking. For these “did it work for you?” questions, the most valuable bit of feedback can be the why or why not that underpins the yes or no answer, so it is always worth leaving some space for this.

Were you able to express your views freely and openly? Please put X in the appropriate box	
Yes completely	
Yes but sometimes I felt nervous	
Not as much as I would have liked (if you tick this please say why in the box below)	
Not at all (if you tick this please say why in the box below)	
Why was this?	
Don't Know	

Did you understand the explanation of the science? Please put X in the appropriate box	
Yes, easily	
Yes, but only after we had discussed them	
Not very well (if you tick this please say what might have helped in the box below)	
Not at all (if you tick this please say what might have helped in the box below)	
What might have helped you understand the science more easily?	
Don't Know	

Did you find the experts? Please put X in any box you agree with	
Helpful	
Confusing	
Able to answer your questions	
Self important	
Did not want to listen to my opinions	
Able to explain themselves clearly	
Eager to listen	
If you'd like to say anything else about the experts, please write it in the box below	

Organiser's checklist

- Have you established your objectives?
- Will the systems that you are setting up capture the information that will tell you whether your objectives have been met?
- Do you need different ways of capturing information from different people?
- Have you got systems in place for retaining the management information that you acquire during the process of running the activity?
- Have you identified the resources for analysis of your evaluation data?
- Have you set yourself a timetable for completing the analysis and providing feedback to participants/sponsors/colleagues as appropriate?

Dialogue with the Public: Practical Guidelines

Annexes 1 – 3

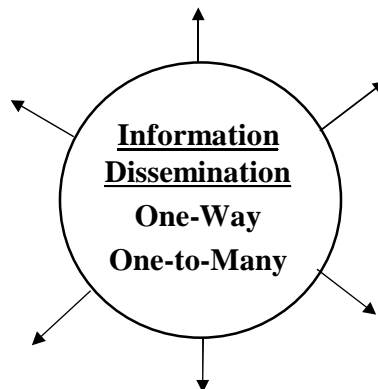
(Note that an Appendix giving details of organisations which may be useful contacts is available in electronic format at www.....)

Annex 1 Definitions

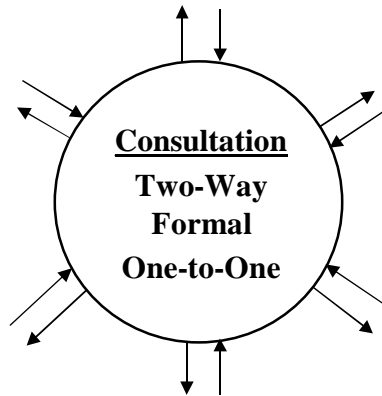
Since the publication of “*Science and Society*”, the terms engagement, dialogue and consultation have been used freely and often interchangeably. There are important differences between these terms and these differences are crucial in developing communication models for different purposes. Moreover, the term “science communication” also leads to confusion as this term also means different things to different people. We have therefore avoided using this term although the word “communication” is used to encompass all the other terms.

Different activities perform different functions and it is important that you identify what you are trying to do? Are you trying to put information into the public arena? Are you opening up your organisation to engagement, establishing mechanisms for interacting with the public? Do you want to conduct a consultation on a specific topic for a specific purpose to feed into a decision-making process? Or are you merely adding to the general level of dialogue by stimulating debate and thought? Not all activities will do all of these. For example, a stand in a shopping centre is undoubtedly contributing to dialogue and probably to some extent to information dissemination and possibly engagement but it will not reach a wide enough range of people in a sufficiently structured and deliberative atmosphere to be a consultation. The following definitions are proposed to help you think this through and thereby set achievable targets for your work.

Information dissemination is putting out information with no expectation of a response. Clearly, giving out information about research findings or a specific organisation has its place and there remains a role for “passive” information dissemination. Without information there can be no informed debate. Information can also allay concerns or ensure that people are concerned about real issues and not myths and misconceptions. However, people have different concerns for a variety of reasons and information needs to address these concerns in an appropriate way. The importance of undertaking research to ensure that information addresses relevant issues and in the right ways for different audiences cannot be understated. Information can be disseminated by a variety of techniques and can be done as part of an interactive process.

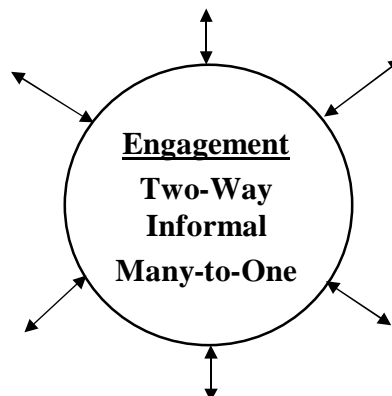


Consultation, that is consulting the public on issues, must contribute to, and feed into, some decision-making process. This is because “consultation” means “to seek advice from; to take counsel”, which in turn means “to talk or think over what is to be done” and implies an interaction of views and a shifting of positions as each party comes to understand the perspective of the other. This is a way in which organisations, whether public or private, local or national, can obtain public input to their decisions following an exchange of ideas and information.



It is widely believed that if a wider range of people are involved in the decision-making process then better decisions emerge because they are based on a more rounded picture. Non-“experts” often raise questions “experts” overlook and contribute ideas drawn from different backgrounds and experiences. The implication of genuine consultation is that no one view automatically holds greater weight than others, but rather that both those consulting and those being consulted are willing to change their minds in response to interaction and debate.

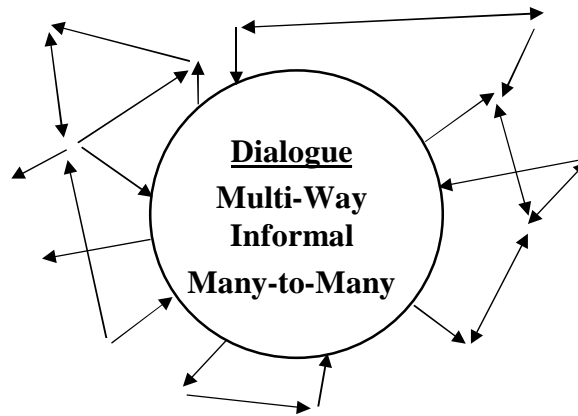
Engagement is stimulating interest in science and generally raising awareness of science and the issues it raises among the public. General discourse of this type should also demystify science so that young people do not perceive it as too challenging for them to become involved in science or engineering as a career. “*Science and the Public*” provides evidence that the public are already interested in science, both in general and in terms of specific technologies. This means that in terms of engagement it is reasonable to propose that there is a sound starting position to build on.



Understanding the audience and the general “climate” in which you are working is crucial if you are to engage with the wider society.

Dialogue, is generating debate and interaction between individuals and groups and creating a climate where people discuss scientific issues in the way in which they discuss other issues of public and social policy. This dialogue may not lead anywhere in terms of decision-making, but it is stimulating interest in, and awareness of, issues. Scientists may be talking to the public, the

public may be talking to each other, there may be television and radio programmes, web chat sites, etc. with no end in sight other than that science becomes just another facet of life, rather than something different and difficult.



(All diagrams taken from, based on or adapted from “*Citizens as Partners*”, OECD, 2001)

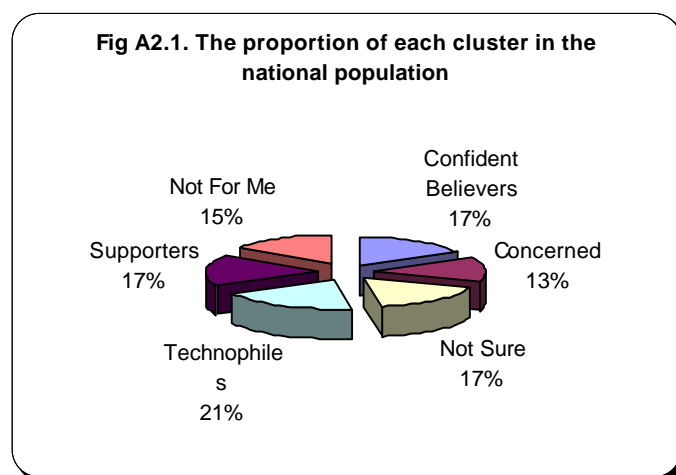
All the modes reinforce each other and play a role in supporting high quality debate. All must be based on an understanding of the audience or for national organisations, the public at large

Annex 2 Engaging people

This annex looks at the types of events and locations that are most attractive to different types of people. It should help you to decide which types of organisations to work with in and which types of venues to use in order to achieve your objectives.

For example, if you want to have an interactive debate with the socially excluded to understand their perspective, do not hold the event in a museum. This group tend to have the attitudes to science of the Not Sure group and this annex shows that the Not Sures don't go to museums to the extent that other groups do. However, if you want to talk to people who are already heavily committed to science such as the Supporters and the Technophiles, a museum, especially a science museum, is a good place to be. So, if you are a scientific institute or university, teaming up with a museum might be a good way of disseminating your work to interested lay people and attracting young scientists.

Whether you are planning a monologue or dialogue activity, the first pre-requisite is to actually have people to talk to and listen to. Figure A2.1 shows the proportion of each attitudinal group in the national population. Thus for any activity to reach a true representation of society, the profile of attendees should match figure A2.1. However, you will find that **any venue will tend to attract particular types of people and not others.**



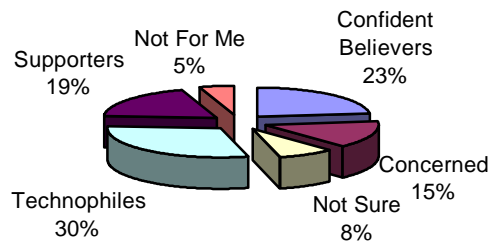
Figures A2.2-7 show the make-up of audiences at different types of activities and venues. Throughout this section, wherever a pie chart is used to indicate the profile of clusters that a particular event or location attracts, the clusters appear in the same order, starting at “12 o’clock” this is:

- Confident Believers
- Concerned
- Not Sure
- Technophiles
- Supporters
- Not for Me

Traditionally, the bedrock of “public understanding of science” events has been talks and meetings. This is not surprising as they form a widely used and crucial part of the communication methods of any specialism, not just scientists and are still popular and important formats within most communication strategies. In the “*Science and the Public*” survey, people were asked

whether, in the last 12 months they had “Been to a lecture/talk on a subject that was of interest to you”. Nearly a quarter (23%) of the population had attended a talk. Figure A2.2 shows how the audience for talks breaks down by attitude cluster. It is important to bear in mind that this was any talk, not simply talks on science or engineering-based subjects.

Fig A2.2 Attendees at talks or lectures (base: 415)

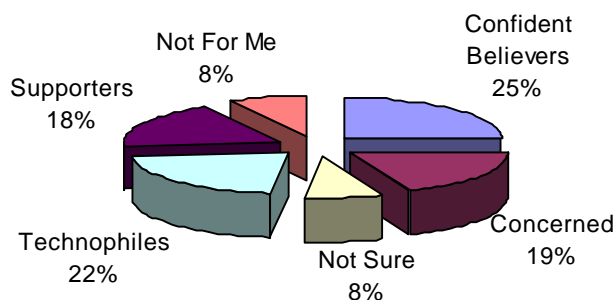


What is clear from Figure A2.2 is that **talks are more effective at reaching those sections of the population that are most highly educated**, the Confident Believers and the Technophiles. For these people it is quite normal to attend lectures and has been part of their upbringing. For the less educated groups, this is a very poor method of engaging them. These are people for whom **large institutions, particularly educational ones, are unfamiliar places**, probably coloured by memories of schooldays that will have largely been unsuccessful **for members of both the Not Sure and Not for Me groups**.

This tells us that while the audience may not be specialist in your area, they will be fairly well educated, so you should pitch your delivery style accordingly. The Confident Believers and Technophiles, who will dominate the audience, will be confident in bringing their own knowledge base into the questions.

Looking at meetings and debates, which might be expected to be more generally interactive, the broad picture is very similar (figure A2.3). Less than a fifth (18%) of the population had attended this sort of activity in the year prior to the survey and again the least well educated attitude groups are the least likely to have attended. Although this type of activity attracts a lower percentage of the population than more formal talks and lectures, meetings and debates are more likely to attract the Concerned and Supporters. Approximately 25% of the Concerned and 20% of the Supporters had attended such an event. **Meetings and debates are therefore better than lectures at reaching out to those who are interested in science but who may feel more “outside the political and scientific establishments”** than the Confident Believers and the Technophiles. The tone and level of delivery should therefore take this on board.

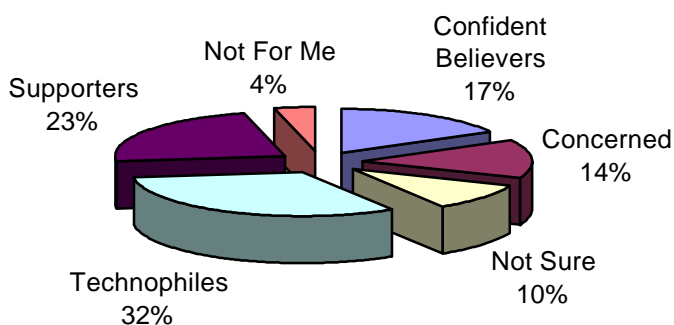
Fig A2.3 Attendees at meetings or debates (base: 325)



Science Festivals

An important venue for both talks and debates on scientific subjects and issues has been science festivals, of which there are an increasing number across the country. The data in “*Science and the Public*” shows that only 7% of the population attended a science festival in the 12 months prior to the interview. This 7% is **dominated by the two most pro-science groups**, with over half of the attendees coming from the Technophiles and the Supporters as shown in figure A2.4.

Figure A2.4 Profile of visitors to Science Festivals (base: 136)



These figures back up the long-held belief amongst science communicators that traditional “public understanding” events were only reaching a minority, and quite possibly the converted minority. However, this minority should not be lightly dismissed, 7% of the adult population represents **approximately 3 million people, and when asked if they had enjoyed the science festivals they had attended 94% said yes**. This is therefore an appreciative audience that is

likely to continue to attend science-based events and broadening engagement does not mean abandoning traditional audiences.

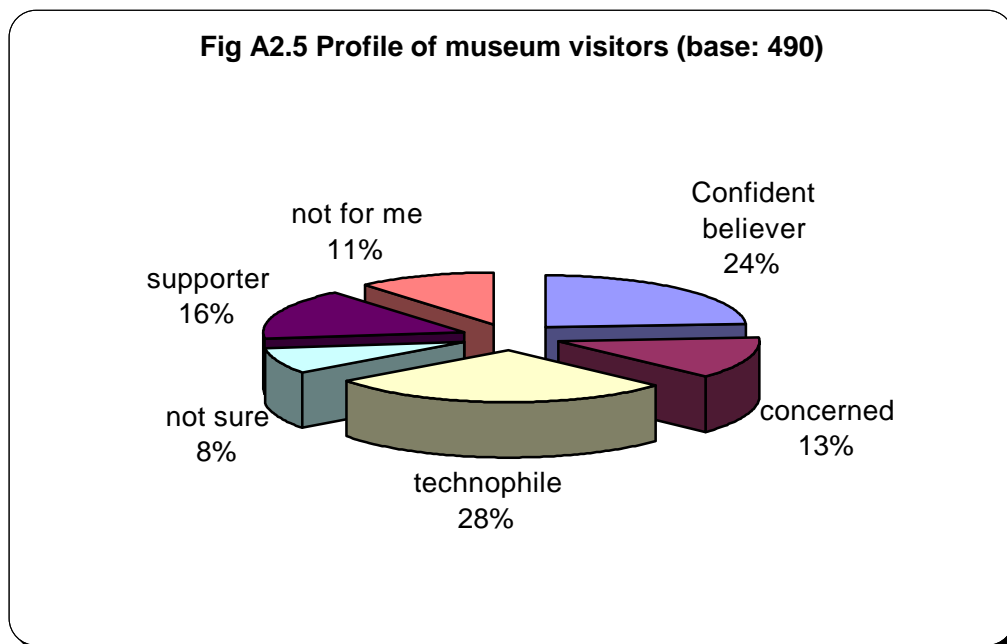
It does, however, imply broadening the type of communication. Increasingly, organisations want to get feedback from their audiences about their views on the event and also on the topic or issues being presented. Chapter 5 of this Guide sets out some standard techniques that can be used to consult people and some ideas on how to turn a standard talk into something more interactive. The vast majority of visitors are supportive of science - the Confident Believers, Technophiles and Supporters, so for the most part you will be working within that framework. However, the Concerned see science as important and attend in reasonable numbers, so you might think of running a discussion specifically for those who want to debate contentious issues – whatever their perspective.

Broadening out

In response to the perception (now confirmed) that science communication was not reaching out to wider audiences, people have sought to broaden the potential range of audiences by developing activities, particularly exhibitions, that more overtly go to the public. In order to do this you need to have a good understanding of who goes where so that activities are appropriately targeted for the people found at, or through, any venue or medium.

Museums and Science Centres

“*Science and the Public*” investigated visitor numbers and profiles for a variety of venues, both scientific and non-scientific. Figure A2.5 shows the profile of the people in the sample who had visited any museum or science centre in the 12 months prior to the interview. Just over a quarter of the population had visited these types of venues in the twelve months prior to the survey. Figure A2.5 shows that the **two groups that are better educated and that have higher incomes (the Confident Believers and Technophiles) are more likely to visit museums and science centres than the other attitudinal groups.**

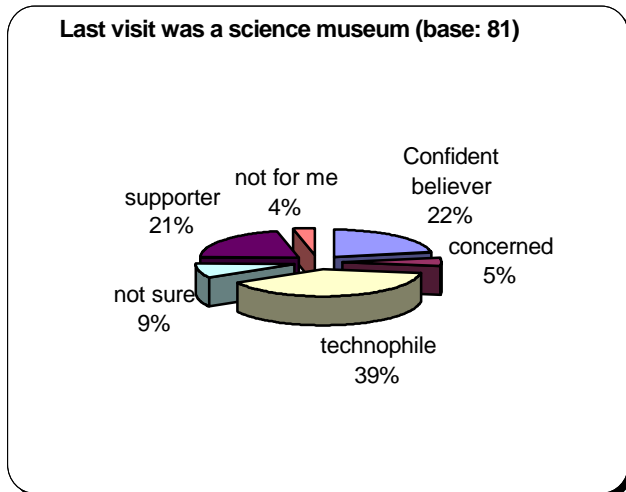


The general shape of figure A2.5 is very similar to figure A2.2 (those who attend talks and lectures) and this may be a reflection of the largely passive nature of the activities on offer at the venues. (It should be remembered that the survey was undertaken in January 2000, before the

opening of the wave of large new Science Centres, funded through the Millennium Commission.) Holding events in traditional museums is likely to attract broadly the same type of audience as talks and lectures.

However, some museums may be keen to team up with you to draw in visitors with different profiles and interests from their usual visitors. Similarly you may be able to broaden their reach though these types of partnerships. This is explored further below.

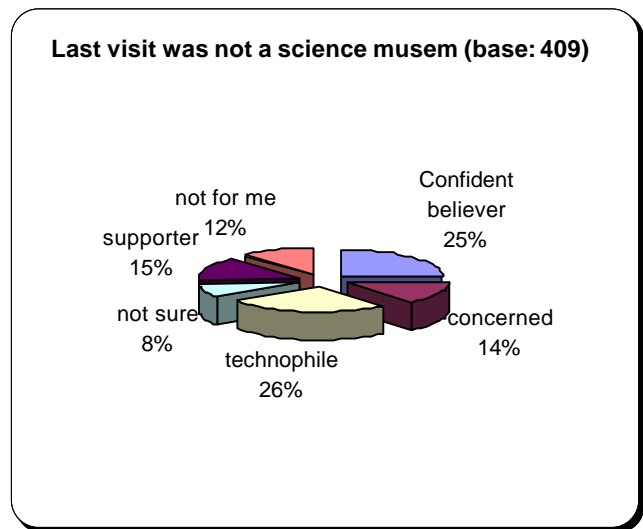
Figure A2.6 Who visited Science Museums?



By looking at the profile of people whose last museum visit was to one that focused on science and comparing that with the profile of people whose last museum visit was to a non-science museum (figure A2.6) we can compare the profiles of visitors to the two types of museums. It can be seen that Technophiles and Supporters are more likely to have visited a science museum. The Concerned and the Not for Mes were more likely to have visited other types of museums. The Confident Believers and the Not Sures were about as likely to have visited one as the

other. This is very much what one would expect given what we know about the nature and interests of the groups.

The new science centres may be starting to attract different types of people but it is still early days. Data is starting to emerge on visitor numbers, for example the @ Bristol site has received over a million visitors since opening in the summer of 2000. Is their more modern and hands-on style attracting a broader range of people? Many have good research and visitor data they will not have data that you can use to identify your audience and plan the content and style of the event.



When considering using Science Centres as venues it will be important to ask for detailed information about visitor profiles. Without this it is much more difficult to plan and execute a successful event. This data will not be classified by attitude, but using the pen pictures of the clusters above and the breakdown by demographic features of each cluster it will be possible to estimate the likely attitude profile of visitors. The Centres themselves will almost certainly be eager to effectively understand their audiences and wish to reach out to new audiences, so it might well be possible to build fruitful partnerships.

Shopping Centres

Putting exhibition material or, as has been done during National Science Week, hands on science activities in a shopping environment might be seen as a way of engaging with a group that is representative of a local, although not national, population. After all everyone has to shop. In

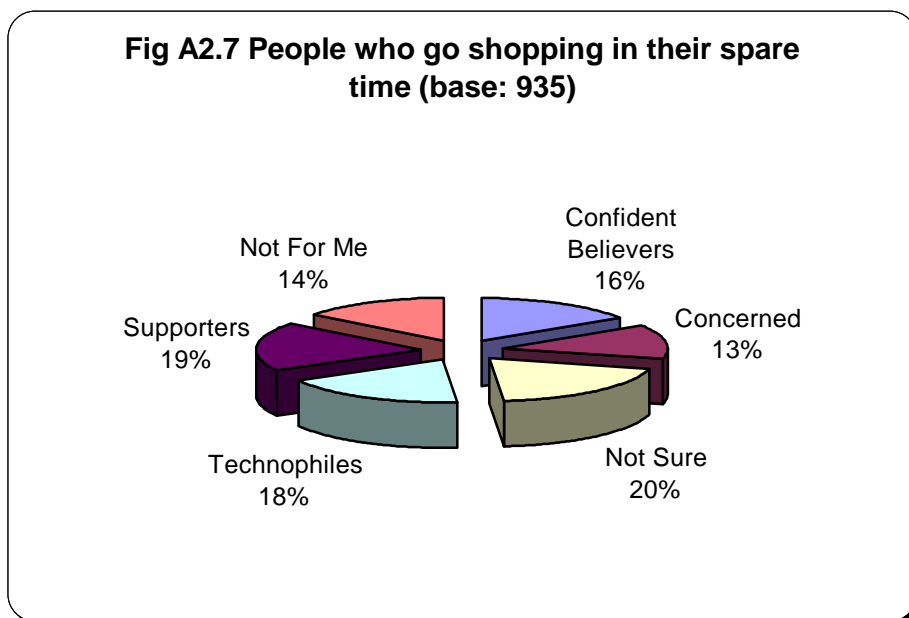
“*Science and the Public*” people were asked about things that they did in their spare time and shopping was included as an option. The phrasing regarding “spare time” was used to attempt to differentiate shopping being done as a leisure activity and shopping that was seen as a chore that had to be done.

Different shopping centres have different visitor profiles depending on the area, range and nature of the shops and so on. The socio-economic data a shopping centre can provide, while not of the attitudinal type that really helps to make sure that the right tone is hit, will, as with science centre visitor data, provide good keys to the general attitudes and interests of the shoppers. This data can be commercially sensitive, as it will impact on the desirability of the centre for retailers and rents. This data should be sought, but event organisers will need to be sensitive to this background and should treat such information in confidence.

Just over 50% of the sample regard shopping as a leisure activity and the attitudinal profile of these people is shown in figure A2.7. It is clear that this profile is much closer to that shown in figure 1, showing that shopping venues in general offer a way of engaging audiences that are more representative of the public as a whole. Nevertheless, it will still be important to research the nature of individually centres and their associated customer profile to ensure that material used is targeted appropriately.

Locating yourself in a shopping centre that sells mainly clothes, etc. will mean that your audience is likely to be mainly from social grades BC1C2 but if you go somewhere that sells food, perhaps an indoor market, it is likely to include more people from social grades D and E.

Some people will be in a hurry and uninterested but others will have more time and this can be a good way to attract children. More information on children and young people is given in “*Practical guidelines for developing public dialogue – Policy report*”.



The Internet

Using the Internet as a means of providing information and encouraging two-way dialogue has some attractive features. Information can be readily updated, a variety of media can be used including audio, video, pictures and text. There can be hyperlinks to other sites and more information so that people can “drill down” as they want. There is less danger of thrusting too

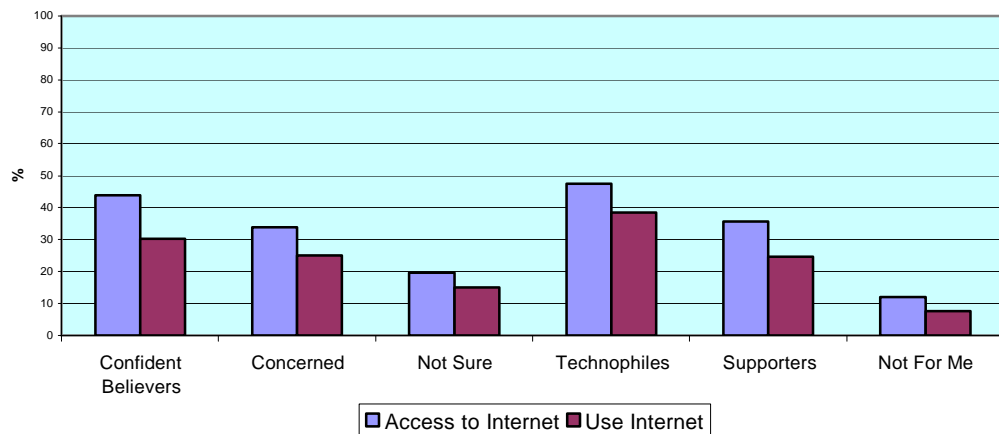
much unwanted information at people. Responding to consultations and questions can be made very straightforward for the audience and the cost need not be excessive for you or the user.

The fundamental disadvantage of the Internet is the degree to which people have access to it and are able to use it effectively. Secondary to this is the problem of drawing users to an individual organisation's site, especially when the user may not initially be aware of the organisation.

Figure A2.8 shows the proportion of each cluster that had Internet access at the time of the survey in January 2000. There was no single group where the majority of the cluster has Internet access, although more than 40% of both the Technophiles and the Confident Believers had access. Latest estimates are that 40% of the UK population has Internet access, compared to 33% in the *Science and the Public* survey. There is no reason to believe that the relative degrees of access across the groups will have changed.

However, simply **having access to the Internet is no guarantee that people will use it**, as figure A2.8 also shows. The Technophiles were the only cluster where more than a third of people actually used the Internet and less than one in ten of the Not for Mes used the Internet.

Figure A2.8 Access to and use of the Internet



Annex 3 Social Grade Definitions

This practitioners' guide uses the standard market research social grades, which are described below. Government and much social research uses the National Statistics Socio-economic Classification (NS-SEG). The NS-SEG is an occupationally based classification but has rules to provide coverage of the whole adult population. The version of the classification, which will be used for most analyses (the analytic version), has eight classes. These systems continue to exist in parallel.

A

Professional (non-manual) covering **approximately 3% of the total population**. These are professional people, very senior managers in business or commerce or top level senior civil servants. Retired people, previously grade A, and their widows.

B

Middle managers (non-manual), which covers **approximately 14% of the total population**. This group includes middle management executives in large organisations, with appropriate qualifications; principal officers in local Government and Civil Service; top management or owners of small business concerns, educational and service establishments and retired people, previously grade B, and their widows.

C1

All other non-manual workers, which covers **approximately 26% of the total population**. It includes junior management, owners of small establishments, and all others in non-manual positions. Jobs in this group have varied responsibilities and educational requirements. It also includes retired people, previously grade C1, and their widows.

C2

All skilled manual workers. This covers **approximately 25% of the total population**. It includes all skilled manual workers, and those manual workers with responsibility for other people, retired people previously grade C2, with pensions from their job and widows, if receiving pensions from their late husband's job.

D

All semi-skilled and unskilled manual workers. This covers **approximately 19% of the total population**. It includes all semi-skilled and unskilled manual workers and apprentices and trainees to skilled workers, retired people previously grade D with pensions from their job and widows, if receiving pensions from their late husband's job.

E

On benefit/unemployed. This covers **approximately 13% of the total population**. It includes all those entirely dependant on the state long-term, through sickness, unemployment, old age or other reasons, those unemployed for a period exceeding six months⁷, casual workers and those without a regular income. Only households without a chief wage earner will be classified in this group.

⁷ Otherwise unemployed people are classified by their previous occupation.

Science & Society activities by Research Councils UK and the Office of Science & Technology

The Research Councils UK and the Office of Science and Technology (OST) have programmes of activity and sponsorship in science communication and science and society. The Councils often work together to develop exhibitions, events, publications and meetings, but also produce activities on issues in which they specialise, for example PPARC on astronomy. They have a strong presence during National Science Week in March, and at science festivals and other events throughout the UK.

As well as developing activities themselves, the councils encourage and support the people they fund in universities and in their own research centres. They train scientists to talk and listen to the public and offer them support and resources. The OST supports a range of activities that other bodies carry out and also undertake wide ranging reviews and surveys of science and society activities.

For details of the kind of dialogue and communication work that the Research Councils UK and OST carry out, visit our websites (access via www.research-councils.ac.uk) or contact individual councils via the lists on the contents page of this report.

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