Training scientists to use the media

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Abstract

Scientists can be taught how to work successfully with the media.

The media is important to scientists. The public is interested in issues that affect the way they live: health, the environment, new technology, better farming practices, managing natural disasters like earthquakes. These issues are all based in science and technology. If our societies and the way we live are to improve, the public needs information on science issues. But the scientists who work in these areas are not always good at discussing their work and the implications of their work with the media. Most members of the public get their information from television, the radio or newspapers, so accurate information is very important.

Fifteen years ago, the author and his colleague Jenni METCALFE designed a workshop to train scientists in media skills. Since then they have run 600 workshops in Australia and internationally, training 7000 scientists. The workshops are very practical and bring working journalists from newspaper, radio and television into the room. The journalists explain how they select the stories they cover, and how they go about interviewing scientists. Then they interview each scientist in the workshop about their work.

The workshops train scientists what to expect if they are interviewed by a journalist. They learn how to tell their story simply, without using complicated scientific words. They learn about the formats of a story as it might appear on television, newspapers or on the radio. How long does it last? How many words will the journalist write? How important are pictures? How do they manage difficult questions? How do they manage the media in disasters?

The workshops bridge the gap between two cultures: the culture of the journalist and the culture of science. What do journalists think of scientists, and what do scientists think of journalists? Can these views be changed?

Key words

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Why should scientists discuss their work with the public?

It is an official policy of the Australian Government that scientists and others working in research have not only the right but also the responsibility to discuss their work with the public. In January 2008, the Minister for Science said this was so important that he would be developing a charter to 'to ensure scientific independence of public research institutions.'

"Australia needs the best scientific advice it can get to tackle the many issues we face as a nation," Senator Carr said. "Public research institutions, and the dedicated professionals working within them, have a right as well as a responsibility to represent the findings of their work and to actively participate in public debate.' [i]

Other groups internationally have similar views. The Social Issues Research Centre and the Amsterdam School of Communications Research believe scientists have a duty to explain their work:

> *All scientists have a professional responsibility to communicate their research to public audiences and to offer appropriate guidance and advice where appropriate. The popular media is a major channel for such communication and should be embraced rather than shunned.* [ii]

The UK's Royal Society agrees. In its study *Survey of factors affecting science communication by scientists and engineers*, the Society said:

> *The role of science in public policy is becoming ever more pervasive. Many scientists are willing to engage in dialogue and debate, but they need encouragement and guidance, and they need to feel that their efforts are valued.* [iii]

What difficulties do scientists face?

Despite these statements and policies, working with the media is not always a natural activity for scientists. They were not trained to use the media when they did their degrees, and tend to be suspicious of journalists and even sometimes the scientists who talk to journalists. Many scientists have read science stories in the newspapers or seen them on television, and they do not like the simplistic way the stories are told.

This reluctance or unpreparedness to work with the media can be exacerbated because research organisations do not reward scientists for media work. These organisations will promote scientists on the basis of the number of papers they have published and the amount of research income they have won, but not on the effort they put into gaining media coverage for their work. Organisations tend not to recognise the time it takes to arrange a media conference, to draft media releases, talk to journalists and set up demonstrations for the cameras.

'Public outreach' may be part of a scientist's work contract with the expectation they will participate in open days or visit schools to talk about their research, but for many scientists,

getting media coverage for their work is an optional activity. Scientists argue that they already work hard enough and that the demands of their jobs in research and education do not leave them enough time to conduct media interviews. (The views of scientists are set out in studies in Australia and the UK.[iv])

The major body funding research in Australia, the Australian Research Council, recognises to some extent the importance of public communication of the work they fund. One of the five objectives in its current Strategic Plan is Promotion: 'to raise the profile of Australia's research effort and be an effective advocate for its benefits.'[v] But the ARC does not require researchers to talk to the public about their work: it encourages 'researchers to communicate the outcomes of their research'.

(In an earlier plan the ARC had a Public Engagement objective to 'develop and improve public understanding and appreciation of the contribution that research makes to the economic, social and cultural benefit of the community.' This plan 'strongly encourage[d] ARC-funded researchers to communicate the benefits of their research to a wide audience, including schools.')

So scientists have many dis-incentives to take their work outside the laboratory and discuss it with journalists: lack of training, lack of time, a lack of rewards, a tendency to distrust journalists and dislike the way they cover research. Many of them still choose to seek media coverage for their work and their research organisations choose to pay for them to be trained in media skills. What reasons do they have?

Why use the media?

The rationale for scientists discussing their work with the public is well-established, and the case for using the media as the mechanism for this is equally compelling:

> *[The] media reach very large audiences. Moreover, the credibility of your messages is enhanced by a public perception of editors' impartiality. Television is a particularly powerful medium. The public regards television news especially as one of its most trusted information sources. When local/national TV reports on an event, such as a new discovery or a significant research outcome, most people unquestioningly accept the presented version as hard fact. The broadcast media offer a cost-effective way of transmitting information. It does not involve costly and time-consuming production or reprographic processes – and dissemination is increasingly achieved by rapid and inexpensive electronic means.*[vi]

The media is an effective mechanism, but it is important to have a clear reason, because media work can be time-consuming and risky. There has to be a potential benefit to the scientist and the research organisation. It is a very effective way of reaching a large number of people, but why would a scientist want to do this? There are a number of possible reasons:

- to increase funding for research by increasing public awareness and support for the work
- to improve public practices in health or the environment, and to inform people of new and better ways of doing things
- to explain an issue to the public and satisfy their interest
- to be accountable to the tax payers who funded the research, a moral responsibility
- to inform discussions and debates, to correct wrong ideas and allow the public to think about the issues
- to prepare people for change—e.g. new technologies or ideas
- to get public involvement in the research, such as a health survey
- to encourage young students to become interested in science
- to find new partners in industry

Science faces a particular problem because many people found it difficult and boring at school. Their interest in the natural world has been turned off and they do not think science has any relevance to in their daily lives. This discourages students who might have considered studying science at school and university, and the world is facing a shortage of scientists.

It can also discourage journalists from covering science issues. They remember science as being difficult and hard to understand, and are concerned that they may not be able to tell the story simply and accurately in the format TV news or radio news or newspapers require. This is another challenge for scientists wanting to gain media coverage for their work.

One part of the solution: training scientists in media skills

The Royal Society's *Survey of factors affecting science communication by scientists and engineers* concludes with a number of recommendations that would encourage scientists to devote more time and effort to public discussion of their research. One of them is equipping scientists with the necessary skills to deal with journalists.

For the last 15 years, a small Australian company called Econnect has offered the most comprehensive and popular workshops in media skills for people from science and research backgrounds. Over 600 workshops have been run in this period, on a national and international basis, and I have been a co-presenter. An outline of the workshops and comments from participants are posted on Econnect's web site.

The workshops normally run for one day, 9 am to 5 pm, with a maximum of 10 (or perhaps 12) scientists participating. They are very practical: all the participants will be interviewed at least three times on their story. They are also informal: we encourage the scientists to ask questions and to discuss issues that arise. It is not a series of lectures but discussions and practical exercises.

The participants are seated around tables arranged in a hollow square. There is a television set (or a data projector) whiteboard at the front. We bring a small video camera and a tripod. All participants are given a 60-page booklet of notes, which explain in more detail all the matters we will discuss during the workshop. We always use two presenters to keep up the energy levels and stop our participants becoming bored.

In the week before the workshop, all participants send us a brief outline of the research they want to publicise through the media. This sets out what their research is about and also how well they can explain their work in terms the media will understand.

We quickly learned from our early workshops that the scientists really enjoyed meeting journalists and working out how to explain their work to people who generally did not have much science education (most journalists in Australia have degrees in the humanities or social sciences). Three working journalists come into each workshop, one each from television, print and radio. They are paid to come in to talk about their work and to interview the participants. We organise journalists by ringing up the local stations or newspapers, to see who has spare time that day. We like to get a mixture of journalists, some specialising in science stories and other general journalists who might cover any story: an election, an earthquake disaster, a murder – or a science story. It is important for scientists to learn to tell their story to both specialists and non-specialists.

The workshop program

We begin by welcoming our participants, and then ask them what they want to get out of the day. Which issues are most important to them? They are asked to choose their top three issues from a list of 12 items, including:

- understanding the pressures and constraints under which journalists operate
- tailoring a scientific message to suit the media, without compromising the quality gaining experience in media interviews (TV, radio and print)
- dealing with difficult questions
- finding out what journalists need to make a story work

This allows us to find out the matters of most concern to our participants, and in discussing these issues we find out a little more about their experience with the media. We also discuss their reasons for wanting to use the media: what do they hope to gain from this, both for their organisation and themselves?

We then talk about the difference between the world of the journalist and the world of the scientist. For instance, time lines are different: a radio news journalist may need a story ready for broadcast in the 30 minutes, whereas a scientist's deadline could be to complete a report by the end of next month. A journalist has to tell the story briefly, with a radio news story usually running 40 seconds, a TV news story 80 seconds. A scientist is used to writing in detail, with close attention to detail.

Television is the first form of the media to be covered in the course. We begin by asking the participants three questions:

1. How long does a typical TV news story run?
2. How many seconds of the interview with the scientist will be used in the story?
3. How many different pictures does the story use: in other words, how many times does the camera cut from one shot to another?

Participants call out their answers and we record them on the whiteboard. Then we show three science stories from TV news. One participant is asked to time the story from the beginning; a second participant records the time we hear the scientist speaking, and everyone else counts the number of shots. The purpose of this exercise is to show that TV news follows a strict formula: all stories are about the same length, they have the same sort of 'grabs' (or quotes) from the scientist, and they need many pictures of the experiment and the equipment it uses.

The main point that comes out of this is to demonstrate how important pictures are to TV, and how many pictures the camera operator needs to shoot. If scientists want to get their story on TV they need to provide experiments and action for the camera operator to film.

The first journalist arrives about an hour into the workshop. This session begins with a conversation. One of the course presenters ask the journalist about the practical side of preparing TV news, with questions such as:

- How many stories do you do each day?
- How do you choose the stories? Where do the ideas come from?
- How long does the interview with a scientist normally last? What questions do you ask?
- How do you get all the pictures and footage you need?
- How long is a typical story?

Participants may ask questions as well, and after about 45 minutes we set up the camera and invite the journalist to interview one of the participants. This interview typically lasts about 6 minutes. We record and then play it back on the TV screen while the journalist comments on how well the scientist performed. This is where the journalist gives tips to the participants on

how to answer questions: it is important to speak with authority and also to be enthusiastic about the research. What mistakes do scientists make when they are interviewed?

The journalist, the camera and one of the presenters now move into another room. Each of the participants comes out in turn for a 5-minute interview, with individual feedback and advice on how well they went. These interviews are completed by lunchtime.

While these one-on-one interviews are being filmed, the other participants are discussing working with newspapers. They discuss the way the print media writes stories and are asked to write the headline and the first sentence of a story about their work.

At 11 am the second journalist comes into the room. They will be from the print media, usually from the largest newspaper in that city. This session begins with a conversation about the practicalities of the day of the journalist, similar to the conversation with the television journalist.

The journalist will be asked questions about the importance of photographs and the editorial process: how the sub-editor or night-editor may change the original wording. Who writes the headlines? How do they choose the story from all the faxes and emails they receive? Do they do interviews over the phone or do they visit the scientist?

Each participant will then describe their work to the journalist in a few sentences, and the journalist will ask them questions about the research and the implications of the research. The journalist then gives them feedback on where the story might fit into the newspaper: on the news pages, or a special supplement on agriculture or the environment or IT, or perhaps it would be more suitable for a paper in one of the regional areas. It may not be the right time to tell this particular story, because the research is not sufficiently advanced.

It is more likely that the print journalist will be a science specialist. They may not have formal science qualifications, but they will be working on the science 'round' and all science stories will be handed over to them. While they may not have a degree in science, they have a good working familiarity of science issues and the people working in this field. (There are very few science specialists working in TV news or radio news in Australia.)

After lunch the participants may have further questions about the processes of TV and print journalists. They may wish to discuss the interviews they had, and which one they enjoyed more.

The third journalist is from radio, and this early-afternoon session is similar to the TV session. First the journalist will talk about their daily routine and the interview process, and then describe good techniques for doing interviews on radio. They will answer questions from the participants and interview one person from the group in front of everyone. The interview will be taped and played back, and the journalist provides feedback and suggestions interview technique.

Then the journalist and one of the presenters will go to another room and the participants will come out one by one for a radio interview. Each interview is recorded and the journalist will offer each participant advice and suggestions after the interview.

While the radio interviews are taking place in the second room, all the other participants will be discussing other matters such as how to handle difficult questions from an aggressive journalist, or interviews on controversial topics such as environmental or safety issues, or genetically-modified organisms in food.

Journalists are quite likely to ask questions like this because many scientists work in controversial areas. Scientists have to be very careful in responding to these questions, particularly if their personal views are in conflict with the views of the research organisation that employs them. Their natural tendency is to try and answer these questions as directly as possible – this is what science trains them to do! – but this may not be in their best interests.

We teach them that they need to consider carefully what they want to talk about before the interview starts. They need to have a straightforward message with two or three key points because journalists do not have the time or space to broadcast a complicated message with lots of detail. They may have to steer the journalist back to one of these main points. If they can't answer a question, they should say so and then say why they can't answer it (it may be a matter of policy or it may be commercial in confidence or perhaps the research results are not complete). Then they should talk about one of the points they can talk about.

By now we are in the last hour. The radio journalist has finished and the last session will be spent talking about media releases, or how to stage an event for the media. The media release is very important in Australia, because that is the official announcement of the scientific research. Everyone involved in the work has to see the release before it is sent to the head of the institution for approval.

Media releases should be written on one page, and be a simple explanation of the work and the implications of the work. What does it mean to an ordinary citizen? A cheaper loaf of bread? A better environment? A new industry? Faster internet? Journalists will be more interested in the implications of the work that the research. We advise scientists that they should not write their own releases because they are too close to the work and find it difficult to tell the story simply.

The last task for the participants is to complete an evaluation form. Did they enjoy the workshop? What as good about it? What would they change?

The workshops have been very popular in Australia, but we have also run them in New Zealand, in South Africa, in the Philippines and in Brussels. Scientist particularly enjoy meeting journalists and being interviewed by them. They are surprised that they often need to find a new way of telling their story, because journalists are more interested in the effects of their work than the way the scientists conducted the research.

Media skills workshops are one part of the solution to encouraging a greater dialogue between scientists and the public. This is an important discussion because many of the solutions to major problems in our societies have a scientific basis. Science can help people on the environment, health, agriculture, food, energy and other issues. But it is important for scientists to hear back from the community, to listen to the concerns people have, to discuss opposing views. Unless this dialogue takes place, the effectiveness of our scientists will be compromised.

The author

Mr Toss GASCOIGNE is the President of PCST Network. This international body is an informal network which allows people to discuss issues in the public communication of science and technology. The main activities of the PCST Network are to hold conferences and symposia.

He is a founding member and a life member of the Australian Science Communicators.

Since 1994 he has run 600 media skills workshops with his colleague Jenni METCALFE. He has spoken about the workshops and on other issues at conferences in Montreal, Melbourne, Berlin, Geneva, Cape Town, Seoul, Beijing and Malmo.

From 1995 to 2003, Toss was Executive Director of an advocacy body for scientists in Australia, the Federation of Australian Scientific and Technological Societies (FASTS). In 2004 he helped establish then became the inaugural Executive Director of the Council for the Humanities, Arts and Social Sciences (CHASS), an advocacy body for researchers in these areas. He stepped down from this position earlier this year and is currently working as the advisor to the Vice-Chancellor of the University of Canberra.

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