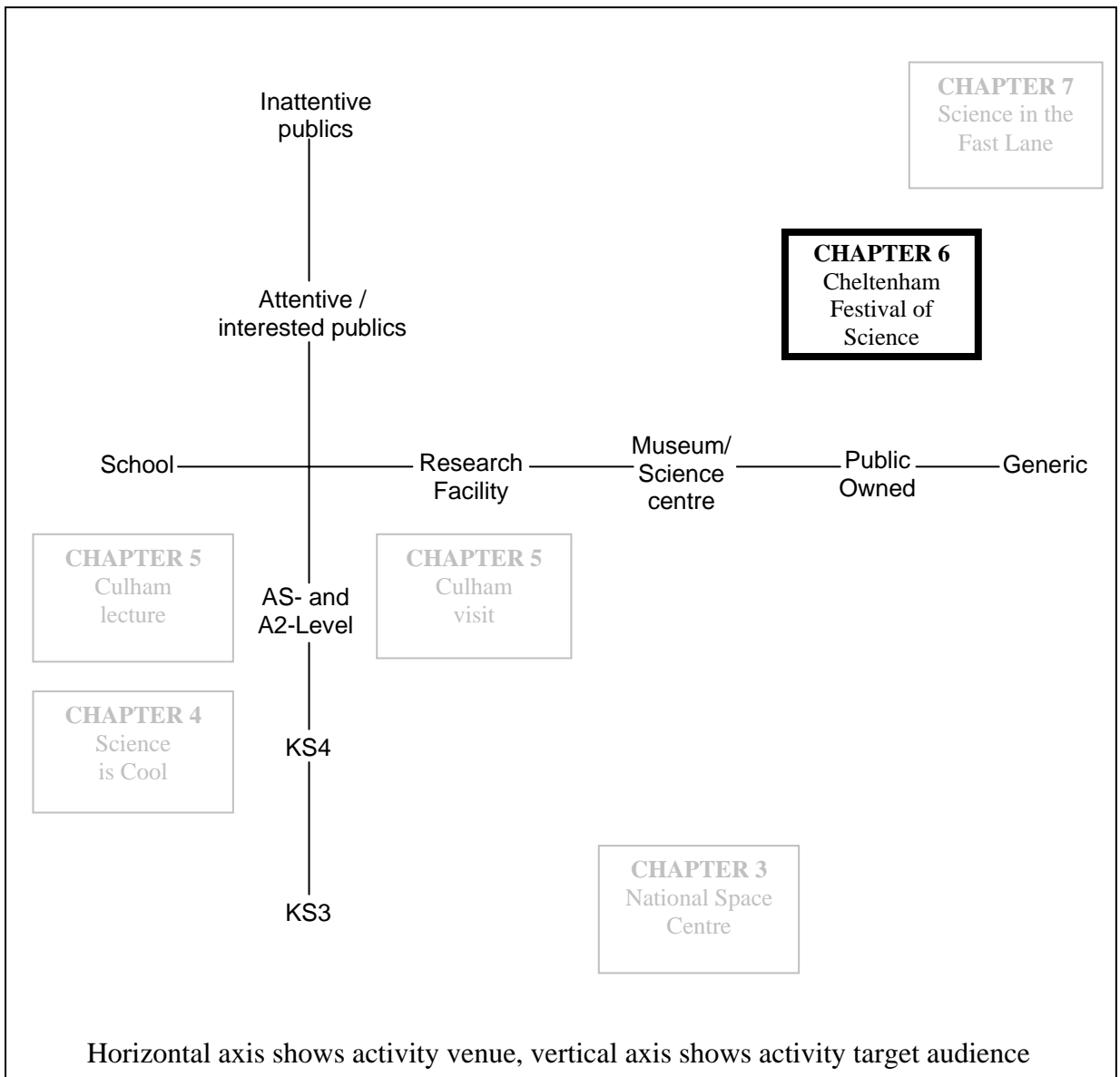


Chapter 6



**EVALUATION OF THE IMPACT OF A SCIENCE
FESTIVAL ON ITS VISITORS**

Research axes



Chapter 6 explores the impact of a science festival on its visitors, with the focus on adult audiences. Questionnaires, interviews and electronic voting were used to gather the opinions of festivalgoers. A postal survey was also conducted six months after the festival to explore longer-term impacts. Festival visitors were typically ‘attentive’ or ‘interested’ publics. It appeared that the impact of individual events within the festival were mostly cognitive, while the impact of the festival as a whole was cognitive and affective. Some behavioural changes were also reported in the follow-up sample.

6.1 INTRODUCTION

Thus far, this thesis has considered several science communication activities targeted at school students. The present chapter explores the impact of a more complex activity on a range of audiences, primarily adult publics.

6.1.1 Science festivals in the UK

Around 15 science festivals take place every year in the UK. Each is different, but they typically consist of a diverse range of talks, debates, demonstrations and other events brought together by focusing the activities around a specific location for a limited time, usually a few days, but sometimes up to several weeks. Larger festivals can attract significant media attention. Activities are often aimed at different audiences, and most festivals have distinct educational and public programmes. Several festivals, such as Wrexham, have grown from being primarily schools-orientated to including a substantial public programme. The British Association for the Advancement of Science (the BA) Festival of Science developed from an annual week-long meeting where scientists would meet to present their results to public audiences. The first of these meetings took place in the early 19th century, and the BA Festival of Science is now held in a different city each year. The Edinburgh International Festival of Science claims to be the world's first Science Festival; it started in 1989 and has run every year since. The Oxfordshire science festival has existed for a similar period of time.

The present study focused on a single festival, the 2003 Cheltenham Festival of Science. The study was designed to assess the festival in terms of the extent to which it achieved its aims, according to opinions of the festivalgoers. Another aspect

of the research was to ascertain the impact of both the festival as a whole, and the individual events within it, on the cognitive, affective and behavioural domains of its visitors. Festivalgoer demographics were also considered.

6.1.2 Cheltenham Festival of Science

A number of festivals take place in Cheltenham each year, the most famous being the two annual literature festivals. For this reason, the town has a dedicated festival office whose staff oversee the organisation and delivery of all Cheltenham festivals. Cheltenham Festival of Science was conceived in 2001, and the first festival took place in June 2002. The festival was regarded as a success by the organisers and those who attended; the second festival took place in June 2003, and the third in June 2004. A key element of the festival is the stress it places on dialogue, namely the interaction between scientists and publics, described in more detail in Section 1.4.2 of the introductory chapter of this thesis.

6.1.3 Festival description

The 2003 Cheltenham Festival of Science took place from 4th to 8th June 2003, and consisted of a number of events taking place in various venues around Cheltenham. The festival was centred on the Town Hall, the primary venue, and the Everyman Theatre, the secondary venue. The idea behind limiting the number of venues was to maintain a focus for the festival, and maximise its impact. The *Discover Zone* was the interactive area of the festival, and entry was free. It was housed in the main hall at the primary venue, and provided noise and activity with disco lighting, sound effects and dry ice. The *Work Shop* was situated at one end of the *Discover Zone*, and consisted of a number of drop-in events. The *Space and Time Tent* was a new

addition to the Festival for 2003, and housed the robot arena and a number of stalls, as well as a café area designed to act as an area where visitors could relax. The *Science Cafés* were dialogue events where three specialists would discuss a particular issue with members of the audience, and were held in the tent. The *talks* and *debates* which made up most of the programme of events, were aimed at adult audiences, and took place in the Town Hall (Pillar Room and Drawing Room) or the Everyman Theatre. *Talks* consisted of a presentation given by the speaker, and *debates* often involved a panel of speakers followed by a discussion where audience members were encouraged to participate. The festival also had a schools and family programme; while these events are considered in the present study, the main focus was on the impact of the festival on its adult audiences.

6.1.4 Festival aims

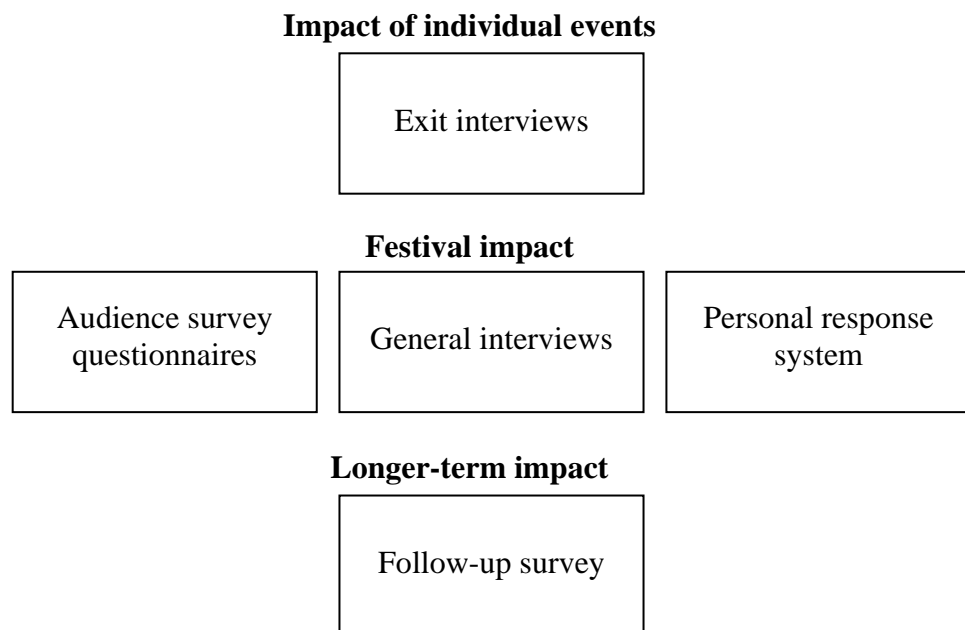
In 2003, the festival aimed to present scientific ideas and issues in a festive, enjoyable environment, and to create opportunities for the public to gain confidence in and have access to science and the debates around it. Using different ways of encouraging participation in discussion of scientific issues from those who had not necessarily taken part in such discussions before was also an objective of the festival. The festival aimed to target different audiences separately; with each group finding some of the activities accessible. The directors and organisers intended the festival to be perceived as high quality and focused, and hoped to establish its national and international profile.

6.2 METHODOLOGY

6.2.1 Data collection

Data were collected in a number of ways. Firstly, the festival organisers collected metric data including ticket sales and attendance figures. Secondly, questionnaire-based interviews with festivalgoers were conducted. Thirdly, data from the audience survey questionnaires used by the festival organisers for the evaluation of all Cheltenham festivals were made available for the research. Fourthly, a personal response system (PRS) allowed data to be collected electronically from visitors to a number of events. Fifthly, a feedback session was held on the final day of the festival that brought together festival directors, organisers and visitors. In addition to this, a follow-up survey of festivalgoers was conducted 6 months after the festival. The ways in which the different methods were used is indicated in Figure 6.1.

Figure 6.1 Data collection methods



Exit and general interviews

Interviews were conducted as audience members left specific events, and at random during the festival. The structured interview comprised two parts, a *general* and a *specific* part. All interviewees were asked the *general* questions, about their demographic details, opinions of the festival (these questions were designed on the basis of the festival aims), and whether the interviewee would be prepared to take part in the follow-up stage of the evaluation. The *specific* questions related to particular events, and were only included in the exit interviews. A copy of the interview questionnaire is given in Appendix 6.1.

Some questions relating to the dialogue process were also included, such as whether people felt comfortable contributing to the sessions. Interviewing was selected as a methodology in this case for two reasons: firstly because the sample would not be self selecting; and secondly because the festival organisers were particularly interested in the opinions of 18-25 year-olds, and conducting interviews allowed this group to be targeted to some extent. The interviews were carried out by an evaluation team consisting of the researcher and two volunteers who had been trained in appropriate interviewing technique. Interviews were conducted in both of the main festival venues, the Town Hall and the Everyman Theatre. In order to collect data regarding a particular event, the evaluation team conducted exit interviews following specific events. General interviews were also conducted throughout the festival.

Audience survey questionnaires

The audience survey questionnaires were available from festival information points, for festivalgoers to leave feedback at any time, and were also left on seats at some events to encourage their completion. The surveys went into more detail about the demographics of festivalgoers, with questions that probed their level of education, media usage and leisure interests. The main problem with this data collection method was the self-selecting nature and resultant bias of the sample. A copy of the audience survey questionnaire is given in Appendix 6.1, with the other data collection instruments.

Personal response system

A personal response system was available for use in some of the festival events, and this was also used to collect evaluation data electronically. The system allows individuals to register their responses by pressing a button on a keypad, which transmits the data to a central receiver using radio waves. The advantage of this system was that it was easy to collect responses from a large number of festivalgoers, and that respondents can be assured that their responses are completely anonymous. The disadvantage was that due to time constraints only a limited number of questions were used and all questions had to be closed form. Nevertheless a large amount of data relating to audience demographics and impressions of the festival were collected.

Follow-up survey

During the structured interviews, interviewees were, where possible, recruited into the follow-up stage of the evaluation. A postal questionnaire survey of festivalgoers

was conducted using questions similar to those used in the interviews in order that a comparison could be made. The questionnaires were also designed to examine the impact of the festival on the cognitive, affective and behavioural domains of visitors.

6.3 RESULTS

6.3.1 Attendance and ticket sales

The total number of tickets sold for events was 13,062, an increase of around 1,400 on 2002 sales. When the number of visitors to the free *Discover Zone* was included, the total number of visitors was estimated to have exceeded 20,000. From the interview sample, 62% said they had booked tickets in advance, with the remainder having attended spontaneously.

6.3.2 The study cohort

Figure 6.2 shows the numbers of festivalgoers in each of the samples in the research.

Figure 6.2 *Samples involved in the survey*

<i>Sample</i>	<i>n</i>	<i>Male %</i>	<i>Female %</i>	<i>Under 18 %</i>	<i>18-24 %</i>	<i>25-34 %</i>	<i>35-44 %</i>	<i>45-54 %</i>	<i>55-64 %</i>	<i>65+ %</i>
Total	725	49	51	5	6	17	20	19	16	17
Exit interviews	36	39	61	14	11	22	14	14	17	8
General interviews	186	48	52	13	8	22	26	16	7	8
Audience survey	193	48	52	3	3	15	20	21	18	19
Personal response system (PRS)	346	51	49	2	6	16	17	19	19	21
Follow-up	43	44	56	2	5	16	2	21	9	14

Sample sizes do not total 725 because some respondents were included in more than one sample. Percentages may not total 100 due to rounding

Sample demographics

Over half of the festivalgoers surveyed (in all samples) were over the age of 45, with a large proportion over the age of 65. The most under-represented age groups in the audience survey and PRS samples were the under 18s and the 18-24s. The under 18 group was better represented in the interview sample because this sample included people attending the schools events. It is worth highlighting, however, that the 18-24 age bracket is the narrowest, so this group is likely to be smaller for that reason. The interview, audience survey, PRS and follow-up surveys had a roughly equal numbers of males and females. The exit interview sample was predominantly female. There was an excellent response to the postal follow-up survey, over 70% of questionnaires were returned. This suggests that the members of this sample had a high level of engagement in the festival, providing motivation to complete the survey.

Both the audience survey and interview samples showed that at least half of respondents were from the ABC1 demographic group, comprising professionals and non-manual workers (52% audience survey respondents and 50% interviewees). A high proportion of festivalgoers were retired (27% audience survey respondents and 9% interviewees). The interview sample contained a smaller proportion of professionals/senior managers and retired people, probably due to the more balanced spread cross the age groups. This is also likely to explain the larger proportion of students in this sample (21% for interviews compared to 7% for audience surveys). In both samples, the proportion of skilled manual workers, homemakers and unemployed people was small or non-existent (audience surveys: 8%, 4% and 0% respectively; interviews: 5%, 5% and 1% respectively).

Information on the media usage of festivalgoers was collected for the audience survey sample. Results showed that 86% of audience survey respondents regularly read daily 'broadsheet' newspapers, compared to a national average of just 19% (National Statistics, 2003). The same proportion of festivalgoers read 'broadsheet' newspapers on a Sunday. The most popular radio station among audience survey respondents was Radio 4, with over half (54%) of respondents listening regularly. Classic FM and Radio 3 were also popular. Audience survey respondents were most likely to visit museums/exhibitions, talks/lectures, the cinema and the theatre. It is important to remember, however, that the audience survey sample was self-selecting, so these demographics may not be typical of festivalgoers in general.

Additional demographic information was obtained from the audience survey sample and is summarised here: some 85% of audience survey respondents had a degree, and 50% had a postgraduate qualification. This compares to national figures of just 8% and 3% respectively, and a regional figure of 14% for any higher qualifications, (National Statistics, 2003; Cheltenham Festivals). It is clear from this that festivalgoers in the audience survey sample had, on the whole, a level of education far higher than the national and regional averages. This was, however, a self-selecting sample, so these demographics may not be typical of festivalgoers in general.

Attitude towards science, science media usage and science leisure activities

Pre-existing attitudes towards science were probed during the interviews. Four out of five interviewees (82%) had a pre-existing positive attitude towards science, saying they either '*liked*' or '*really liked*' science, with 57% of the sample stating the

latter. Some 16% of interviewees neither liked nor disliked science, and three respondents (2%) said they didn't like science much. No interviewee claimed to '*really dislike science*'. Most festivalgoers included in the PRS and interview samples (83% PRS, 94% interview) visited science events or attractions at least once annually, and 89% of both samples used science media (read about science, watched/listened to science programmes on TV or radio) at least once per month.

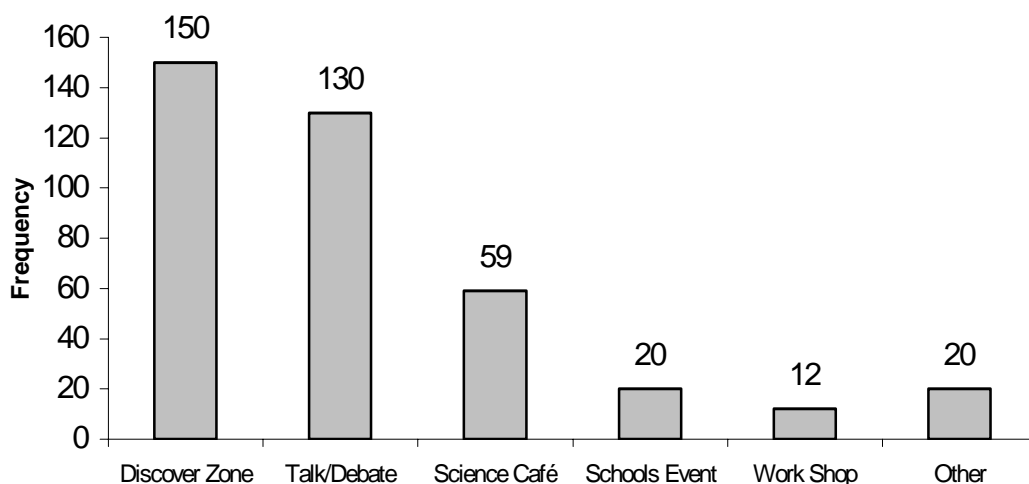
6.3.3 The nature of a festival visit

In both the interview and audience survey samples, a large proportion of festivalgoers attended for more than one day (75% in audience surveys and 65% from interviews), with around a quarter (27% in audience surveys and 25% from interviews) attending for four days or more. Interestingly, the interview sample contains more respondents who attended the festival for only one day (35%, compared to 25%). This might be due to the self-selecting nature of the audience survey sample, whose members may have a greater interest in the Cheltenham festivals (more of them are on the mailing list), so are likely to spend a greater amount of time at the festival.

Interviewees were asked for the first part of their postcode in order to judge the distance they had travelled to attend the festival. Over half of the respondents (60%) were from Cheltenham and the surrounding area, with 83% travelling from the Cheltenham postcode area or an adjacent postcode area.

Figure 6.3 shows how many visitors each part of the festival received from the interview sample.

Figure 6.3 Parts of the festival visited by members of the interview sample



The *Discover Zone* was the most visited part of the festival, closely followed by the *talks* and *debates*. It became apparent in several of the interviews that students who had attended *schools events* during the week had returned at the weekend to visit the *Discover Zone*.

6.3.4 Impact of individual events

In order to compare the impacts of the individual events within the festival with impressions of the festival as a whole, exit interviews were conducted following specific events. In total, 34 exit interviews were conducted following *talks*, *debates* and *science cafés*. Interviewees were asked if they felt that attending the individual event had changed their opinion on the topic, and were then probed as to the nature of the change. Comments collected in this way largely indicate a shift in the cognitive domains of audience members. A number of comments related to the specific content of the session, or described gaining information or learning:

“Clarity of understanding” (25-34 year-old female)

“Importance of nutrition” (55-64 year-old male)

“More information validated and confirmed”
(45-54 year-old female)

Of the thirteen people interviewed following the *science cafés*, six had contributed to the sessions, and all but one of these felt that their opinion had been taken on board. Interestingly, two of the interviewees who had contributed claimed to have never taken part in a similar discussion or debate before. All of the interviewees said that they would be continuing to discuss the issues raised at the *science cafés* outside the festival, and seven claimed that their opinion on the topic had changed following the session. Comments from interviewees following the *science cafés* indicated that they were less sure of the nature of any change in opinion than those interviewed following the *talks*.

“Lets me see opposing views” (55-64 year-old female)

“[I am] confused – I didn’t disagree with anyone!”
(45-54 year-old female)

“It was more starting a discussion than learning”
(25-34 year-old female)

There was also evidence that one of the *debates* may have induced a behavioural change in its audience members. The ‘*Recycling is Rubbish*’ event involved a panel of three speakers who each gave a short presentation, followed by a question-and-answer session where the topic generated a significant amount of discussion. The personal response system was used at the end of the session, with questions that related to the audience’s pre-existing recycling habits and whether they had been prompted to change those habits following the debate. The results showed that most of the audience already recycled paper (96%) and that they would continue or start to do so (99%). The same was true for glass (87% and 88% respectively). The interesting result concerned the recycling of plastic, which had been discussed during

the session. Only 28% of the audience recycled plastic before the event, but 48% claimed that they would continue or start to do so by the end. It is not certain whether all these claims would result in a change in behaviour; however, the data do indicate a change in the audience's intentions.

6.3.5 Opinions of the festival

Visitors were asked to rate the festival in two ways, quantitatively and qualitatively. The personal response system (PRS) sample were only able to respond quantitatively, interviewees were asked to rate the festival quantitatively and qualitatively, and audience survey respondents were asked to complete a quantitative rating, but had the option of leaving additional comments in an open-form questionnaire item.

Quantitative Rating

In all three samples respondents were asked to rate the festival on a scale from very good to very bad, or excellent to very poor. Figures 6.4 and 6.5 show the frequency of responses for the three samples.

Figure 6.4 Festival rating for interview and PRS samples

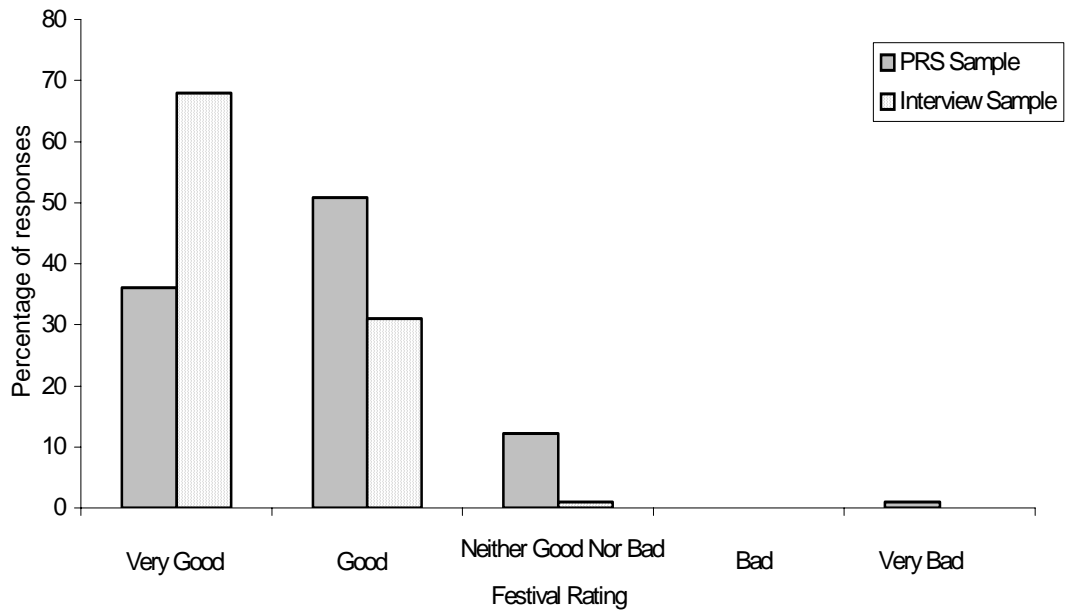
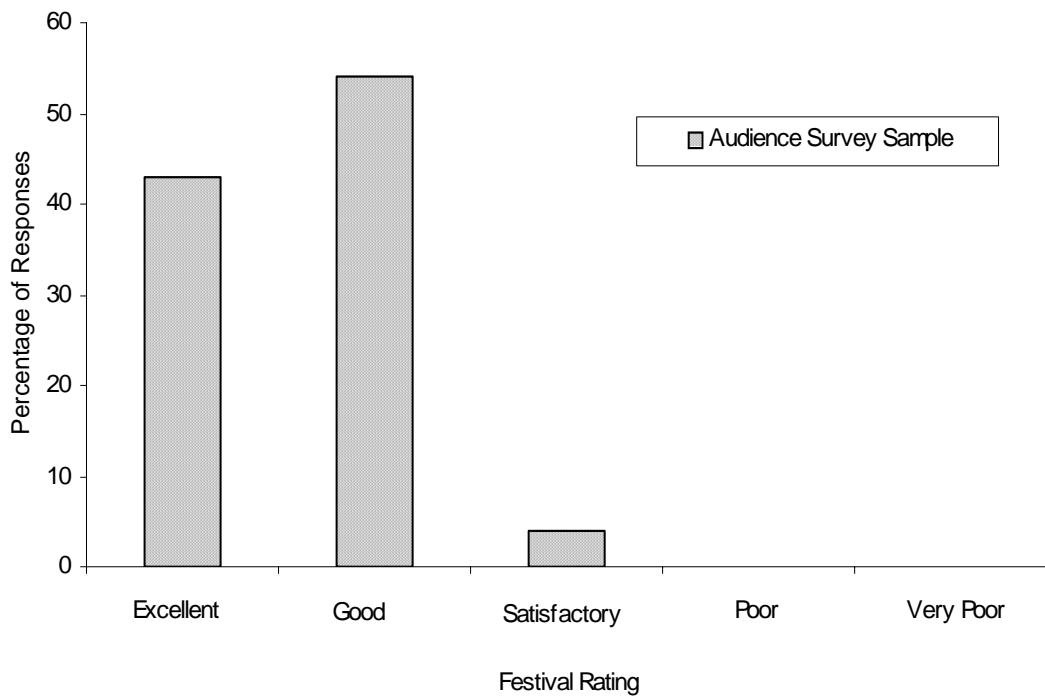


Figure 6.5 Festival rating for audience survey sample



The category scales on the graphs differ because of the ways in which the data were used. It was necessary to maintain continuity between the scales used in this chapter and other chapters of this thesis; however the audience survey data were also used by

Cheltenham festivals, who needed to maintain continuity with other data collection instruments.

The results are very positive, with 99% of the interview sample and 96% of the audience survey sample rating the festival as either ‘*good*’ or ‘*very good*’/‘*excellent*’. Some 87% of the PRS sample also responded in this way. The interviewees tended to respond more positively than the other two groups, with the highest percentage of ‘*very good*’ responses (68%). This might be due to the presence of the interviewer eliciting favourable responses. The most accurate sample here is probably the PRS sample, as the responses were anonymous and the sample was less self-selecting than the audience survey sample. This is reflected in the larger proportion of neutral responses (12% compared to 4% for audience surveys and 1% for interviews), and the only negative responses. However, even in this sample, the results are positive and show that most festivalgoers had a good overall impression of the festival.

When asked if they would attend the festival again, 98% of the interview sample and 97% of the PRS sample responded in the affirmative.

Qualitative rating

Interviewees were asked to describe their festival experience in three words. 330 words and phrases were collected from the interview sample, and these responses were grouped into categories. *Positive* responses described the festival in a positive manner, and *superlative* responses expressed extremely positive sentiments. A few respondents expressed *negative* sentiments. Many festivalgoers described the festival as *fun* or enjoyable, and some responses reflected the festival’s perceived

educational value. Some comments highlighted the level of *interaction* or engagement at the festival, and some indicated that the perceived primary target audience for festival events was *children*. Many respondents described the festival as *interesting* or *stimulating*, these two sentiments have been separated for the purpose of this analysis. Comments were made on the festival *atmosphere*, or described the festival in terms of its *diversity*. Finally, some respondents remarked on the festival’s professional *organisation*.

The numbers of words in each category were recorded, and Figure 6.6 summarises the results of this analysis. Some phrases were coded twice, e.g. ‘*great for kids*’ fits into both the superlative and the children categories. For a comprehensive list of all the words and phrases included in each of the categories, please refer to Appendix 6.2.

Figure 6.6 Results of category analysis for qualitative festival rating

<i>Category</i>	<i>Number of Responses</i>
Fun	65
Interesting	55
Educational	49
Superlative	45
Positive	40
Stimulating	28
Atmosphere	17
Negative	11
Diversity	8
Interaction	4
Organisation	4
Children	4

The most common responses were in the *fun*, *interesting* and *educational* categories.

Popularity of festival events

These data were gathered from the interview sample, who were asked which had been their favourite and least favourite festival events. Respondents stated that the talks and debates were their favourite part of the festival most frequently. Reasons for this included:

“Because it was aimed at adults” (25-34 year-old male)

“[the Quantum event] was a simple insight into a complex concept” (35-44 year-old female)

“Hearing famous intellectuals speak” (55-64 year-old female)

The *Discover Zone* was also popular. Reasons for this included:

“They let you do it – it’s more fun” (10-year-old female)

“You can walk up, learn something and walk away”
(35-44 year-old male)

“Good fun, free and interactive” (25-34 year-old male)

Many respondents felt there was no part of the festival that they had not enjoyed. This in itself is a positive result. A few events were singled out as being disappointing; reasons included late cancellation of activities.

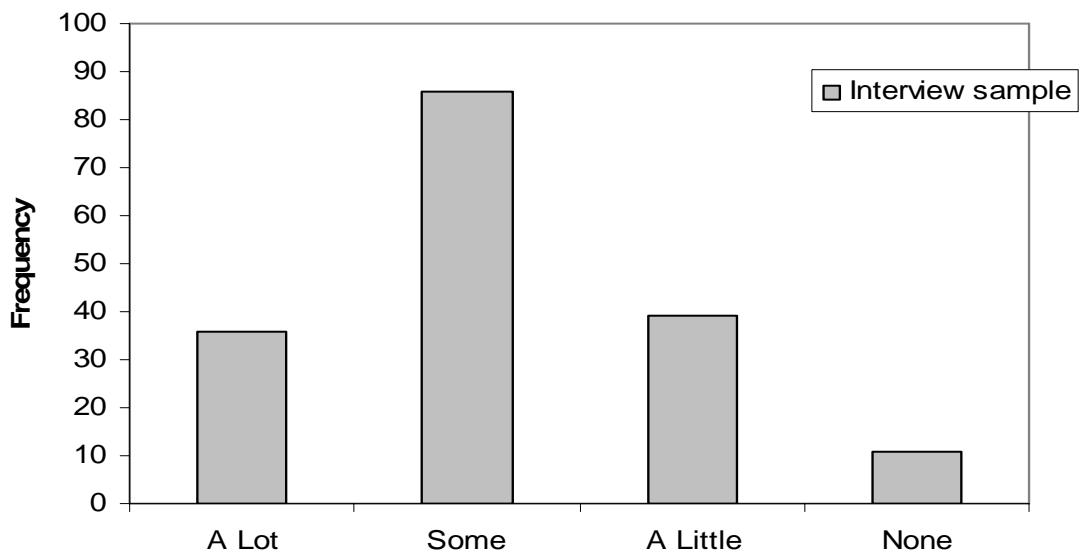
Scientific level of festival events

Members of the audience survey sample were asked if they felt that the speakers communicated on a level appropriate to the audience, and 96% responded in the affirmative. Results obtained from interviews following specific events reinforce this sentiment, as most respondents felt that the science in the events was ‘*about the right level*’. This suggests that, on the whole, the events were targeted correctly for their audiences.

6.3.6 Impact of the festival on visitors

Cognitive impact of the festival was measured indirectly by asking interviewees how much science they felt they had learned from the festival. The possible responses were: ‘a lot’, ‘some’, ‘a little’ or ‘none’. Figure 7.17 shows the distribution of responses from the interview sample.

Figure 6.6 *Perceived cognitive impact of the festival, responses to the question ‘How much science do you feel you have learned from the festival?’*



Only 6% of respondents felt they had learned no science from the festival, and several of these were scientists who gave the reason that their pre-existing science knowledge was reasonably extensive. Combined with the large number of festivalgoers who described the festival as ‘*educational*’, this result indicates that an event such as this has a perceived cognitive impact on its visitors.

Interviewees were asked if attending the festival had changed the way they felt about science and, if so, in what way. 166 comments were collected in this way, and around half (48%) of respondents claimed that the festival had not changed the way

they felt about science. However, a number commented that this was due to their existing positive attitude towards science.

Of the remaining comments, 23 indicated a shift in the cognitive domain, these included:

“better knowledge and understanding” (45-54 female)

“conveys complicated subjects clearly” (35-44 female)

“learned new science” (55-64 female)

“deepened understanding” (18-24 male)

A proportion of the comments (39 of 166) indicated a shift in the affective domain.

A few of these exposed the link between cognition and affect by describing the learning that took place and the subsequent emotional response. For this reason these comments were counted in both the cognition and affect categories. Comments regarding affective impact included:

“it has made it feel more fun” (18-24 female)

“scientists change the way we think and live” (18-24 male)

“more interested in science” (under-18 female)

“realise there is a variety to science – not as boring as [I] thought” (35-44 female)

A further 13 comments expressed the fact that the festival had reinforced an existing positive attitude towards science, for example:

“reinforced like of science” (35-44 male)

“rekindled enthusiasm” (35-44 female)

“has strengthened interest” (under-18 male)

It would appear from these comments that the festival as a whole had both cognitive and affective impacts on visitors, whereas the impact of individual events was primarily cognitive. In addition, almost all (99%) festivalgoers agreed that the festival was a '*fun way to learn about science*'.

6.3.7 Dialogue

One of the festival aims was to stimulate discussion of scientific issues amongst festivalgoers. It was difficult to measure whether or not such discussions were taking place, but the interviewees were asked if they had taken part in any debates at the festival, and if they were likely to continue the discussions outside the festival. A quarter of the interviewees (25%) had actively taken part in a discussion, debate or question-and-answer session at the festival (that is, voiced a question, comment or opinion during a *talk*, *debate* or *science café*). When the remaining interviewees were probed as to why they had not taken the opportunity to ask questions of the speakers, the most common response was that no suitable question had come to mind, or that the questions they had before the event had been addressed during the session. A few interviewees admitted to feeling too intimidated to ask questions during the sessions. The majority of respondents (70%) stated that they were likely to discuss issues raised at the festival outside the festival.

6.3.8 Longer-term impact

All of the 43 members of the follow-up survey, conducted by postal questionnaire, expressed a pre-existing interest in science. Most respondents (77%) could recall at least one *talk*, *debate* or activity they attended during the festival 6 months later. They were asked whether they thought the festival had changed the way they felt

about science six months after the festival. 13 of the 43 reported that there was no change; of the others, three reported cognitive shifts, 14 reported affective changes and 7 reported that the festival had reinforced their positive attitudes towards science. From these data it appears that the festival impacts detailed above continued for at least 6 months after the festival, although the group of respondents who returned the forms are likely to be those who held positive views of the festival. The high level of engagement of these respondents is typified by the high response rate to the postal survey.

Responses to the follow-up survey also indicated behavioural change – the questionnaire asked whether respondents had been prompted to take any actions following the festival, and many claimed to have bought science books or visited science websites. One respondent said she now takes food supplements as a result of attending the ‘*Science of Ageing*’ presentation. A few respondents also reported visiting museums and science centres, often with their children.

6.4 DISCUSSION

6.4.1 Festival successes

In general, responses to the festival were very positive. The festival was perceived to have good entertainment and educational value, and many festivalgoers left having changed their opinions on issues raised at the festival (as demonstrated by the responses to question 9 in the exit interviews on page 184) and keen to continue the discussion of those issues. A large majority of festivalgoers felt that the events were targeted at the right level scientifically; however some festivalgoers were under the

impression that the main target audience of the festival was children. These findings represent successes on the part of the festival organisers and directors, who provided an event that was appropriately designed for, and enjoyed by, those who attended.

6.4.2 Festival impact

The festival had an impact on the cognitive, affective and behavioural domains of its visitors. The impact of an individual event was often limited to a cognitive shift, although the effect of a collection of these events, or the ‘festival experience’, often led to more positive feelings about science in general, and sometimes an alteration in behaviour.

Interestingly, festivalgoers who had attended the more discursive sessions such as the *science cafés* appeared to leave with less clear changes in opinion than those who attended the less discursive activities such as the lectures. The current trend for emphasising dialogue in science communication activities (House of Lords, 2000) encourages publics to engage with the debates around scientific issues, rather than simply learning new scientific information. The results from the science café visitors indicate that they promote this type of interaction. In addition, several people who contributed to the *science café* events had not taken part in such a discussion before.

One unexpected way of stimulating discussions about festival events was demonstrated with the ‘*Evolving Art*’ project in the *Discover Zone*, where festivalgoers united in a common task (colouring squares of card to form a large image from pixels) struck up conversation about the different events.

6.4.3 Festival limitations

The main limitation of the festival was in the audience it attracted. Gender balance among attendees was roughly equal (which counters the preconception that science is male-dominated) and all age groups were represented, although not equally. However the other festivalgoer demographics revealed that while the festival made every effort to make science accessible, it was not fully inclusive. The typical festivalgoer was a white, middle-aged, member of the ABC1 demographic group with an existing interest in science. They were likely to read 'broadsheet' newspapers, and listen to classical music and current affairs on the radio.

The festival in its current format is not ideally positioned to attract traditional inattentive audiences, who, as described in Chapter 1, often come from less affluent backgrounds and have lower levels of education than their more engaged counterparts. Firstly, any event that is overtly labeled as 'science' will naturally attract first and foremost those who have an existing interest in the topic. Some adults without a pre-existing positive attitude towards science did attend the festival, mostly accompanying a friend, relative or partner. While the impact on these festivalgoers was a strong one, their numbers were few. Secondly, while there were numerous advantages that made locating the festival in Cheltenham a good idea, the local demographic meant that few members of the '*Not Sure*' and '*Not for Me*' groups (as defined in Wellcome/OST, 2000 and summarized in Chapter 1) were likely to attend. However, a large number of retired people visited the festival, and it became apparent in several of the interviews that the festival was accessible to retired females who had not studied much science at school.

The issue of engaging these ‘inattentive’ audiences is probably the biggest challenge facing science communicators; a solution to this problem will be neither easily found nor straightforward. The difficulty for organisers of events such as science festivals is that attracting audiences without a pre-existing positive attitude towards science requires extra investment of time and finances. This has been recognized by the science communication community, and is currently being addressed through a number of initiatives, for example the Delivering Inclusion in Science Communication (DISC) project (2005). In addition, the BA Festival of Science has recently adapted its programme to include more outreach-type activities held in a variety of venues. Although supported by numerous sponsors, much of the funding for science festivals such as Cheltenham is obtained through ticket sales, and there is simply not room in the budget to invest in engaging hard-to-reach groups. For this reason, and because festivals such as Cheltenham are so successful with the groups they do reach, the question as to whether science festivals are an appropriate medium for engaging inattentive audiences would appear to be an important one.

Appendix 6.1

Data collection materials

- Semi-structured interview schedules (exit and general interviews)
- Audience survey questionnaires
- List of evaluation questions used with personal response system
- Follow-up postal questionnaire

Exit interview

We are interested in your opinions about the event you have just attended. The interview will only take a few minutes and your comments will help us plan future events.

1. How would you rate the event?

Very Good

Quite Good

Neutral

Quite Bad

Very Bad

2. Were you aware that this event was sponsored by Pfizer/Wellcome?

Yes

No

3. What did you think of the length of the event?

Much Too Long

Too Long

About Right

Too Short

Much Too Short

4. What did you think of the Science in the event?

Much Too Easy

Too Easy

About Right

Too Difficult

Much Too Difficult

5. Did you join in the debate?

Yes

No

6. Have you taken part in a debate like this before?

Yes

No

7. Do you feel that your opinion was taken onboard in the session?

Yes

No

8. Do you think that having attended this session, you would continue to discuss it outside the Festival?

Yes

No

9. Has the session changed your opinion on the topic?

Yes

No

If YES, in what way?

10. Do you think that the event was an enjoyable way to learn some Science?

Strongly Agree

Agree

Neither Agree nor Disagree

Disagree

Strongly Disagree

11. How much previous knowledge would you say you had on this topic?

A lot

Some

A Little

None

12. How much Science do you feel you've learned from the event?

A lot

Some

A Little

None

13. What was your favourite part of the session?

14. What was your least favourite part of the session?

15. Can you think of any ways in which an event like this could be improved in the future?

16. Would you attend an event like this again?

Yes

No

Festival Evaluation Interview

We are interested in your opinions about this year's Cheltenham Science Festival. The interview will only take a few minutes and your comments will help us plan future events.

1. How many days have you spent/will you spend at the Festival?

1 day

2 days

3 days

4 days

5 days

2. Did you book in advance or drop in?

Book

Drop In

3. Which parts of the Festival have you visited/will you visit?

Discover Zone

Work Shop

Schools

Talk/debate

sci cafe

other

4. Did you attend last year's festival?

Yes

No

5. How did you hear about the Festival?

Came last
Year

Newspaper
/Magazine

Radio

Word of Mouth

Other.....

6. Which part of the Festival have you enjoyed the most? Why?

Discover Zone

Work Shop

Schools

Talk/debate

sci cafe

other

Why?

7. Which part of the Festival have you enjoyed the least? Why?

Discover Zone

Work Shop

Schools

Talk/debate

sci cafe

other

Why?

8. Could you sum up your Festival experience so far in 3 words?

9. Why do you think we have a Science Festival in Cheltenham?

10. Do you think that the Festival is an enjoyable way to learn some Science?

Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree

11. How much Science do you feel you've learned from the Festival?

A lot Some A Little None

12. Before you came to the Festival, how did you feel about Science?

Really liked Quite Liked Neither Liked Nor Disliked Didn't Like Much Really didn't Like

13. Do you think that the Festival has changed the way you feel about Science? In what way?

14. Whilst at the Festival, have you taken part in any discussions or debates?

Yes No

15. Have you been prompted to discuss any of the issues raised at the festival outside the Festival?

Yes No

16. How would you rate the Festival?

Very Good Quite Good Neutral Quite Bad Very Bad

17. Would you come again next year?

Yes

No

18. How do you think that the Festival could be improved?

Now some questions about yourself...

19. Which of the following age brackets do you fall in?

<18

18-24

25-34

35-44

45-54

55-64

65+

20. Gender

Male

Female

21. Who are you here with?

School

Family

Friends

Alone

Partner

Community

Other

Group.....

22. How many people are in your party (including yourself)?.....

23. How many times a year would you say you visit a science centre, science based events or conferences?

0

1

2-3

4-5

6-7

8-10

10+

24. How many times a month would you say you read the science pages in the national broadsheets or articles in specialist magazines?

0

1

2-3

4-5

6-7

8-10

10+

25. What is your occupation?

**26. What is the first part of your
postcode?.....**

**And finally, would you be willing to be contacted at a later date for a possible
follow-up interview or questionnaire?**

If so, name.....

Phone Number/s.....

E-mail.....

Postal Address

.....
.....
.....

Preferred form of communication

Phone

E-mail

Post

Thanks!

Electronic voting questions

1. Are you:

Male? Female?

2. In which of the following age groups are you?

Under 18? 18-24? 25-34? 35-44? 45-54? 55-64? 65+?

3. How would you rate the festival?

Very good? Good? Neither good nor bad? Bad? Very Bad?

4. Would you come again next year?

Yes? No?

5. How many times a year would you say you visit a science centre, science based events or conferences?

0? 1? 2-3? 4-5? 6-7? 8-10? 10+?

6. How many times a month would you say you read the science pages in the national broadsheets or articles in specialist magazines?

0? 1? 2-3? 4-5? 6-7? 8-10? 10+?

Cheltenham Festival of Science Evaluation: Follow-Up

Please take a few minutes to complete the questions on this form, and return it in the envelope provided. Your comments will help us plan future events.

1. How do you feel about Science?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Really like	Quite Like	Neither Like Nor Dislike	Don't Like Much	Really Don't Like

2. Do you think that the Festival changed the way you feel about Science? If so, in what way?

3. Which part of the Festival did you enjoy the most? Why?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discover Zone	Work Shop	Schools	talk/debate	sci cafe	other	not sure

Why?

4. Which part of the Festival did you enjoy the least?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discover Zone	Work Shop	Schools	talk/debate	sci cafe	other	not sure

Why?

5. Without referring back to any Festival literature, can you recall the names of any speakers or titles of any of the events/activities you attended? If so, please list them below:

6. Please write down 3 words that sum up your Festival experience?

7. Do you think that the Festival is an enjoyable way to learn some Science?

Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree Not Sure

8. How much Science do you feel you learned from the Festival?

A lot Some A Little None Not Sure

9. Whilst at the Festival, did you take part in any discussions or debates?

Yes No Not Sure

10. Did the Festival prompt you to do any of the following...

a) discuss any of the issues raised at the festival outside the Festival?

Yes No Not Sure

If so, what can you recall discussing and why?

b) take an action to find out more information, e.g. go to the library, look up information on the internet, buy a book etc.

Yes

No

Not Sure

If so, what action/s did you take and why?

c) attend another Science event or Science attraction, e.g. museum, Science Centre, Science Festival etc.

Yes

No

Not Sure

If so, where did you visit and why?

11. How would you rate the Festival?

Very Good

Quite Good

Neutral

Quite Bad

Very Bad

12. Would you come again next year?

Yes

No

Not Sure

**13. Are there any other ways in which you think the Festival has had an impact?
If so, please write them below:**

--

**14. If you have any other comments on the 2003 Cheltenham Festival of
Science, please write them in the space below:**

--

Appendix 6.2

- Categories for words used to describe the festival

Positive

Best ever, better than thought, bright, come again, do it again, enrichment, friendly, full of hope, good, good family fun, happy, impressive, insightful, like disco lights, liked CDs, makes rest of year feel devoid, not as good as Glastonbury but better than staying at home, positive, pretty good, relaxing, surpass expectations, well worth coming, well-informed, will come again

Superlative

Amazing, awe, brilliant, excellent, exciting, exhilarating, fandabbydozy, fantastic, great, great for kids, incredible, joy, loved it, magic, super, very good, very good again

Fun

Amusing, enjoyable, entertaining, entertaining for children, fun, nice to learn about Science in a fun way, very good fun,

Education

Didactic, educational, enlightening, illuminating, informative, intellectual, intelligent, learn, learn a lot, more understanding, nice to learn about Science in a fun way, points out what you don't know, realize how much I don't know, Scientific, shared knowledge

Engage/interact

Discursive, hands-on, interactive

Children

Entertaining for children, good family fun, great for kids, kept children busy

Negative

Distracting, fraught, frustrating, hot, rubbish

Buzz

Busy, buzzing, chaotic, cluttered, informal, inspiring, intense, lively, vibrant

Interesting

Eye-catching, fascinating, interesting, intriguing, new experience, new ideas, new, riveting, unexpected interesting, very interesting

Diverse

Absorbing, balanced views, diverse, free-roaming, varied, variety

Stimulating

Challenging, eye-opener, inspiring, intellectually stimulating, makes you think, mind-boggling, reason to read books, stimulating, thinking, thought-provoking, very inspiring

Organised

Planned, targeted, well-organised