

Executive summary

"I kept finding that I'd ask a question, and they'd give me an answer, and then I'd have loads more questions, and then more, and then more!"

Student, June 2010, West Thames College

In June 2011 over 7,000 secondary school students registered at <http://imascientist.org.uk/> to take part in the UK's largest online science engagement project.

They read the profiles of 115 scientists, and asked over 21,000 questions. After duplicates were removed, 8,620 questions were approved and the scientists left over 17,500 answers. In the course of 333 live chats, scientists and students wrote over 100,000 lines of text. June 2011 was the 6th time that the I'm a Scientist event has run.

This report will examine how well the event has worked.

Has it promoted two-way dialogue between students and scientists?

Has it delivered against the objectives and outcomes set out at the beginning of the project?

Has it secured further funding?

The event runs for two weeks at a time and the students ask questions, chat to the scientists and vote for the scientist they want to win. More information on what the event involves and how it works can be found at <http://imascientist.org.uk/about>.

The overall aim of the project is to **promote two-way dialogue between scientists and secondary school students**. The evidence is clear that this aim has been achieved. One of the advantages of running an online engagement event is that data can be gathered very accurately on a wide range of factors. We know that over 15,000 students registered on the site in 2010/11. We know that in June 2011 80% of them actively participated. That means 8 in 10 either voted, chatted, asked a question or commented on a question. This is not a sample from a self-selecting survey. This is an absolute figure from the records kept by the website (Section 2).

We therefore know that interaction between scientists and students has taken place. But what was the effect of that interaction? For that we do need to turn to post-event surveys (Section 4).

- **96%** of teachers now feel their students have a more positive view of science
- **84%** of teachers now feel their students have a more nuanced view of science
- **79%** of teachers now feel their students are more able to debate scientific issues

- **84%** of students now feel that they know more about what scientists do
- **74%** of students now feel more (or much more) confident in asking questions about science

- **98%** of scientists were positive about their experience of the event
- **65%** of scientists felt they changed the language they used during the event

- **94%** of scientists interacted with other scientists during the event

Section 5 of this report contains Question Keyword reports illustrating the topics asked about in each of the zones from the June 2011 event. Section 3.4 and Appendix 4 give the results of a Personal Meaning Mapping exercise which provide some evidence that the event has changed students' attitudes towards science.

The team are confident that the event has promoted two-way dialogue between students and scientists.



At the outset the project team set four objectives:

1. To run the event consisting of website, competition and supporting materials.

This objective was achieved. The new website was built and launched in March 2010 and since then has attracted 220,388 unique visitors who have viewed pages 1,816,729 times.

55 scientists have won their zone (the Forensic Science Zone in March 2011 was drawn and therefore had two winners) and £27,500 has been distributed to be spent on science communication. More information at: <http://imascientist.org.uk/news>.

Supporting materials were produced, sent to participating teachers and made available for download at: <http://imascientist.org.uk/teachers/teaching-resources>. According to feedback surveys 90% of teachers used at least some of the lesson plans or information sheets.

2. To run at least 50 zones equating to 250 scientists, 1,000 classes and 20,000 students.

In total 54 zones were run in the two years that this report covers. This meant just under 270 scientists took part, as a small number took part more than once. However only 769 classes actively took part in the event resulting in 15,888 students registering on the site (Section 2).

The team had a target of 400 students per zone which did not seem unreasonable after their experience during the pilot in 2008. However as the event expanded the drop-out rate amongst teachers increased to approximately 33%. To counteract this the team increased the number of classes allocated in each zone to 22. The average number of students per zone rose from 256 in 2010 to 327 in 2011. However it is not possible to lift this average simply by allocating more classes because some zones are over their limit with the current allocations of 22 classes per zone. For example Calcium Zone in June 2011 had 466 students registered. The team need to ensure that the drop-out rate in poorly performing zones is improved rather than increasing the overall numbers across the board.

Being an online event the team are able to analyse which schools turned up in which zones and this work should help them even out the load in future events.

3. To evaluate the project at beginning, middle and end.

The team carried out formative evaluation with teachers at the beginning of the project. A panel of teachers was recruited and asked to advise and that panel has remained in place throughout the project. Teachers and students are also consulted regularly to help guide the choice of themed zones and to select scientists to take part in the event.

Halfway through the event an interim evaluation report was written and published:

<http://imascientist.org.uk/about/evaluation>.

In 2011 each scientist was sent a mini-evaluation of their zone detailing the basic statistics for their zone and information about the questions asked.

This report forms the formal evaluation at the end of the report and the project team are working with the University of the West of England and University College London to create more detailed analysis of the vast amounts of data that the project has created.

4. To secure further funding from other sources to run the project beyond 2011.

The team had targeted themselves to raise a further £77,000 of funding over the 2 years of the project. In the end they managed to raise £15,000 from the Institute of Physics, Research Councils UK and Nelson Thornes Ltd. The feedback from the sponsors has been very positive (Sections 3.1, 3.2, 4.5 and Appendix 6) with the IoP already committed to sponsorship in 2012 and with Nelson Thornes and RCUK in negotiation.

The change in government and abrupt change in government spending did not help the team achieve this objective but there is emerging evidence that more potential sponsors are aware of the event and willing to help fund it in future.

In summary, I'm a Scientist has been a big success. Although it has not achieved the very high numbers of students or additional funders it set out to get, it is clear that it has engaged very successfully with those teachers, students and scientists that have taken part.

"I'd just like to say thanks to the Wellcome Trust for the funding, the Gallomanor guys at IAS HQ, and the amazing moderators, and to the lovely students in my zone, and the gorgeous scientists in my zone and other zones too. Everyone was a little puzzle piece in this huge jigsaw of wonderfulness, and although I loved taking part, I'm gutted that it's over, but still ecstatic that I won my zone!"

Scientist, June 2011