

## **Small Talk School Event Summary**

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### **Logistics**

Debate with a Difference: Nanotechnology was run on February 22<sup>nd</sup>, 2006 as a Small Talk event. The programme was run with thirty-four Year 10 students at Downlands Community School in West Sussex. Downlands Community School is a specialist science college, and has had experience of hosting events extending science curriculum topics.

The session was originally planned to complement the upcoming Brighton Science Festival. After numerous discussions with the festival organisers it emerged that it would not be feasible or straightforward to display the work of the students in a meaningful way at the festival.

The session was led by Savita Custead, project officer for Ecsite-uk. The students worked in small self-facilitated groups of six students, and were assisted by Savita as well as Rosalind Mist, project manager for Ecsite-uk, and three guest teachers. The events were also observed by Basil Donnell, science advisor for the West Sussex Local Education Authority.

Dr. Ray Whitby, a nanochemist from the University of Sussex, acted as a "visiting expert" for the session. Dr. Whitby gave a five minute introduction to his work at the beginning of the session and circulated between the groups for one-to-one conversations with each of the groups and individual students.

### **Context: Building on previous Small Talk events**

One of the objectives of the session was to build on the lessons gathered from previous Small Talk for both adults and children. A number of these lessons were collected at a working lunch hosted by The BA. The session was planned to incorporate any points that were relevant. Specifically:

*(please refer to full document: "Small Talk – Lessons Learned" compiled by Ecsite-uk)*

1. Nanotechnology is a very broad issue, so it is necessary to choose certain elements to discuss.

Students were given six carefully selected tasks to complete during the session, and these were each related to the work of the visiting scientist.

2. Participants need to receive the key information points which requires a suitable introduction. In creating such an introduction we have to look at content, delivery style, and length, etc.

The visiting scientist gave an introduction describing nanotechnology at the start of the session. The scientist was briefed before the session on pitching the session to the student's level, and what points might be most important to cover. A document entitled "Speaker's Brief" was given, outlining expectations and ideas for speaking to students, developed by Ecsite-uk for another project.

- What is the best way to work with visiting experts?
- Are experts more likely to perceive their role as 'teaching kids' rather than 'learning from kids' if the event is in a school rather than another venue or science centre?

This question was carefully considered and the expert was contacted far in advance of the debate, provided with all necessary information and supported through the process. This relationship will be further evaluated by Ecsite-uk using an Expert Interview Guide toolkit created for another project. Immediate feedback from the scientist reflected his enjoyment of the event, surprise of how well the students engaged with the topic, interest in the student's opinions and views, and desire to attend (and possibly have a organising role) in another Debate with a Difference: Nanotechnology.

- What aspects should a policy statement, created by participants, cover?

This question was approached by giving the students a framework for policy creation using three of the suggested questions on regulation included in the Small Talk interim report published November 2005.

### Feedback and Results

Students attending the events were asked to work in small groups to a consensus on three questions, and responded:

1. Who should decide what kind of nanotechnology research is done? (ie scientists, government, the public, someone else?)
  - *The public should vote for a council of scientists who get to decide for other scientists*
  - *Scientists should have the first choice, but the government can have a say*
  - *The public should be able to vote on the research made*
  - *There should be a council of all kinds of people that should get to decide*
2. Are there any areas of nanotechnology that should not be allowed?
  - *Anything with higher risk than gain. Anything which isn't much use compared to its cost or the time spent on it*
  - *Nothing should be disallowed*
  - *The public should also vote on what is allowed or not*
  - *Anything to do with military or war should not be allowed*
3. Should nanotechnology be given more or less money than other types of science research?
  - *Give nanotechnology the same amount of money as other scientific researches*
  - *More, to allow research into the new technology, as it is the next step in technologies, and more possibilities.*
  - *It should be the same*
  - *Research given all chance and then the best ideas get the money*

#### Four Key Issues

Facilitators had the opportunity to circulate between groups, and it became clear that prior to policy creation four topics tended to emerge in each group. These "key issues" were raised and addressed by a combination of self-prompting from the activities, and focused questions from the facilitators and scientists.

1. Public Involvement in decision making: does the public know enough to affect/decide research? How much is "enough" to know?
2. The role of paranoia in science policy: rumours about results, Prince Charles' comments on grey goo, people's fears about health and war
3. How in touch are researchers with teenagers? For example, when working on new technologies, researchers may think that teenagers want gadgets that they don't really want. When does it happen that the public, and teenagers, get to suggest research instead of just approving or disapproving it?
4. The role of government in decision making, partially illustrated by this conversation:  
*"The government [should decide]..that's what they are all in London for, that's what they do."  
"Yeah, you really think Tony Blair even knows what nanotechnology is? So he gets to decide?"*

## **Evaluation**

To gain feedback on the activities students were asked to name their favourite tasks of the day. All of the groups cited the "Splash the Cash" debate activity, where they are asked to simulate a research council assessing nanotechnology proposals, and a number also included making and presenting their policies. One group added that a highlight was discussing the issues with the visiting scientist, Dr. Ray Whitby.

The least liked activity by all was the analysis of the Public Service Announcements. It would be instructive to have had the opportunity for follow up questions about what was unappealing about this activity. One possibility is that this activity was cut short to make more time for general discussion and policy forming, and so the students did not have the opportunity to discuss the images in great depth or create their own.

Further evaluation of the event will be conducted by Laura Grant, using a Small Talk evaluation form that will be sent to the participating teacher and students.