

Access to STEM subjects **and** the Third Sector

Using Facebook as a tool to support the engagement of underrepresented STEM groups in secondary education

The objectives for this project are as follows:

Objective 1: Through discussion and sharing, broaden widening-participation approaches used by the HEI and third-sector partners in order to better target underrepresented students in compulsory 11-19 education.

Objective 2: Use the outcomes from above to investigate the potential for the development of an online resource that could be used to engage these under-represented groups.

Objective 3: Identify possible sources of funding that would enable the online resource to be developed into an online package that could be used by all HEIs to engage and motivate students from underrepresented groups to consider undergraduate study.

The target group

The project aimed to target Year 9-11 secondary school students who would not ordinarily consider studying STEM subjects at University post compulsory education.

The outreach methodologies employed

The initial phase of the project involved University of Bristol researchers and third sector educators in a launch meeting to discuss and consider the challenges in identifying and engaging underrepresented groups. The aim was, initially, to share current best practice and to discuss how an online resource would be developed and to also discuss the methodologies for collecting data from the schools participating in the project. The new Facebook timeline feature was discussed as a potential way of engaging students. By setting up a fictitious student user it would be feasible to post timeline entries to highlight and demonstrate experiences that engaged them as they make decisions about future STEM study and careers. This could then act **as** a model for other students to comment, share and engage with.

The group believed this would have great potential, so a decision was made to arrange focus group sessions with secondary school students to inform the questions that would need to be answered on the timeline. A focus group session was arranged in each participating school and researcher pairs each met with a small number of Y9 students to consider their views about University STEM study. The refined questions are shown in Appendix 1.

Two schools, Orchard School in Bristol and Gloucester Academy, agreed to participate in the project and we agreed to meet with the teacher of each school to plan the focus group sessions. The teachers were briefed beforehand to arrange for about 10 students to be available. Following the sessions, the team members wrote up their notes and circulated them to the group. The teachers were a vital part of the group and also assisted with the discussion.

The stage of development of the project

The initial set up of this project within the agreed timescale had been quite challenging. We found that it was not possible to get all the team together for the initial meeting and we found that Plymouth University were not able to commit to the project due to the short

timescale. Also, despite our best efforts we were unable to engage colleagues from widening participation in both HEIs. As a result of this we only had participation from colleagues at the University of Bristol but the team we managed to pull together were able to commit to the project.

We are now at the stage where we have compiled the summary report from each focus group meeting and we have arranged to meet on 20 June to consider how we use the data to inform the online resource. We will then move to develop the Facebook timeline concept given that development costs will be fairly small. More importantly, Facebook is a tool most students of secondary school age interact with and could be very useful in promoting STEM study post-16.

The partners involved

Project partners: At-Bristol, Science Learning Centre South West, Learning Science, University of Bristol. Orchard School in Bristol and Gloucester Academy were also integral to the project.

The third sector lead for this project is At-Bristol, a world-class science and discovery centre that engages the public with contemporary science and technology and works to improve formal and informal science education across the country with the aim of making science accessible to all. At-Bristol acts as the host organisation for Science Learning Centre South West, which has a remit to provide inspiring CPD for science educators in schools and colleges (teachers, lecturers, technicians and teaching assistants). The project now involves the following science colleagues:

Prof Peter Barham and Dr.Helen Heath (School of Physics, University of Bristol)
Dr John Eastman (Learning Science)
Tim Harrison (Bristol ChemLabS, University of Bristol)
Bryan Berry (SLC SW Director, At-Bristol)
Chris O'Callaghan (Formal Learning Manager, At-Bristol)
Kerry Gibson (Science teacher, Gloucester Academy)
Kelly Gowler, (Science teacher, Orchard School)

Examples of the activities that the model will involve

- Discussion and debate about widening participation activities and using school data to inform decision making
- Development of focus group questions
- Focus group interviews
- Review and analysis of pilot data to inform Facebook timeline
- Collaboration between HEI, schools and third-sector organisation

How the model could be developed by other organisations/in other contexts in terms of the resources, partners and actions required

Essentially, At-Bristol/SLC SW acted as a broker between the schools and the HEIs. Other Science Learning Centres could facilitate this role and all are linked to at least one HEI. They have a wide range of partners and stakeholders and by negotiation with the Network of Science Learning Centres it will be possible to identify other science discovery centres to help broker a similar project in other areas.

Evidence of commitment from one or more HEIs to work with the Third Sector deliverer in implementing the model in 2012-13.

The team is committed to developing a prototype web resource using the data obtained from student focus group sessions. The remaining funding will now be used to enable colleagues to meet to develop a working model of the Facebook page. We have also been approached by Aaron Porter, a Higher Education Consultant and Director of Aaron Ross Porter Consultancy Ltd, to investigate how the project might support the [Talent 2030](#) project. Talent 2030 works with employers in manufacturing and engineering and universities to support outreach in schools to promote STEM.

The two teachers working on the project have committed to developing an action research project on widening participation in STEM subjects. They will be funded through Science Learning Centre South West for this aspect.

[An account of how the funds allocated have been spent through completion of a set pro-forma signed by the organisation's Chief Executive or Head of Finance.](#)

This will be sent to Access HE as soon as we receive the pro forma.

[A final invoice for the remaining grant amount.](#)

The final grant invoice will be sent as soon as we receive the pro forma.

Appendix 1

Focus Group questions

General questions about University study

1. What is your favourite subject in school?
2. Do you want to go to University?
3. Do you think you are capable of going to University?
4. What opportunities does going to University offer?
*Propose some ideas to see if they agree or disagree. Independence, new peer groups, wider employment opportunities, life experience, different views on life, a wider spectrum of friends from different backgrounds, a guaranteed job, a free ride for **four** years.*
5. Why do you think that people go to University?
6. Do you know anyone who has gone to University? E.g. family.
7. What would your friends think if you went to University?
8. How do you think University is different to school?
9. How much do you think it costs to go to University? Who pays? Does the cost affect your decisions about whether to go or not?
10. How many hours a week do you think you work at University?
11. What sort of teaching happens at University?

Questions about science and engineering

12. What sort of jobs do scientists and engineers do?
13. Where do you think scientists and engineers work?
14. Do you think they have to travel much?
15. Why do we research?
16. Do you think all of science/engineering is currently understood?
17. Do you think you need a degree to be a scientist/engineer?
18. Where do you think scientific research happens?
E.g. Universities, companies, charities, government agencies, hospitals.
19. Who employs scientists and engineers?

20. How much do you think scientists and engineers can earn? More than a teacher?
More than the prime minister?
21. What would motivate you to study science further?
22. What do you think you need to study Post-16 in order to study science or engineering at university?
- Physics
 - Biology
 - Chemistry
 - Engineering
 - Computer Science
 - Geology
23. How important do you think maths is to help you study science?
24. What makes a good scientist?
25. What TV shows and films help you understand what University is like?
Big Bang Theory, Campus, Greek, Fresh Meat, Skins? The Social Network, A Beautiful Mind.