

Student Participation in STEM Outreach Activities

1) Outline the project or initiative and what makes it innovative and inspiring (max 300 words).

The aim was to get students involved with community STEM events where they would have the opportunity to showcase their expertise to the public, promote STEM subjects as a good choice for study, act as role models to potential students, improve their communication skills, work as a team with other students and have fun.

After the STEM team provided activities at the Belladrum Music Festival in 2012 we identified that it would be a great opportunity for students to also be involved. After some analysis of the options we came up with the proposal to have students work as “science buskers”, going out through the crowds.

For 2013 we worked with Joanne Allday at SAMS and Wendy Maltinsky of Inverness College to create a model for Belladrum. We came up with the concept of science wizards (including all the dressing up) taking experiments to the public.

This proved so successful and popular that the whole concept was expanded for 2014 with better equipment for the students, a more central location at the festival for the student base and the construction of a beach so that the marine science students had an area to work with the public. It also included a session lead by the TV personality Monty Hall and activities in the University sponsored Verve Garden.

As the theme for Belladrum in 2014 was wildlife the students became “science gorillas” and again were provided with costumes and props. The student representation also increased to include students from Moray College and Scottish School of Forestry.

The real success of the project has been seeing the enthusiasm from the students and the opportunity for them to work with students from other courses and colleges, have really great fun working with the public and have a really great weekend as well.

2) Detail how the project or initiative was delivered, from the planning stage through to its successful conclusion (max 300 words). Include details of timing* and funding.

The focus here is the 2014 Belladrum STEM event. Following the 2013 event all the participants agreed they wanted to be involved in the 2014 festival. The STEM team therefore put together a programme to co-ordinate and agree actions leading up to the festival.

The co-ordination included a series of meetings with potential participants from the academic partners, marketing team and Joe Gibbs the Belladrum owner / organiser.

The programme then linked up the possible activities with number of students involved, student and staff rota during the event, identification of resources and planning for the site.

All of this resulted in a complete programme of activities over the course of the festival, allocation of the 35 students and staff to each activity, allocation of tickets, booking of transport and purchase of resources. The resources for 2014 included all-terrain carts for the students to transport their experiments through the crowds and a “beach” constructed using sand with rockpools, seaweed and animal life.

In terms of the actual event everything worked out as planned. However, the students found interaction with the public so good that most continued to participate for longer than required in the rota.

The costs of the overall event were shared between the marketing team and the STEM team. The marketing team met the sponsorship and promotion costs with the STEM team funding the student activities including the beach, freebies, resources, van hire etc. The cost to the STEM team of supporting the student participation was £2300.

It should also be noted that most of the science experiments were designed by the students and in many cases they used their own materials. The STEM team utilised funding from the Scottish Government part funded "Science on Your Doorstep" project.

3) Outline the project or initiative's outcome(s) within the university and beyond with relevant supporting evidence, metrics or testimony where appropriate (max 400 words).

Testimony

Joanne Allday, SAMS "Three of my students requested the opportunity to return to Belladrum within a month of this year's festival. Two of them responded whilst they were still on their summer break, so they clearly found it useful and enjoyable.

From my perspective, Belladrum provides a safe environment in which students can practice their science communication skills. It also teaches them about presenting to people of all ages and to non-technical audiences. And they must compete for attention in a very busy space. (This in particular is extremely hard to replicate in other environments.) Alongside that, they have the opportunity to work with fellow UHI students and get to know people on other courses. I believe this helps foster the 'universitiness' we are seeking."

Benefits

The Belladrum model has shown how a number of benefits can be delivered through a well planned collaborative approach. It has provided the students with a first rate, unique and valuable experience. It has raised the profile of the University and promoted study and careers in STEM subjects. Having a base in the main festival site along with the roving student teams meant interaction with some 4600 members of the public and many of the students who had never been involved in public activities kept telling us just how good it was to do this.

Sustainability

By starting small, taking account of lessons learnt and working closely with the festival organisers we have built both an annual activity and a model that can be used elsewhere to enhance the student university experience.

Publicity

The photographs of the students and staff that attended Belladrum have been prominent on the staff web page since this year's event. A full set of photographs are on the university image library and a montage is attached.

Public Engagement Outcomes

Engaging with the public and increasing awareness of science and technology is a priority for many organisations and the government. The Belladrum project has helped create a valuable public engagement model that directly and actively allows students to add to this national initiative.

Student Experience

The main outcome of this project has been the facilitation of a student experience whereby not only do they get the opportunity to work with students from other courses and centres but additionally a great development and learning opportunity that increases both skills and confidence that will aid their future career prospects.

Derek Gorrie, STEM Engagement Officer