Connecting Communities and Curriculum in the Dublin Chemistry Postgraduate Programme

Chemistry Outreach Module

About the Module
This service-learning module brings teams of two or three postgraduate chemistry students into secondary school classrooms to give brief, engaging presentations on their research and on science as a career option. Each year, between four and six students take the course. Classroom activities are designed by students under the mentorship of staff and secondary school teachers and are then deployed in secondary schools in the Dublin area. Activities focus on global challenges, but are tailored to enhance the presentations of specific research topics and career options for scientists e.g. energy, health, waste, ICT. The development of the activities is complemented by a self-reflection exercise structured in the form of short written questionnaires and a final group interview focused on understanding how the experience changed students’ skills sets and perceptions. The module requires approximately 20-24 contact hours and 16-20 hours of community work; each student reaches a total of 80-100 secondary students over the course of three months. Engagement typically extends beyond the duration of the course as students often continue to deploy their presentations at other events resulting in a noteworthy longer term impact and legacy benefit.

Benefits
"The teacher is hoping the exercise will inspire some of her/his pupils to follow the footsteps of the presenters; will educate all of the pupils in the importance of scientific research; will help the pupils recognise the human side to being a researcher.”
Secondary School Science Teacher

"It makes me feel that I am hopefully really giving something back… and that the information and data that I generate can be of some use to help better the world.”
Postgraduate Student

"Suddenly through the engagement of this module and its community of stakeholders, phrases like ‘research-led’ and ‘student-centered’ become a physical reality.”
Module Coordinator

Challenges
"If you did not have their attention [second level students] in the first minute … it was very hard to win them back.”
Postgraduate Student

"The teacher must ensure that practical work offered is carried out safely and meaningfully and that the presentation will fit within a very constraining single or double period in a laboratory.”
Secondary School Science Teacher

"The mentoring process not only had to develop content but also presentation tools. Such a focus on ‘theatrical’ skills is not common in chemistry courses and their relevance only tended to be obvious to the postgraduate students on first delivery to a Transition Year audience.”
Module Coordinators

Tips for Colleagues
● Roll out activities in-house first and invite community stakeholders in, so that students are in a familiar setting.
● Activities are best prepared in a modular way to deliver them in harmony with the various settings and resources available in the community.

A supportive relationship between partners based on trust is essential.

Secondary school student Tadhg O’Dwyer "moleculart" at Blackrock College in 2012 using tool developed by student Chris Wirtz.

Student Colm De Lacy explains how to make an organic light emitting device at Ardscoil Éanna in 2012.

Student, Ian Godwin, and teacher Mr. John Daly, explain the importance of electrocatalysis in fuel cells.

For further information
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