

Bringing public engagement into the undergraduate pharmacology curriculum: a cross-departmental initiative

Background and Aims: Public engagement (PE) with research is a key activity for all professional scientists,¹ and as such is important to embed into the undergraduate curriculum. PE by its nature provides opportunities for students to develop transferable skills, such as team working, creativity and communication skills, which are vital in future careers and are often identified as lacking by employers of STEM graduates.² This project aims to provide undergraduates with an opportunity to develop skills in PE that they can take on to future careers, and providing more opportunities to promote and engage the public with the research carried out at the University of Bath.

Summary of work: The work involves creation of a "Toolkit" of resources containing workshop materials, training resources, example unit outlines and assessment strategies. The teaching resources support final year undergraduate pharmacology students in learning how to design, deliver and evaluate PE activities based on current research within their department using a pedagogy of experiential learning³. This work builds on existing resources provided by the University's PE Unit and uses a cross-departmental approach to designing teaching materials (Chemistry, Physics, Pharmacy and Pharmacology). The "Toolkit" includes tutor guides to enable different academics to run the activities. In the future we would envisage a proportion of shared teaching across the Faculty of Science with an opportunity for students to do joint projects across departments, exposing them to the interdisciplinary nature of real research today.

Outcomes: This project is not yet completed. The "Toolkit" resource is completed and will be trialled with Chemistry students in this academic year, before being rolled out to Pharmacology students next year. Students who have completed the new unit will be surveyed by questionnaire and focus group which will allow for refinement of the resources. The materials produced will be reviewed and refined by academic staff involved with teaching it, alongside feedback from students. We anticipate that alongside the "Toolkit" a key outcome from this project will be a number of high quality public engagement activities or resources, produced by the undergraduates, which can be used by departments to engage the public with their research.

Discussion and conclusion: Students undertaking this module will develop a range of skills, including; team working, project management, time management, oral and written communication, adaptability, creativity and more. In addition, Pharmacology students will be challenged to consider new ways of thinking and learning and exposed to pedagogies with which they may not already be familiar. Further rollout of these resources into related subject areas (e.g. pharmacy) and other institutions will await a full evaluation of the "Toolkit" and resources. Once this is complete it is hoped that we will be able to share these resources online to provide significant impact on curricular design and improvement of student teaching and learning experiences.

References:

¹ Research Councils UK Concordat on Engaging the Public with Research: see <http://www.rcuk.ac.uk/pe/concordat/> (accessed Sept 2015)

² "The Chemical Skills Pipeline", Warwick Institute for Employment Research, June 2009: see <http://www.rsc.org/Education/CFOF/CCT.asp> (accessed Sept. 2015)

³ Deeley, S (2014) *Critical Perspectives on Service Learning in Higher Education*. Basingstoke: Palgrave Macmillan