



Investigating Bristol ChemLabS Outreach: How does a Science Lecture Demonstration and a Practical Science Workshop Impact upon Secondary School Students' Attitudes towards Science and Learning of Science Concepts?

By Jauyah Tuah

ABSTRACT

Bristol ChemLabS, the only Centre for Excellence in Teaching and Learning (CETL) devoted to practical chemistry in England and Wales, has been funded by Higher Education Funding Council for England (HEFCE) since 1 April 2005. Although the involvement of universities in outreach education has been in existence for decades, the involvement of Bristol ChemLabS is new and outreach remains one of its the main projects. In light of this project, the present study is the first study to evaluate the impact of the Bristol ChemLabS Outreach (BCLO) activities on the students' attitudes towards science and the learning of science concepts.

This study employed the explanatory mix-methods design (questionnaire and email interview) to investigate the impact of the schools' visits to Bristol ChemLabS. Forty-nine students at Key Stage 4 from three schools, accompanied by six teachers participated in this study, while another seven teachers (from similar previous outreach events) were also involved. This study investigates their perspectives on the impacts of "*A Pollutant's Tale*" lecture demonstration and the practical science workshop.

In general, the impacts of these two activities on students were promising and wide ranging. The most significant impacts recognized widely by the participants were the educational and entertainment values of both activities which evidence suggests could ultimately impact on their future career choices. A high percentage of students reported that they had gained new knowledge and also gave correct answers regarding this knowledge. However, this study serves as an appraisal of Bristol ChemLabS, in view to their long-term sustainable plans in using the undergraduates' laboratories on Wednesdays for school students across UK and beyond. This study also provides empirical evidence for the importance of public engagement invested by this CETL, which can generate positive impacts on students' learning and attitudes towards science.

A full copy of the thesis may be requested from the author: jauyahtuah@yahoo.com.

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