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## PTAS Project Report (for SMALL PROJECT GRANTS)

**Project Title: 'Broadening Physics Student Experience and Learning Through a High School Mentoring Programme**

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**Principal Investigator : Dr. Jean-Christophe Denis**  
**School / Department : School of Physics and Astronomy**

**Team members :**

**For further information, please contact: Dr. Jean-Christophe Denis, J.C.Denis@ed.ac.uk**

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Grant recipients are expected to submit a brief report at the conclusion of their project which outlines briefly the following : nature of work completed; outcomes; benefits to student learning/student experience; dissemination activity (where relevant – actual and planned) and how the activity could inform future work or be transferred to other subject areas in the University. The brief report will be published on the IAD web pages.

### **Brief Report (maximum 500 words)**

#### **What did you do?**

A team of six 2<sup>nd</sup> year UG students visited a local high school (Castlebrae) weekly during the entire academic year, from October 2018 to April 2019. The visits consisted in assisting the science teacher and S2 pupils with science lessons, and in running a mentoring programme during lunchtime, straight after the science class. Following requests and interest from the pupils, the mentoring scheme became “science club” type sessions, where the UG students would bring a new science demonstration or hands-on activity every week, to talk about a physics topic, linking with their science classes. The pupils’ attendance varied, typically between 10 and 3 pupils attending weekly, with an average of around 5 pupils. The students would typically attend every other week, so that 3 students would generally be attending every week

#### **What did you find out?**

We found out that that as a direct result of this project, 3 girls decided to study Physics or other Sciences in S3, when they had not originally planned to do so. This outcome was measured by comparing tentative subject choices before the project started, to actual subject choices at the end of the year, and asking the pupils the reason for their choices.

The students enjoyed taking part in the project too, and it expanded their horizons, with students reporting they would like to explore further a career in teaching (and signed up to teaching placements).

We repeated this project in 2019/2020, but it did not meet the same success (very poor pupils’ attendance). Timetable changes meant students could be not present in science classes before the lunchtime sessions. In this light, we believe students’ presence in regular classes is crucial for the success of such a project.

#### **How did you disseminate your findings?**

The project was featured in numerous talks within the University (at both School and University-wide levels) and also at conferences and external meetings.

An article is currently in preparation for the TES magazine (a teachers’ magazine).

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**What have been the benefits to student learning?**

The students have seen an improvement in their communication, leadership, team working and organising skills. They have also been able to use their physics knowledge in a different context to the one they are used to, reinforcing their knowledge at the same time. They also have been exposed to pupils from backgrounds they were not familiar with, and therefore have gained cultural and social awareness out of the project.

**How could these benefits be extended to other parts of the university?**

This project could easily be replicated in other schools. The crucial elements are a reliable school partner, willing to build your project in their timetable, and motivated and able UG students. If you would like to discuss how you could run your own project, please get in touch with me.

**Who can be contacted for further details?**

Dr. Jean-Christophe Denis, J.C.Denis@ed.ac.uk

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**Financial statement**

This project has utilised the funding awarded to it by the PTAS adjudication committee and the Principal Investigator or School Administrator appropriate can provide financial statements showing the funding usage as and when required by the UoE Development Trusts who may require it for auditing purposes.