

Survey of UK secondary school facilities and budgets

B. Arnold, W. Taylor, Dr. D. Cussans

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Abstract

A survey, originally formulated as a feasibility study for a classroom based particle detector, was placed online and physics teachers from across the UK were invited to complete it. The survey looks at budgets and facilities available for the teaching of ‘A-Level’ education. In total we received 35 responses.

1 Introduction

Bristol University has received PPARC funding to develop an affordable particle detector for use in ‘A-Level’ education as a potential investigation and demonstration tool. In order to gauge what schools wanted from such a piece of apparatus as well as parameters for design and budget we launched an online questionnaire and advertised it online.

Although the questionnaire was formulated with the above project in mind, the results may prove useful for other similar projects.

2 Method

The questions prompted for single word responses however the answer boxes were coded to be large enough to allow elaboration of answers if needed. Each set of responses was output to a text file. The text files were interpreted and compiled into a single Excel spreadsheet with any relevant comments noted.

To reach secondary school physics teachers we advertised the questionnaire on the Times Education Supplement online forums, the Institute of Physics Physics Teaching News and Comments (PTNC) mailing list and a list of local physics teachers compiled by the university for open day events.

The original questionnaire was coded in PHP/XHTML. A transcript of the questionnaire is given below.

Questionnaire for schools teaching particle physics

I am an undergraduate at Bristol University developing an affordable particle detector for schools. This questionnaire will hopefully give a better insight into what schools want from a project such as ours.

Specific information collected will not be passed on to commercial parties, it is purely for our own research.

Q1. Would you consider purchasing apparatus for the detection of cosmic rays at a low enough price?

Q2. What would be the maximum you would be willing to spend on such a piece of apparatus?

Q3. Would you use the equipment primarily for investigation or demonstration purposes?

Q4. Would your establishment consider collaborating with others in the area to form a 'super detector' similar to the NALTA in the USA?

Q5. It would be a great help if we knew what equipment is already available to your establishment. Out of the following, which does your establishment have access to?

- dry ice
- liquid nitrogen
- local source of radiation (i.e. radioactive samples)
- high voltage supply. (Please specify max voltage)
- oscilloscope. (Please specify: digital, analogue, both)
- a gas trained technician
- laboratory PC
- video camera. (Please specify: digital, analogue, both)
- photographic darkroom
- fume cupboard

Q6. Any further comments or clarifications?

Finally could you enter your name, the name of your establishment and the level of education which you teach there.

Name:

Establishment:

Level of education (i.e. GCSE, A-Level etc.):

3 Results