



CAMBRIDGE ASSESSMENT

Progression routes to post-16 science qualifications

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Abstract

At present, awarding bodies in England provide schools and students with a wide choice of level 2 (aimed to 14-16 year-olds) science qualifications designed to ensure that pupils study science that is relevant and up-to-date. However, it has recently been argued that some courses may not be good preparation for the study of science at a higher level.

Consequently some students may decide not to pursue a science subject post-16 or, if they do so, they may drop it or not fulfil their potential.

This work aimed to collect detailed information about the students who obtained different level 2 science qualifications and investigate their progression to post-16 courses. Key questions addressed in the research were:

- 1) What are the characteristics of the students taking the different level 2 science qualifications?
- 2) What post-16 science qualifications do students with different level 2 science qualifications progress to?
- 3) What is the performance in post-16 qualifications of students progressing from different level 2 science qualifications?

Data on uptake of and performance in science was analysed through descriptive statistics and multilevel logistic regression methods. The data was obtained from the National Pupil Database, a longitudinal database compiled by the Department for Education which holds pupil and school characteristics matched to pupil level attainment data.

The outcomes of the research showed that:

- there were clear differences in the background (prior attainment / academic ability, level of deprivation and school attended) of the students pursuing the different science routes at level 2;
- the level 2 science route with the highest progression rate was the triple science (GCSEs in biology, chemistry and physics), with around 46% of the students progressing to a post-16 science qualification. Only around 26% of the students from the double science route (GCSEs in science and additional science) and fewer than 5% of the students following an applied route at level 2, including vocational-related qualifications such as BTECs or OCR Nationals, progressed to science at a higher level;
- performance in post-16 science subjects was better for pupils progressing from the triple science route than for pupils progressing from any other routes.

The findings from this research might suggest that student choices at level 2 determine post-16 trajectories and therefore further study or employment opportunities. In particular, applied routes in science did not offer much progression to post-16 'academic' qualifications/subjects and therefore they could restrict progression to higher education.

Full paper

<http://www.cambridgeassessment.org.uk/Images/142074-research-matters-16-june-2013.pdf>