



CAMBRIDGE ASSESSMENT

A report on perceptions of current practical assessment in science GCSEs and IGCSEs

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March 2013

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1 Introduction

There have been a number of reviews of the purpose of practical and it is widely acknowledged that practical work is an important part of science.^{1,2,3} There is, however, much debate within the science community about the best way to assess practical and a range of solutions have been developed.^{1,2,3} In its consultation for the now cancelled English Baccalaureate Certificates (EBCs), the Department for Education (DfE) clearly recognised issues with internal assessment:

...We know from Ofqual's report⁴ that schools and teachers have concerns about the manageability of internal assessment in GCSEs (which replaced coursework in 2009) and its impact on teaching time and methods. [GCSEs in the future], referred to in the recent government consultation paper as EBCs, will need to restrict the use of controlled assessment, coursework or other forms of internal assessment as far as possible, to free up teaching time and reduce opportunities for the malpractice associated with internal assessment such as plagiarism and the rote learning of isolated tasks...⁵

Similar concerns were seen in a recent Association for Science Education (ASE) survey of teachers:⁶

...assessment tasks are ludicrously complex to administer, mark and explain to students and yet simple-minded in what they actually measure...

Broad concerns with the negative impact of internal assessment on the teaching and learning experience within schools have been supported by views presented during our own consultation work as part of the EBC development. Our advisory groups, which included teachers, examiners and HE representatives, all raised issues with internal assessment of practical.

Feedback collected from a Cambridge Assessment questionnaire completed by 360 teachers in autumn 2012⁷ also underlined the views of teachers running internal assessment in current GCSEs:

...Coursework is an unnecessary part of a student's assessment. The same skills can be tested in exams. It cannot be monitored effectively...

...Also, far too much curriculum time taken up by the new style practical assessments leaving students little time for the rest of the course...

...it does not measure how "good" students are at science and it is a total game. Is [*sic*] must be removed as an element of assessment towards a final grade...

There is a strong feeling among the teaching community that current GCSE practical assessment does not achieve what is intended. In contrast, feedback from the small number of teachers who follow IGCSE syllabuses⁷ where 100% external assessment is possible (i.e. no internal / controlled assessment) present a much more positive picture of the teaching and learning experience in their qualifications:

...we currently follow an IGCSE specification, and as such we do not need to prepare students for internally assessed GCSE practicals ... although we do use practical work to help support theory tested in exams and students are asked questions on practical work in their external exams. The nature of controlled assessment is a bit open to interpretation and difficult to moderate – how can we be sure that all students have the same level of control imposed upon them...

...the lack of coursework gives time to use practicals to help understand the work better...

2 Conclusion

IGCSEs allow students' practical knowledge and understanding to be assessed via carefully written examination questions. Candidates will be better prepared for such assessments if they have carried out a wide range of practicals. Cambridge Assessment has considerable international experience in providing external written assessments of practical and a modified version of this type of practical skills assessment could work very well in the reformed GCSEs, resulting in qualifications that compare well with the best available internationally.

3 References

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- ⁵ Department for Education (September 2012), *Reforming Key Stage 4 Qualifications*, Department for Education, London, p. 9.
- ⁶ Association for Science Education (ASE) (September 2009), *Appendix to the ASE Response to GCSE Criteria Consultation, ASE Survey of Science Teachers' Views for the National Curriculum Review*, p. 4, www.ase.org.uk (last accessed 27 March 2013).
- ⁷ Wilson, F. (2013), *A study of stakeholders' views on science courses for 16 year olds (Science teachers, professional association representatives, employers and vocational Further Education tutors)*, Cambridge Assessment, Cambridge,
http://www.cambridgeassessment.org.uk/ca/digitalAssets/206677_ScienceQuestionnaireSummary_Final.pdf