



CAMBRIDGE ASSESSMENT

## How valid is A level Physics? A wide-ranging evaluation of the validity of Physics A level assessments

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### Abstract

Validity is about the appropriateness of the ways that assessment outcomes are interpreted and used. Validation includes, for example, consideration of whether an assessment is really measuring the abilities it was intended to, whether scoring and grading are applied accurately and whether the scores/grades really mean what they were intended to. Validity is a key principle of assessment and yet it is remarkably difficult to provide comprehensive evidence in relation to all aspects of an assessment's validity.

This research aimed to evaluate the validity of an International A Level Physics qualification, using a framework developed in an earlier phase of research which structures validation around five validity questions. A range of methods were used to gather evidence relating to the validity questions. Methods included amongst others: document reviews; ratings of the objectives assessed by each question; statistical analysis of score data to consider reliability, aggregation, grading and item functioning; a questionnaire to teachers; a multiple marking study; and an evaluation of the syllabus by higher education representatives.

The findings suggest considerable support for the validity of the assessments. For example, the expert analysis suggested good coverage of topics across exam papers over time and Rasch analysis and qualitative analysis of student responses suggested that the vast majority of questions measured construct-relevant skills. Some minor threats to validity were identified and these can feed into improvements.

