



# Assessment Types: Impact on Student Performance in Foundation Engineering

Due to COVID-19, assessments at the University of Nottingham were changed from traditional exams to open book, untimed exams completed at home over one week. This poster summarises the impact of these changes on student performance in Foundation Engineering, including the impact on different groups of students. This will inform future inclusive assessment practice.

## Impact of Changes

Improvements in the mean exam mark (out of 100) are compared relative to the mean mark in Semester 1 Engineering Final Exam (\*pre-COVID).

Module	Cohort	Final Exam Conditions	Improvement in mean marks	Standard deviation
Semester 1 – Engineering	Sep intake 2019	Closed, timed	0.0*	23.2
Semester 2 – Engineering	Sep intake 2019	Open, untimed	29.6	15.9
Semester 1 – Engineering	Jan intake 2020	Open, untimed	29.5	13.8

- Mean marks improved by approximately +30 for two cohorts post-COVID
- Lower standard deviation compared to traditional exams

Pre-COVID coursework marks were also compared, relative to the mean exam mark, to quantify the individual impact of open book conditions, and untimed conditions.

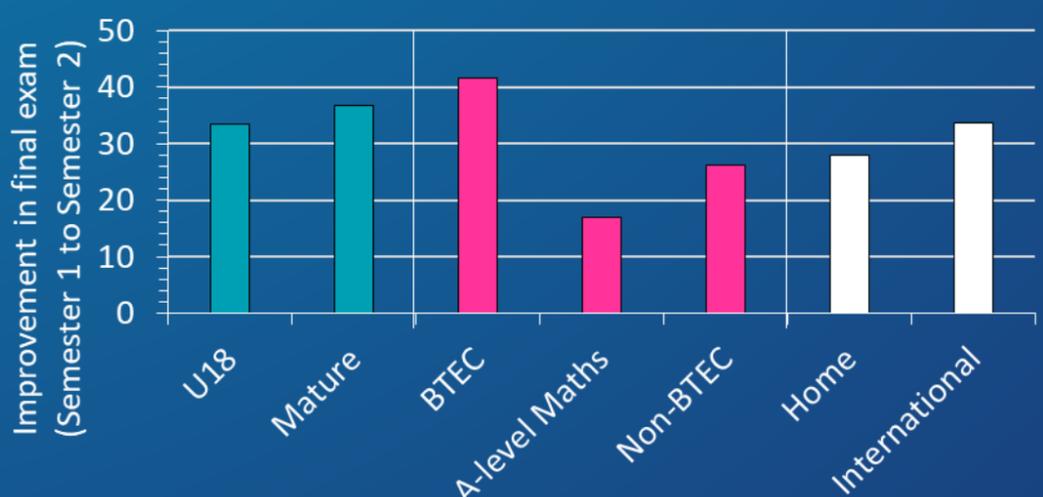
- Open book conditions may increase mean marks by +10 and reduce variation.
- Untimed conditions may increase mean marks by +10.
- A final exam with a high weighting in these conditions may contribute a further +10, and significantly reduces the variation in marks.

Coursework	Conditions	Improvement in mean marks	Standard deviation
Mid-term exam	Closed, timed	6.0	24.5
E-assessments (2019-2020)	Open, timed	15.8	20.7
E-assessments (2018-2019)	Open, untimed	24.7	22.1

## Impact on different groups of students

All groups benefitted from the change in assessment conditions

Entry qualifications had the greatest impact: improvements greatest for BTEC students and lowest for A-level Maths students



## Conclusions

For exams of equivalent difficulty and weighting, the move to open book untimed exams gave an average +30 increase in marks, and reduced standard deviation in marks (from over 23 to under 16).

Comparing with coursework, both open book and untimed conditions increased the mean mark by approximately +10. The variation in marks under these conditions seems primarily influenced by the assessment weighting.

Students from non-traditional backgrounds (BTEC, mature, U18 and International) were most disadvantaged by traditional exams. Students with A-level Maths were least impacted by the change in assessment conditions.