

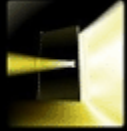
***USING CONTINUOUS ASSESSMENT
TO GENERATE CONTINUOUS LEARNING
IN ENGINEERING MATHS***

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Background

- *maths teaching*
- *first year – large, diverse class*
 - *300 students*
 - *aerospace, chemical, civil, mechanical*
- *second year – small, more specialised class*
 - *20 MEng aerospace students*
 - *more interactive – teaching plus student practice*



Sound Mathematics Ltd.

Aim:

- ***continuous assessment based on the weekly tutorial problems***
- ***avoid irregular activity focused on a few class tests over the semester***
- ***simultaneously make the weekly tutorial class more productive***

Curriculum design

- ***first-year aerospace and mechanical engineering***
- ***class size: 150 students***
- ***mainly repetition of A-level topics***
- ***teaching over 12 weeks***
 - ***2-hour lecture –
formal style, examples, applications***
 - ***1-hour exercise class –
student work on practice questions, finish at home***

Assessment

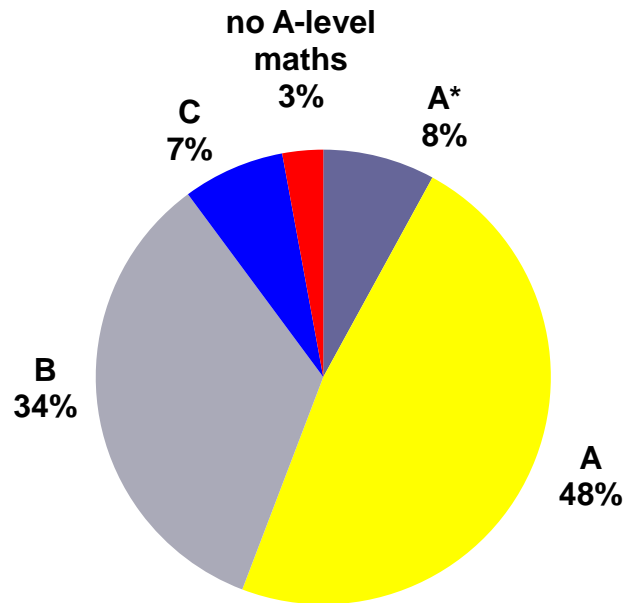
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- **four 15-minute tests in weeks 3, 6, 9 and 12**
- **each test counted towards 10% of the module mark**
- **final exam contributed the remaining 60%**

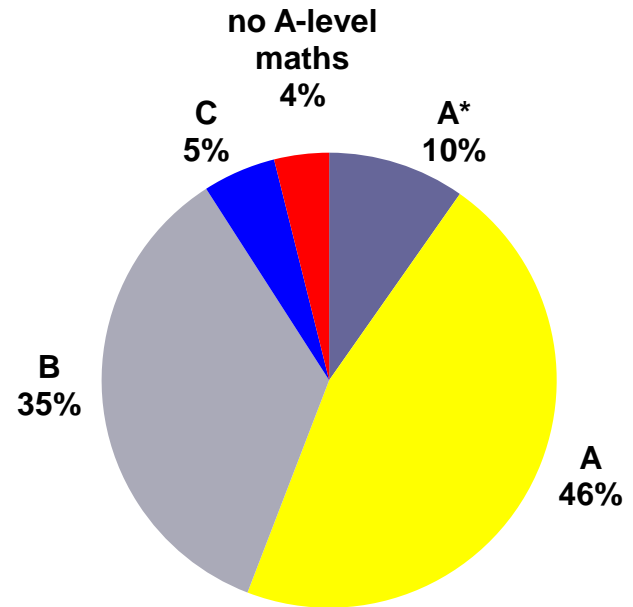
2011-12

- **weekly assessment of tutorial work**
- **1% or 2% awarded in each of weeks 3 – 12**
- **total of 15% available from continuous assessment**
- **complete tutorial sheet at home, marked in class in following week**
- **exam worth 85%**

A-level background of the students

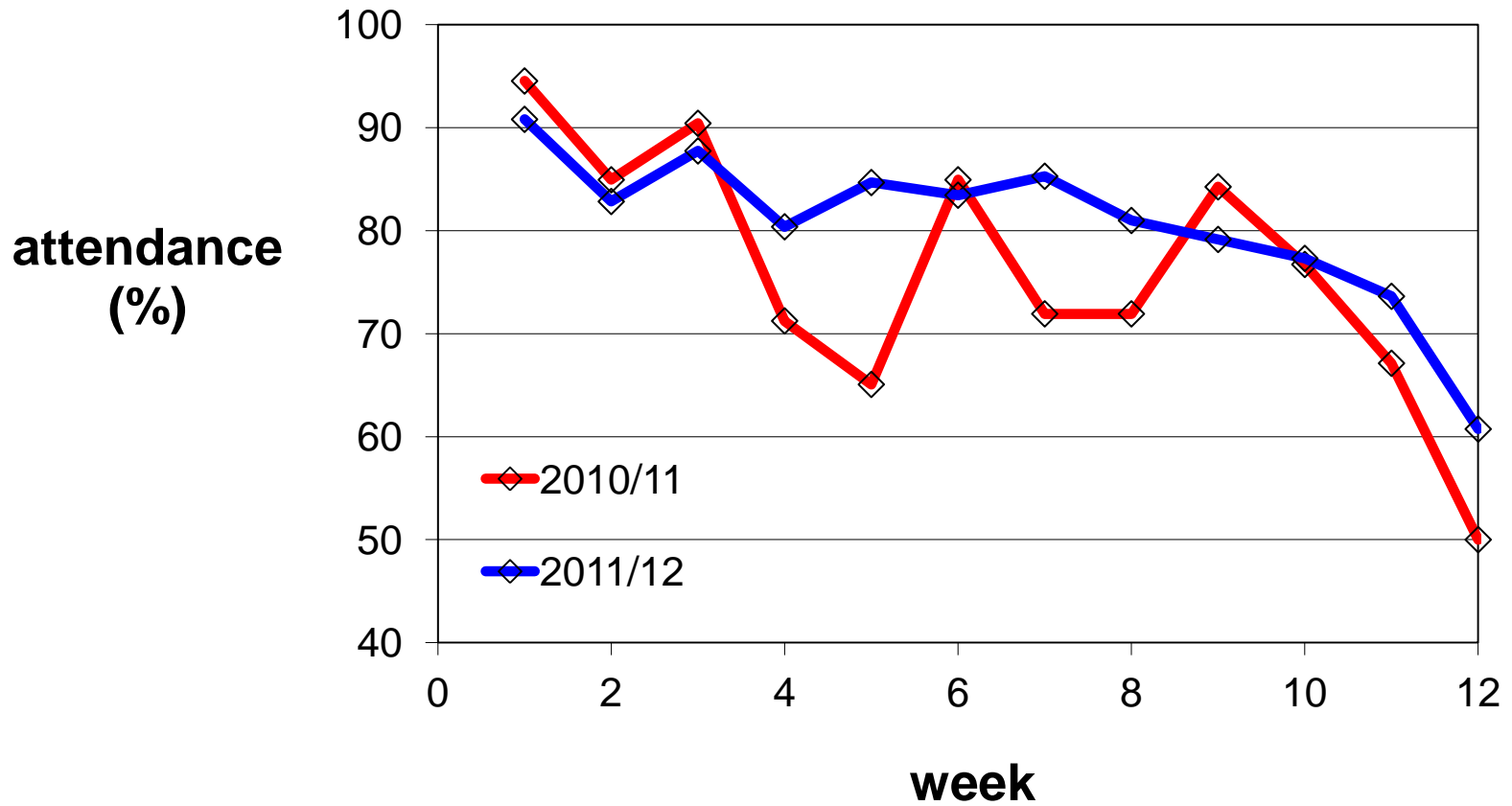


2010-11

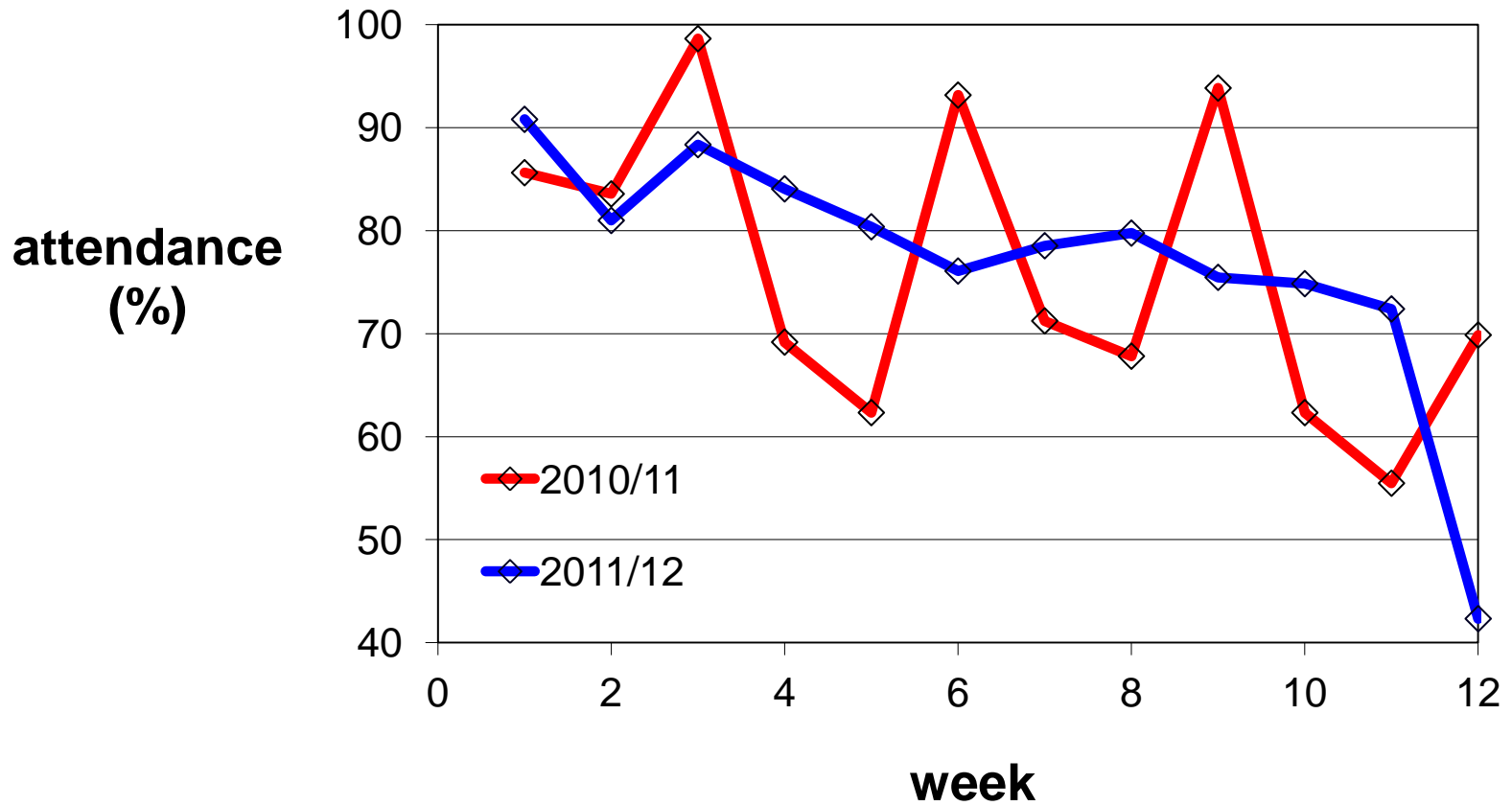


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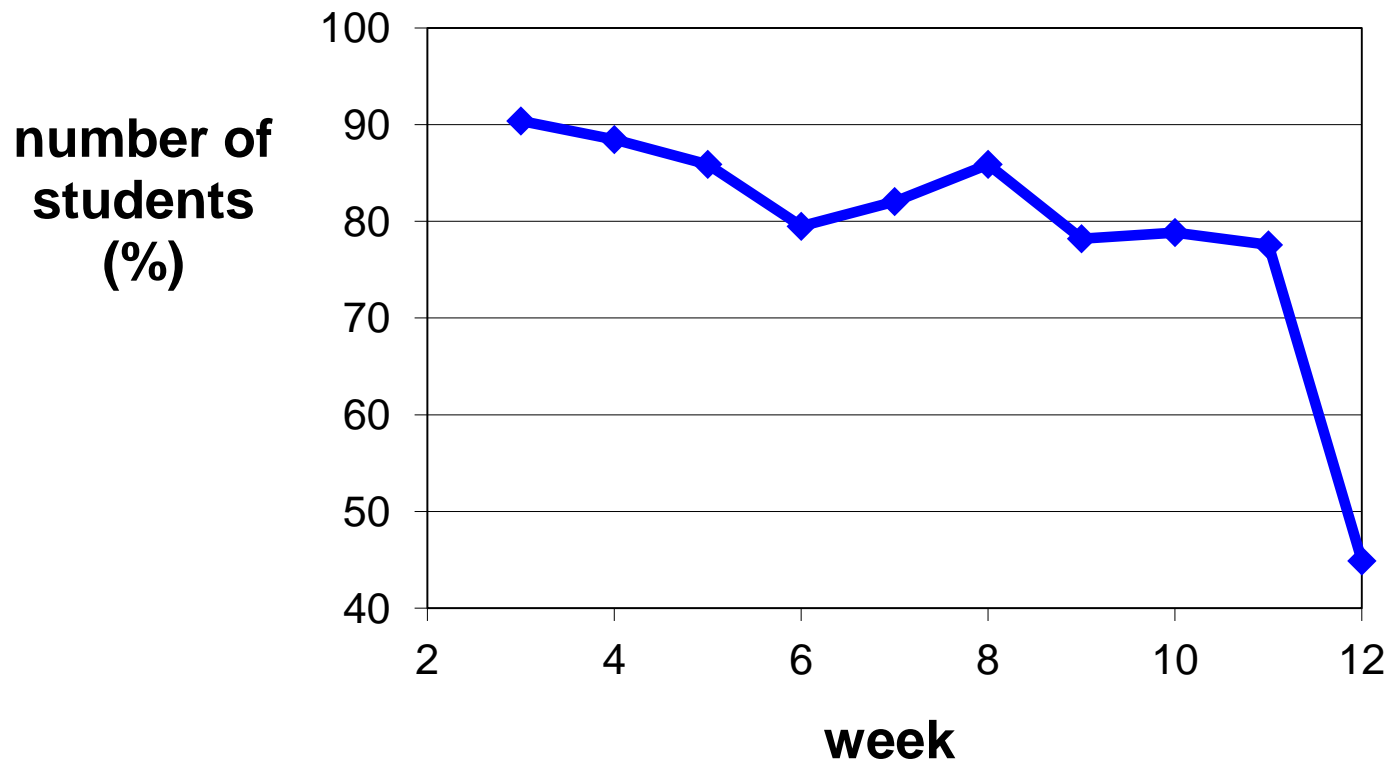
Lecture attendance



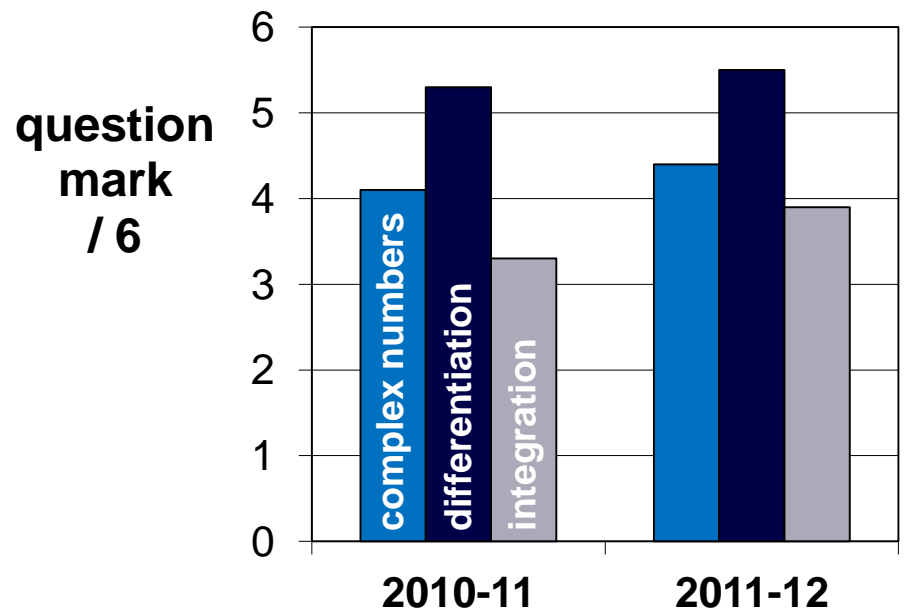
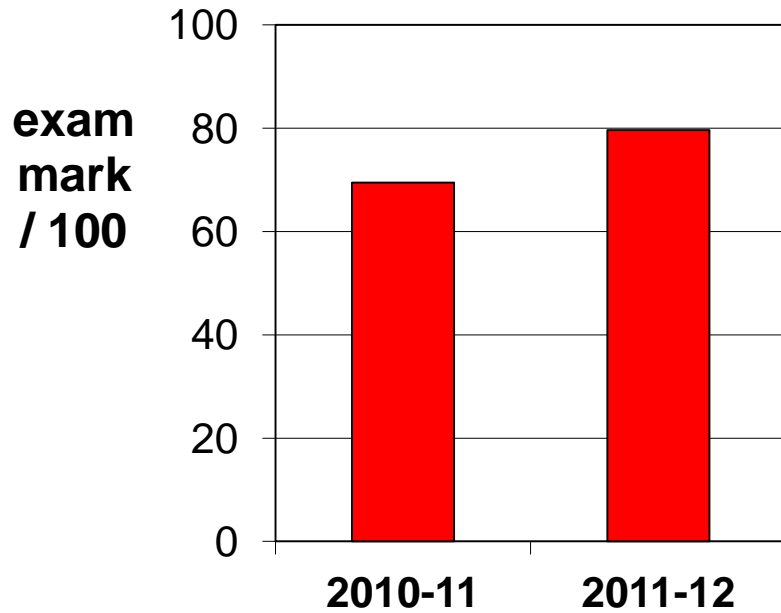
Tutorial attendance



Participation in continuous assessment



Exam performance



Conclusions

- ✓ **continuous assessment in first-year engineering maths**
- ✓ **weekly sheet of questions – complete at home and bring for marking in following week**
- ✓ **small mark available each week – total available 15%**
- ✓ **lecture and tutorial attendance more uniform**
- ✓ **exam performance improved significantly**
- ✓ **student motivation generally not a problem – on average, 79% of class present work each week**
- ✓ **continuous assessment encourages weekly practice**
- ✓ **some evidence that students' mathematical skills were enhanced**