



When will I ever use that?

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Modelling at SHU

- Strong modelling and employability focus throughout degree
- Modelling 1 core module in first year
- 100 students
- 1 lecture + 1 tutorial for each student
- Applying models to different situations (e.g. rocket flight, population growth, great lakes, management science)

Project outline

- Funding to bring in 3 speakers during 1 lecture
- 3 x 10 minute talk + 5 min questions
- Use of models in industry
 - Banking (credit risk)
 - Chemistry research
 - Transport Engineering
- Tutorials used Socrative quiz to discuss the talks and relevance to modelling module

Rationale

- Quotes from students
 - ‘I have never done maths like it before’
 - ‘Not clearly understood what modelling is exactly’
 - ‘Am yet to understand the concept behind it’
- Grove (2012) students have little or no experience of mathematical modelling
- To allow students to see where models are used in industry in a variety of applications

Grove, M (2012) The Mathematical Transition: A Multi-Stage Problem? MSOR Connections 12 (1)

Rationale

- Transferable skills
 - Less tangible, building up a skills set
- Value of the skill set
 - Skills used by all speakers in different context
- Dealing with uncertainty
 - ‘prefer things with one fixed answer’

In practice

- Getting speakers
- Experience of speakers
 - Varied
 - Superficial coverage
- 2 speakers also attended tutorials for informal discussions
- Overall successful

Speaker feedback

- Positive
- Enjoyed the experience
- Felt informal discussions easier platform to get across the ins and outs of the job
- More able to answer questions in tutorials as students more willing to ask questions

Student feedback - Socratic

- What was the key benefit from today?
- Modelling
 - ‘looking at how models can be created’
 - ‘learning the real life application of modelling’
 - ‘made me think about modelling’
 - ‘it was beneficial to see how modelling relates to real life and how it can be used to work out many things.’
 - ‘Hearing about mathematics in practical situations, especially banking’

Student feedback - Socratic

- What was the key benefit from today?
- Employability
 - ‘Talking to the guest speakers in the tutorial and seeing how they use maths within their profession’
 - ‘New ideas career wise’
 - ‘good to talk to people with jobs etc. good to see some applications’
 - ‘the bank was really interesting for placement year and jobs’

Student feedback - logbooks

- Generally positive
- Modelling skills
 - ‘some time to reflect on the module’
- Employability
 - ‘VERY helpful... tutorial was particularly helpful as I got the opportunity to talk to these people 1 to 1. So THANK You’
 - ‘showed me some areas I could go into’
 - ‘I found the transport modeller quite interesting as I hadn't even realised that the job existed’
 - ‘made me reconsider what I wish to do in the future’
 - ‘it was very helpful and insightful’

Student feedback - Socratic SHUMaths community

- 'She was a previous student so we can see the job she went into after graduating'

Student feedback - structure

- Key benefits
 - 'Meeting the speakers on a more personal level'
 - 'Talking to the guest speakers in the tutorial'
- Improvements
 - More variety
 - Maybe more specific to the course

Future Plans

- Teaching Enhancement Funding 2015-16
- More opportunity for informal discussion with speakers
- More guidance for speakers
 - Make our aims clearer
 - One example of developing a problem
 - How they deal with uncertainty and making assumptions
- Structured discussion to highlight transferable skills