

Using story telling, drama, costume, poetry, music and performance art as part of engineering lectures

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This case study has been developed from data gathered through observations of the teaching component; interviews with the tutor; a questionnaire to students and a student focus group.

Background

The Professional Studies module is taken by around 230 first year students primarily from mechanical or manufacturing engineering. The sessions are timetabled weekly in a 2 hour block in a large tiered lecture theatre. The majority of the students enrolling on the degree programmes have come from a more traditional A Level background with over 35% international students. The tutor took over the module in 2001 and has developed the module over time, responding to increases in class sizes, for example from seminars to lectures, and an emphasis on Engineering in Society and Sustainability from the professional institution. The tutor chose to introduce the use of story telling, costumes, videos and props *“to make it more interesting for the students, grab their attention. I also wanted to make it memorable”*. For example, for the history of technology lecture the tutor takes on the character of Isambard Kingdom Brunel, attending the lecture in a period costume and top hat!

The module is assessed through a presentation on alternative energy, which should build on the relevant lectures, background material in the students notes and a literature search. There is also a written exam which includes a question on the material prepared for their presentations.

Reasons for introducing this teaching method

The approach was developed after the tutor had reviewed existing practice and literature on the use of performance techniques in the post-compulsory education sector and creative approaches to teaching and learning in engineering. The tutor was keen to go beyond the entertainment value of the approach and has considered how this teaching and learning methodology could support the needs of visual learners as well as those with shorter attention spans and giving consideration to the link between the costume/story/drama to learning outcomes.

The learning objectives for the professional studies module are broad, covering a range of topics addressing how engineering students would ultimately relate to society as an engineer. The introduction of story telling was considered appropriate *“because it gives them [students] a handle on topics that might seem a bit remote”, “when you’re talking about society you’ve got to talk about people and you’ve got to talk about perceptions, so you’ve got to talk about a character and story scenarios”*. Sustainability, although a broad issue was one topic considered by the tutor as *“an accessible one”* inspiring students to *“actually discuss [issues] with their friends, where as perhaps they’re not going to discuss the numerical methods or mathematics when they get down the pub”*.

Lecturer's Perspective

The approach set out to reclaim the lecture as a dynamic teaching tool and to engage students by arousing curiosity, generating suspense, a sense of occasion and raising expectation that the lecture would be worth attending. Story telling is seen as *"a way in for some quite complex stuff"*. In addition to the lectures the tutor supplies a supporting pack of materials with additional information available via the University's virtual learning environment. *"...there's things like an interview with James Dyson talking about his perceptions as a modern day inventor"*. The tutor likes to *"encourage debate and to encourage discussion, whether that's by e-mail or whether it's in the class or outside the classroom"* and the topics and the methods by which some of the material is presented has seen this not just amongst students but staff as well, *"some staff think 'What are you doing?' and "some staff think it's a jolly good idea"*.

Students' perspective

Through a questionnaire students were asked to list three benefits of the tutors approach, the most frequent responses made reference to *"making it interesting"*, *"engaging"*, *"fun"* and helping students to see the *"benefit of turning up to lecturers"*. Several students made comments about the tutor themselves, *"the lecturer enjoyed lecturing on this module"* also making reference to the impact the module and approach had on them as individuals; *"I'm motivated to work through my lecturers attitude"* and *"makes me know why I am an engineer."* Students who participated in the focus groups echoed the comments about the tutor's enthusiasm, *"he actually enjoys it a lot"*, *"he's interested in the topic himself which shows and I think that's the difference"*.

The students found the tutors approach helped them to look at the theories *"from a completely different angle"*, having analysed *"the module outside the box"*. *"He made it really kind of interesting"* which *"kept you going"*, *"breaks the monotony with him being theatrical and all exciting"* making *"a potentially very boring subject into a gripping one"*, and memorable *"the funny picture always sticks in your head"*.

Issues

Both the facilities available and the size of the class means it is impractical to engage in discussion groups or seminars during timetabled sessions. One opportunity for discussions outside of lectures being explored is personal tutorial meetings. A case study on looking at ethics in the workplace has been introduced into the personal tutorial programme for this year.

Benefits

93% of the students who responded to the questionnaire listed lectures as one of their 3 most useful resources in helping them to study engineering overall. Over 80% of the students agreed that the Professional Studies module content was interesting, easy to follow and presented in a logical order. 78% thought the lectures helped to focus their attention on key points and 62% of students thought the use of costumes and videos in lectures was effective. The most disliked feature of the lecture programme was that it was timetabled at 9.00 on a Monday morning. The students who attended the focus group reflected on the teaching method and how it had changed their engagement with the material being presented *"It's weird because it is obviously a module that when you come to exam time you actually knew the lecture content"*.

One benefit of using the approach that had not been anticipated was the publicity the activities generated, *"how else would you get a lecture on the BBC local news on the history of technology?"*.

Reflections

If students had been taught in a more traditional fashion, they didn't think they would attend ... *"it was that lecture that was there to tie everything else together and I mean if it had of been boring you'd have just have stayed at home and read the notes"*. They saw the value of the module reflecting that the modern work place required them to *"not only to be a best engineer, it requires you, you know to consider other things, society in itself"*. However they were divided as to the modules place in first year, one student commented that because he was in the first year he *"didn't really pay that much attention and I think it's a shame because it was a very enlightening course"*, whilst another felt it well placed as *"it's a really good module because it gives you the motivation to continue engineering and sort of seize... what you might be interested in"*.

The students felt it was important to strike a balance between the core message of the lecture and the fun elements commenting that the tutor had *"got that good level in relevance"*. The tutor shares this view, for example only dressing up *"when it's relevant to the story" ... "rather than dressing up for effect"*. The method is not consider consistent with the way students are taught on the rest of the course which the tutor has mixed feelings about; it *"is a shame in some ways but it does make it stand out more" ... "variety" is seen as the key. "I would encourage people to use story more. I think everyone likes stories and one can remember being told stories whether anecdotes or whether they're jokes ...I think there's room for that in most modules"*.