



The Royal Academy
of Engineering

The Teaching of Ethics in Engineering

A survey of UK university Engineering Departments by the Teaching of Engineering Ethics Working Group

Key Messages

- Parts of the curriculum need redesigning to identify opportunities and teaching methods to deliver the learning outcomes
- There is an overwhelming need for new case study material that engages the students, particularly stemming from UK experience
- There is a strong requirement for the training of staff in the appropriate teaching skills

The Teaching of Ethics in Engineering

Introduction

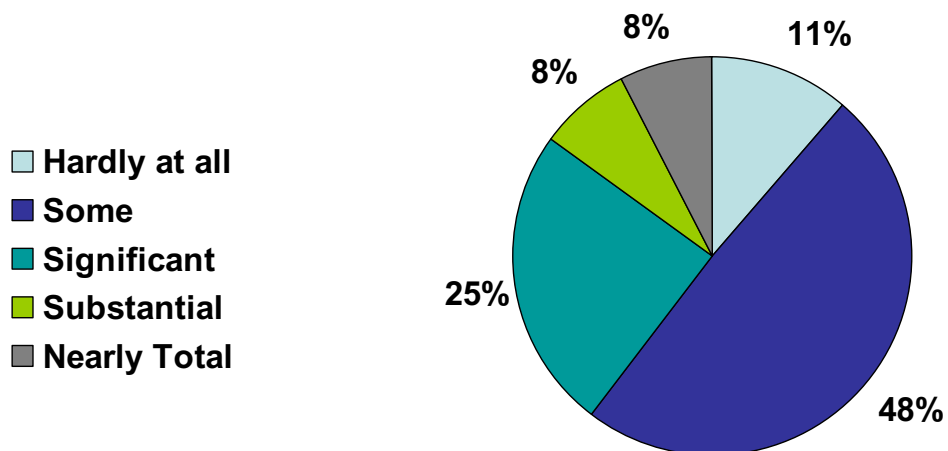
During the course of its work, the Teaching of Engineering Ethics Working Group undertook a survey of the existing practice of teaching ethics to engineering students in UK university engineering departments, and any plans for their expansion. The survey questionnaire was sent to 263 Heads of Departments, explaining the purpose of the exercise, and 56 replies were received representing a response rate of just over 21%.

The relatively high response rate for surveys of this kind, and the many detailed comments provided, indicated a substantial level of interest in the topic. It was also pleasing to note that the proposed 'curriculum map' received a strong vote of confidence. Whilst the survey was carried out on a confidential basis, the key results and messages are given below in abbreviated form.

Main Survey Findings

- Those surveyed were asked to indicate the extent to which they already deliver the learning outcomes identified in the curriculum map. The results are summarized below numerically and graphically.

Hardly at all	6
Some delivery	26
Significant delivery	13
Substantial delivery	4
Delivery of nearly all learning outcomes	4
Other	3
Total	56

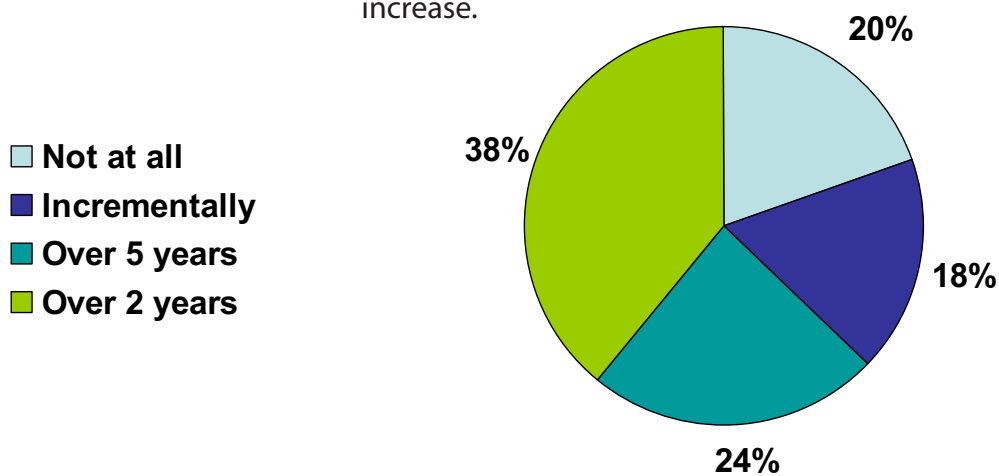


Given the high degree of self-selection involved in the returns, this suggests that ethics teaching has taken hold in only a small proportion of Departments.

- Departments were asked if they planned to increase the delivery of the learning outcomes. The results were:

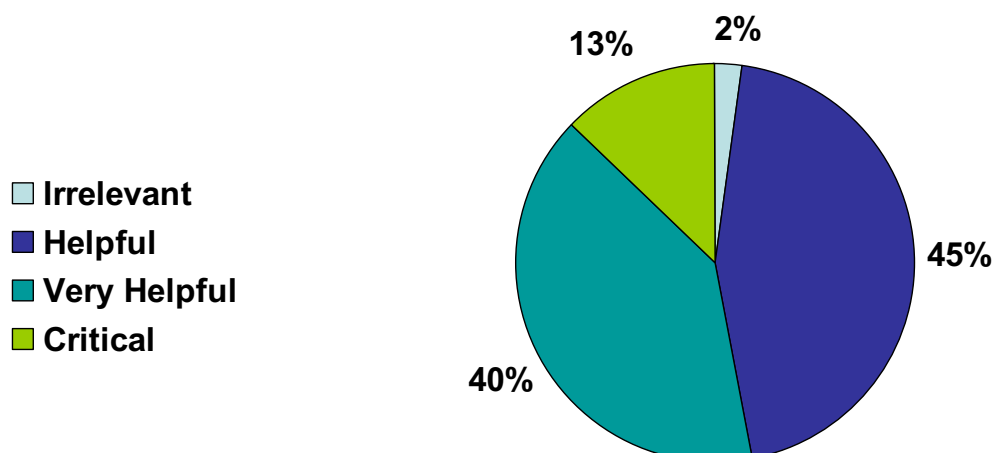
In the next 1-2 years	20
Over 5 years	12
More incrementally	9
Not at all	10
Others	4
Total	55

There are signs that the teaching of ethics is planned to increase.



- When asked what would help them move forward, teaching materials and skills were frequently highlighted. With regard to the former, the wider availability of UK based case study material was particularly emphasized as indicated below:

Irrelevant	1
Helpful	21
Very helpful	19
Meet a critical need	6
Total	47





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