
Maths for Engineers WebDisk

Does it work?

Dr Jim Stevenson
The Educational
Broadcasting Services
Trust

jim@ebstrust.u-net.com



Still from the WebDisk TV programme 'Modelling forces: Sliding and Toppling'

Supplier's contact details

The Educational Broadcasting
Services Trust
36-38 Mortimer Street
London
W1W 7RG

T: 020 7765 5023
F: 020 7580 6246
W: www.ebstrust.co.uk

If you are receiving an Innovations Fund grant you are expected to be doing something new. We think we are, but will it hit the spot? Will anyone know it's there? And if they do, will their enthusiasm for it match ours, who have been shaping it and testing it and getting more and more excited about it for the past two years?

In *MSOR Connections* last August we invited academic staff to pilot and give their opinion about the prototype we had developed in the previous twelve months. And the WebDisk's first group exposure was in Loughborough this April where the Engineering LTSN hosted a Review Day for the team from EBS, Leeds and Media Ink to field a morning of enthusiastic criticism.

The WebDisk is for engineering students and their lecturers. It is a forest of learning with 13 hours of video split between 15 television programmes on mathematical modelling and 30 direct teaching video seminars. It has printable solutions to the modelling and interactive exercises in 50 maths topics. It remembers where you've been and links you to the web. And surprisingly, in a preliminary student survey, the mean usage time in the first few days was 4.5 hours with some using it for nine hours. It was highly rated and all students said they would use it again. This is high praise for what, in its early months, seemed an impossible technical and pedagogic venture.

The 15 television programmes, written by Tim David of Leeds and imaginatively produced by Peter Coltman's team in Leeds, which form the core of the disk were designed for use in lectures to inspire students that the gap between maths and real engineering is bridgeable and that an understanding of maths is directly related to engineering skills. Combining these TV programmes with 50 topics of CBL material which relate to and underlie the essential maths in the programmes, turned a lecture based resource into one which could work for individual students. But it was late in the development of the disk, or disks as they then were, that the team realised that what was needed to make it all work was some direct teaching with a real human doing it; someone to draw you into understanding, someone to reassure and explain as only the best teachers can do. Tom Roper of Leeds Education was the perfect choice.

In the piloting Tim David passed disks to his students with no introduction; just a suggestion to try them out. Without exception they liked the method and wanted more, confident in their navigating to the bits they were looking for. But following the Loughborough review we could see that lecturers viewed it differently. They could do with some more print back-up and detailed indexing to help them plan its use. And the technique is new and it will change. Already the team has broadened out into a wider collaboration with two other universities, Coventry and Loughborough, to develop material at a lower level. We will have learnt a lot by the time we get into production again.

The imperative is not to lose momentum. We cannot wait for years to improve the mathematical competence of next year's students. We have to get people away from the idea that maths is boring and visually dull. Students will only become proficient and able to apply themselves to practice mathematical operations if they are first inspired and today that means visual moving image direct teaching inspiration. That means grabbing the best teachers and putting them on disk for immediate access.