

AN OVERVIEW OF STATISTICAL EDUCATION AT A DISTANCE

Daniel Lunn, Department of Statistics, The Open University, UK

In the UK in the early 1970's the Open University broke new ground by offering statistics courses at university undergraduate level by distance learning. These early distance courses were generally text based with supplementation by videos. Great attention was paid to the design of assignment material not so much for assessment purposes, although it was used for assessment, but more as a 'hands-on' educational experience. A great deal of resource also went into the production of high quality videos. In the early days these tended to be studio-based and aimed at in depth treatment of the theoretical aspects of statistics. Later there was a move towards documentary style videos where the breadth and versatility of statistics was shown in action. This was made possible by the Open University's unique association with the BBC and its associated resources.

The biggest single problem with these courses lay in the students' lack of access to computing equipment, without which data sets had to be chosen carefully and the approach to their analysis was necessarily theoretical in flavour. An attempt was made to solve this problem by supplying opportunities for computer practicals using machines at study centres throughout the UK and supplying a limited number of students who had their own PCs with modems.

In more recent courses it has been possible to assume that students will own their own computers and courses have been written which are based upon statistical software packages. However, one of the things the Open University has not done is to teach statistics by taking full advantage of the opportunity to write purpose-made interactive packages. The reasons for this lie in lack of funding and related lack of manpower, which reasons also lie behind their tardiness in taking full advantage of the internet.

Some wonderful advances are now being made in the distance teaching of statistics. The LUDITE program for Australian teachers (Watson and Baxter, 1997) is a prime example; other examples include Deakin University's association with the Australian Open Learning program (Gollan, 1994) and the work done by the CTI Centre for Statistics in Glasgow. The latter have been particularly active in utilising high speed metropolitan networking across Scotland. CD ROMs are coming into their own by

providing the extra dimension of interactivity. This allows the use of demonstrations and simulations to promote in-depth understanding of statistical concepts over and above the more passive medium of documentary video or film. Within the next few years we shall see the computer used to disseminate highly innovative interactive teaching materials the like of which we could only dream about as recently as 10 years ago.

But exciting and stimulating though these new advances are, let us not lose sight of the fact that the wonderful new materials we are creating are for the rich and already privileged. In the rush to exploit the new technologies to the full we are losing sight of some of our most important target audiences who do *not* come from the USA, Europe or Australia. We have a responsibility to provide distance learning materials for use in developing countries who desperately need to train statisticians and enumerators and do *not* have access to the internet, who do *not* have high speed personal computers with CD ROM drives. That is the real challenge of statistical education at a distance. Are we responding to it?

REFERENCES

- Gollan, R. (1994). Statistics through open learning Down Under. *Proceedings of the Fourth International Conference on Teaching Statistics*. ISI Voorburg The Netherlands Vol. 1, 390 - 398.
- Watson, J. M. and Baxter, J. P. (1997). Learning the unlikely at distance as an Information Technology Enterprise: Development and Research. In Garfield, J and Burrill, G. *Proceedings of the 1996 IASE Round Table Conference*, University of Granada, Spain July 1996. Research On The Role of Technology in Teaching and Learning Statistics, 285 -299. ISI, Voorburg, The Netherlands