
Review of online Statistics Teaching Material

Available on the Internet or on Local Intranet facilities for UK Universities

Vic Barnett
Nottingham Trent
University

vic.barnett@ntu.ac.uk



There is a popular view abroad that there is a vast amount of UK-based university-level statistics teaching material freely available on the internet for general use. How true is this? No one seems to have investigated the extent and form of available material in any detail. This review has been carried out for the LTSN Maths, Stats & OR Network. It casts doubt on the ubiquity of the provision but reveals some very valuable resources.

1 Introduction

The aims of this review are to:

- determine for a sample of UK universities *what teaching material is widely and freely available*,
- examine access facilities in respect of *who is able to download teaching material*,
- explore *what range of material is available*, in what detail and how this varies from one individual lecturer or lecture module to another,
- describe *what is the nature of the available material* in terms of the medium of expression (Word, pdf, ps files etc), what ranges and levels of material are presented and what is the detail of the material (syllabuses, exercise sheets, full or part lecture notes etc),
- assess in broad terms the pedagogic and technical quality of the available teaching material.

An initial study makes it clear that there is very wide variation, in terms of all the above considerations.

At one extreme, many university statistics staff groups seem to provide *no electronically accessible material* either on the Internet or on any internal network system. Some provide *limited information* (a few exercise or summary information sheets or selected sample lecture topics, possibly from just a subset of lecturers) which, further, *may be restricted in access to registered users*. At the other extreme, some provide *high-quality, freely available, easily down-loadable, detailed material with no restrictions of access* but again usually limited to a (small) subset of lecturers.

These distinctions will be illustrated by considering what is the situation in a selected group of universities in respect of staff teaching statistics in mainstream statistics/mathematics departments and/or in service departments (eg with medical, social science, business or psychology interests etc).

The information has been gleaned by

- internet scrutiny of the *personal web sites* of individual staff (no case of higher level, eg direct group level, access was found)
- *discussion with senior staff* to explore any departmental policy on free internet access to statistics teaching material and also what additional *internal* networked material is available, on what types of network and with what access controls
- examination (with permission for access if necessary) of the detailed material *per se*.

In the main, detailed scrutiny concentrated on:

- the Internet rather than Intranet material since it is the former which represents *what is readily accessible and useful for wide-spread usage* and
- statistics groups as the originators. Some effort is made to examine statistics material from cognate groups; eg business and management, education, medicine, social studies, etc.

It was not feasible to review the situation across the whole range of more than 100 universities in the UK. Initial studies were therefore made at a selection of 15 universities. These universities were chosen to broadly represent all countries and regions in the UK and the newer and older university groups. Information was obtained from personal websites of staff teaching statistics in Mathematics and in Statistics departments *per se* and in cognate discipline areas, through relevant homepages of departments, by privileged access to intranet facilities and by personal discussions. This information is the basis of the summary review comments below.

2 Review of Findings

We need to consider what study of the situations in the set of 15 universities reveal about the five aims described at the beginning of the *Introduction* above. Specifically, three basic questions come to mind:

- is detailed HE-level statistics teaching material widely available and accessible
- is there evidence of clear institutional policies on making such material available
- is such availability institutionally dependent?

The answer to all three questions is a resounding 'no'!

There are conspicuous examples of detailed teaching material being made available by individual staff in different universities but this represents a very small minority of the university level statistics teaching stock (probably less than 5%).

There is no evidence of universities declaring and maintaining any firm policy on free internet availability of statistics teaching material; indeed absence of such a policy was often explicitly stated to be the case. This may change and indications suggest a possible tightening of access.

What is available seems to be 'dotted around' the sector with usually at most one staff member in any university offering such material depending on individual enthusiasms and often for just a subset of his or her teaching portfolio. Most material is offered in postscript

or pdf forms (often both); occasionally in MS Word or Excel.

Internal intranet teaching material is more frequently encountered but usually on a restricted access basis (for detailed lecture notes in particular) limited in the main to relevant students but sometimes available to staff colleagues. Again it is by no means ubiquitous in its coverage of an institution's statistics programmes in spite of some assurances that 'the university is introducing a widespread intranet provision and encouraging all staff to use it!' There is no evidence of any difference in attitude or provision for the newer or older university groups.

It could be useful for LTSN to promote a wider study of electronic provision of university-level statistics teaching material. Such a project could examine in more detail issues of availability and policy and the possible need for a LTSN coordinated website facility. It would need to work interactively with university staff across the sector. In the meantime comments on the findings of this initial review are welcome and should be addressed to the author or to Professor Neville Davies at NTU (neville.davies@ntu.ac.uk).

The detailed statistics teaching material freely available on the internet seems to be of the highest quality. Even at its limited extent, it represents a most valuable resource to the profession to guide the inexperienced and to inform the more mature statistics staff members. One might hope such a facility continues and grows.

3. References

A natural place to look for references to the availability of university-level statistics teaching material on the internet is on the internet!

Most relevant sites are international, or even just North American, in emphasis. None examine the UK scene in the detail of the above review. There are, however, three sites which give quite wide-spread and relevant coverage of the UK and international university statistics scene. These are

1. www.yorku.ca/SCS/StatResource.html which consists of 25 pages under the general heading *Statistics and Statistical Graphics Resources*
2. www.bubl.ac.uk/link/s/statisticsresearch.htm which is entitled *statistics research* under the general head of *Internet Resources* and has 12 links of interest including

3. www.stats.gla.ac.uk/cti/links_stats/uk_depts.html which in turn gives links to all UK statistics departments and groups, together with Biostatistics and international departments in 32 countries as supplementary links. UBL LINK 'is a significant, professionally-maintained directory that has been around for years. Begun as a volunteer librarian effort, it has since become a UK funded project hosted by the University of Strathclyde Library in Glasgow, Scotland'.

Acknowledgement

The descriptions of the situation in different universities are based principally on internet review and any inaccuracies or misrepresentations are unintended. They are not intended to be evaluative or critical, merely representative of the wide spectrum of different practices at the present time.

Undergraduate Ambassadors Scheme

Newsletter April 2004

National Director

Sharon Herkes has been appointed as the new National Director of UAS. She will formally take over from Ravi Kapur at the beginning of May, but she has already joined the team and is currently meeting with various university departments and partner organisations. Sharon has substantial experience in outreach programmes, university administration and project management and will bring with her an array of expertise that will carry the scheme forward into its next phase of expansion. There will be an opportunity to meet and put questions to Sharon at the UAS Annual Conference on 22nd April.

Funding Changes

In 2003/4, UAS has been funded as part of the Teacher Training Agency's Student Associates Scheme. From September 2004, UAS will no longer be part of the Student Associates Scheme, but will continue to be funded by the TTA under a separate funding stream. This is seen as a very positive development for UAS, as it ensures greater flexibility in how departments make use of the support funds provided. Details of this new arrangement and the amount of funding that will be available are currently under review. There will be an opportunity to discuss these developments in detail at the Annual Conference on 22nd April. If you would like to receive further information about these developments, please contact ravi@uas.ac.uk.

General Progress

More departments around the country continue to sign-up and express interest in the scheme in an ever-broadening range of disciplines. We now have roughly

30 departments committed to taking part from September 2004 in subject areas ranging from Chemistry to Physiology, Electrical Engineering to Human Sciences, and we expect many more departments to sign-up before the end of this session.

The scheme has recently received attention from both the education press and mainstream media, and continues to enjoy the support of an increasing number of subject organisations, learned bodies and educational networks. The Secretary of State for Education and the Minister for Science have also both recently renewed their personal endorsement of UAS, and the scheme was also mentioned favourably in the recently published report on Mathematics Education by Professor Adrian Smith.

Over 90 undergraduate students are currently participating in UAS placements around the country, and feedback from all departments has again been very positive so far, with undergraduates taking part in an increasing range of activities and special projects.

If you are a new department ready to sign-up to UAS, please do inform us of your commitment to joining the scheme as soon as possible so that your department can be included in funding allocations and all future developments. New versions of the 'sign-up' letter will be distributed in coming weeks once the new funding arrangements have been finalised. In the meantime however, your expression of interest or commitment will be very gladly received.

More information about the scheme can be found at www.uas.ac.uk.