

*Editorial***What is HINARI?**

HINARI stands for **H**ealth **I**nternetwork **A**ccess to **R**esearch **I**nitiative. It is a scheme started in the year 2000 to bring up-to-date published research papers to researchers and clinicians in developing countries via the Internet. In 2000 WHO broached the idea of increasing the access to scientific information in the developing countries by supplying electronic content free of charge or low cost. Perhaps surprisingly more than 100 of the world's largest publishing companies have now agreed to take part and have pledged their support to WHO until at least 2015.

Traditionally publishers have made their money by accepting papers from academics (funded by public money or charities) and printing them and sending printed paper round the world to libraries and individuals who paid. Individuals and institutions in developing countries typically lacked the money to buy subscriptions — and of course there was the cost of postage. Much of this has now changed with the coming of the Internet, and actually computers are relatively cheap. Of course in many countries the power supply can be intermittent, download speeds can be painfully slow, and also the cost of printers and cartridges may be prohibitive. Nevertheless, one can see a way of getting tonnes of up to date printed paper round the world. A more important feature of this relative 'freedom of information' is that teachers in the developing countries can teach up-to-date material and researchers can make grant applications in the knowledge that they will not immediately be rejected because the proposal is out of date.

Over the last five or so years the system has worked reasonably well if not perfectly; in some institutions librarians control or restrict access so that researchers and teachers cannot use the system as freely as they need. There is a suspicion that librarians like to have all their books in the library (and not being used by people), but this is just wicked rumour, although now in the age of the internet they may be playing the same game electronically. By 2007, users spread among 113 countries and in 2500 institutions can potentially access about 80% of the literature indexed in Medline since 2000 (the number of articles is over six million). Furthermore, there are also sister projects, AGORA (for agricultural literature) and OARE (for environmental material). Countries with a yearly per capita gross national product (GNP) of less than \$US1000 are given free access, and countries with a GNP of between \$1000 and \$3000 are asked to pay a \$1000 fee (this sort of sum would only buy 2–3 journal subscriptions under the 'old' system). Indeed the financial calculations are interesting. The British Medical Journal calculated that in the mid-1990s it would cost about £80 to provide a free subscription to an individual in a developing country. With the Internet these costs are now gone. Of course, there is some cost at "the other end" in terms of providing internet access or even printing but this is probably less. There is also a cost to the publishers in terms of running an office to deal with submissions and refereeing etc., as well as setting up pages either for print or on the web, but the publishers mostly seem to be prepared for this and see other benefits in the future if not immediately.

The Bioscience Education e-Journal continues to be free to anyone with internet access and, like a number of journals these days, we do not actually produce a regular printed version (This is not completely true: we are about to produce a themed and combined printed version of the first eight volumes for your bookshelf!). As with other "web-only" journals there is a cost in money and people's time in dealing with the editorial business — some web-only journals charge a submission fee of something like \$1000 per article to cover these costs. For the present, the Centre for Bioscience is prepared to support all the costs, that is to say, there is

no submission fee, and if you have internet access then you can freely download the journal and the PDF article copies for printing. We hope that it will be useful to you, because this is part of our mission, namely to support university teachers in the UK in their aim of improving the student's learning experience. Of course, the journal is also free to readers in the whole of the world, and is copyright free in the sense that the copyright remains with the original authors. We encourage you to support our efforts by mentioning the journal to your colleagues and to consider publishing here.

This issue of Bioscience Education e-Journal offers a wide range of articles which we hope readers will appreciate and enjoy and also provide useful suggestions for use in their teaching. Two of the articles (by Sutcliffe et al. and by Wernersson) are about bioinformatics which is now becoming all-pervasive in the biosciences. We have further thoughts about students' attitudes to the use of animals in Higher Education from Donaldson and Downie. This is a topic of continuing interest from the ethical point of view and set against this is the pharmaceutical companies' constant complaint that the new graduates they employ are poorly skilled in the use of animals in research, although the testing of new drugs for example is required by law before human use is allowed. Azzawi and Dawson offer a paper on the effectiveness of lecture-integrated, web-supported case studies for use in large groups, and Coleman and Watts write about the use of the well-known pharmaCALogy software in teaching. Carroll and Feltham have produced an account of their analysis of several years experience as to whether the development of key skills in a course affects student success generally. Bhat et al. also stress the importance of attitudes and skills in self-directed learning. Scott and Graal have written about 'student failure', and Cann has written a short communication about podcasting and video. We believe that this range of articles reflects present concerns and innovations in higher education and we urge our readers to continue to send in their manuscripts.

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References

- Brown H (2007) For richer for poorer. *British Medical Journal* **335** 280-283
- Long M (2005) HINARI and AGORA: Providing access for researchers in developing countries. *Biochemistry & Molecular Biology Education* **33** 209-210