Knowledgeshare

Online learning

Andrew RL Medford MBChB BSc(Hons) MRCP
Clinical Research Fellow and Honorary Specialist Registrar, Lung Research Group, University of Bristol, Southmead Hospital, Bristol, UK

Introduction

Lifelong learning has become of increasing importance, facilitated by the development of real-time multimedia applications available via the internet and distance learning. Online learning has obvious advantages: flexibility is the key advantage in length and time of study. Ease of access to material is also particularly important for healthcare professionals with their long hours and shift patterns. It also facilitates self-directed learning, automated assessment and feedback and allows discussion between remote users. Potential drawbacks are the impersonal nature of learning without a visible teacher to interact, discuss or motivate. There may also be technical problems including breakdown in image or multimedia software and insufficient processor speed, RAM or operating system. Files may need to be stored occupying hard drive space. Access to a PC or modem connection may be a limitation for some.

The following four online resources (three of them free) represent opportunities for learning via the internet. This article is meant as an illustrative guide to the advanced European Computer Driving Licence, Mastering Clinical Audit, Doctors.net and Chestnet websites.

Advanced European Computer Driving Licence (ECDL):
www.ecdl.co.uk/advanced

The basic European Computer Driving Licence (ECDL) is well known as an internationally accepted qualification in computer skills and the basic NHS ECDL website has been previously discussed in this journal.[1] It is supposed to be a basic benchmark of particular value in interview settings to demonstrate basic IT competence without the need for further questioning or assessment, much like the traditional 'driving licence' implies (at least in theory!) driving proficiency. This qualification has been adopted as the basic qualification by the NHS (rather than the Computer Literacy and Information Technology (CLAIT) qualification). Funding to do the basic ECDL has been provided by NHS trusts at a variety of centres, with learning at the centre or by distance learning.

The basic ECDL comprises seven modules: basic theory, file management, spreadsheets, databases, presentations, word processing and internet/email. This provides a basic level of competency in most areas of IT applicable to NHS workers. Mock exams are taken at the designated centre and the proper exams taken for each module, which can then be ticked off in the passbook issued from the British Computer Society on registering.

In practice, the delay before marking of mock and proper exams can be quite variable between test centres as well as the delay before receiving the passbook and the final licence when all is passed. Nevertheless, it provides a core base upon which to extend in the form of advanced ECDL. Personally, the database and theory modules were hardest for me but that was simply because I don't use databases every day. The theory module has a lower pass mark (60%) as it is rather dry and without logic but requires simple recall of facts (I suppose as a medic I should have been best at this one!).

The advanced ECDL site, therefore, gives the opportunity to take things a little further to advanced level, which is available already in the word processing, spreadsheet, presentation and database modules, although the latter two are not widely available in all advanced ECDL centres. For those used to CLAIT and not ECDL, Advanced ECDL probably equates to Advanced CLAIT in difficulty (although the two are not completely comparable) and is harder than CLAIT Plus.

The website allows access to centres offering advanced ECDL (surprisingly for me there are none in Bristol at the moment!). In general, distance courses are not yet available for the advanced option (unlike all the basic modules) but they are in development. Syllabuses for the different options and sample questions are downloadable as well as some learning materials.

Having completed both the basic full ECDL and the advanced ECDL word processing courses, I can heartily recommend the advanced level although it represents a significant increase in skill level comparing the corresponding word processing options. The course manual is 400 pages in size and in reality takes two to six months to work through, depending on existing skills and time available. Sub-modules include editing (text, paragraphs, widows and orphans, templates, collaborative editing), layout (master documents, table of contents, sections, columns), document organisation (referencing, footnotes and endnotes, security), document elements (tables, text boxes, spreadsheets, images, captions), special tools (mail merge and macros) and printing. Consolidation exercises occur at intervals to optimise learning, and several mock exams aid this process at the end. It is recommended to work through the manual twice before attempting the exam, which is actually slightly easier than the general standard expected throughout the manual and mock exams – a welcome relief after completing the manual!

Having completed the advanced ECDL word module, I can say it has helped me considerably with my everyday work as a research fellow studying for a doctoral degree. The use of collaborative editing, especially tracking and comments, has been particularly helpful in critical review of manuscripts and abstracts. The table of contents, indexing, referencing, use of styles and use of other document elements have been very helpful in giving me greater control in the layout of my thesis. The use of other keyboard shortcuts has given me greater confidence in general in using Office applications, which can be transferred to other applications such as PowerPoint. I await my exam result with trepidation (!) but am now looking to complete the advanced ECDL PowerPoint module as I often have to use this for research presentations. It will become available as a distance course in due course in some centres.

Mastering Clinical Audit: www.clinicalaudit.mvm.ed.ac.uk/

This online course, available in collaboration with the Royal College of Physicians of Edinburgh, requires a small fee but is well worth a look to gain a deeper perspective of audit in the context of medicine. The course can count towards continuing medical education (CME) or eight hours of Postgraduate Education Allowance (PGEA), and on completion students are issued with a certificate. It is aimed at all healthcare workers who might be involved with audit and is

based on the highly successful one-day course on audit previously run by the University of Edinburgh. The only condition is to complete it in 28 days from starting which should not be too taxing as, on the basis of personal experience, it can be completed in a weekend if worked at intensively!

A sample is available online before paying for the course. It entails seven modules and allows the stepwise generation of the student's own audit from concept to final structure. Modules include differentiating audit and research, selecting a suitable audit topic, setting a standard (including the concepts of criterion, component, yardstick, target and exception), achieving consensus (including the concepts of opinion leader, product champion, gatekeeper, facilitator and the Delphi technique), planning for change (including the concepts of advocate, participant, agent, sponsor and force-field analysis), identifying a need for change, strategy for change and managing the effects of audit and maintaining change (including the concept of Hawthorne effect). The modules also allow the learner to choose an audit topic, specifying criteria and standards, generating these from clinical guidelines.

The course allows for easy manoeuvring back and forth through modules with multiple-choice questions to facilitate reinforcement. A particular strength of this online learning is the ability to work at one's own pace. No previous understanding of audit is necessary and the clinical examples are very simple, hence its attraction to a wide audience. The course should hopefully answer the question 'how to do audit?' rather than simply 'why do audit?'.

Having completed the course, I feel a much deeper and more comprehensive understanding of the process of audit which will be of great help when I resume my higher specialist training as specialist registrars (SpRs) are expected to complete one audit per year. This concept is not well covered in some SpR training schemes so any other resource must be welcome even if a course fee is required. As we are all involved in audit in the NHS, this course should be of help to us all.

Doctors.net.uk: www.doctors.net.uk/

This website intended for doctors only has been available for some time now. Sections include email, education, forum, news, jobs and links. The particular strengths of this site for doctors are the eCME and forum sections both powerfully facilitating online learning. The eCME modules cover a vast array of topics and are dynamic being updated constantly.

Completion of the modules contributes to PGEA (two hours per module) and CME accreditation. Modules are available in core topics, primary care, Royal College of Physicians, nephrology masterclass and anaesthesia. The forum section allows online learning in the manner of a discussion in any chosen specialty and is perhaps particularly useful for those with a specific question maybe with reference to a clinical case.

There are additional benefits of links to other databases (Medline and Cochrane), the electronic Oxford Textbook of Medicine and *British National Formulary* (*BNF*) for further online learning but there are better portals around. However, another particular strength of this site is the improved email feature, which will allow enhanced communication with other doctors and facilitate the learning process. The improved email facility will include an 'out of office' reply facility, a one-click delete feature, improved spam mail filtering and virus protection, enhanced free web space totalling 30 megabytes (comparing favourably with the free 2 megabytes offered with Hotmail accounts) consisting of 10 megabytes standard space and 20 megabytes of further storage space. These changes come into effect on 23 November 2003.

Personally, I find the eCME modules the best online source of this type of learning I have found to date. The questions at the end of the modules are particularly useful for consolidation, and the standard is quite demanding to pass satisfactorily. The forum facility is also very helpful for me for those difficult cases that one can't find a direct answer to in the textbook. The new email facility will also be very handy for maintaining communication with my medical colleagues and for storing information.

Chestnet: www.chestnet.net/

This idea was originally conceived in October 1996 and piloted. It was originally supposed to be exclusively for respiratory SpRs in North Thames (East) Thoracic Society as a compulsory part of their training. The Medical Education Centre of Whipps Cross Hospital teamed up with Ultralab from Anglia Polytechnic University to generate the original site. The Chestnet site was officially born in 2000. It is primarily (but not exclusively) aimed at all respiratory SpRs and also consultants. Its particular advantages are allowing ease of access, use of dynamic learning materials, which are constantly updated, allowing self-directed learning and secure, automated feedback and assessment.

The specialist registrar internet training environment (SPRITE) section is exclusively for respiratory SpRs and consultants with a conferencing feature allowing communal mailboxes and discussions, file sharing and shared internet groups. This (like the Doctors.net forum) facilitates online learning between remotely located users using first class internet client software.

The other sections are open for all healthcare professionals but would be of particular relevance to general practitioners (GPs) and hospital physicians. Slides are available from the British Thoracic Society (BTS) summer meeting presentations. The current resources include eCME and tutorials on a variety of areas of respiratory medicine but there are other areas on cardiology, radiology, dermatology and rheumatology, which will be of general interest. There is an extensive help section for users, a powerful links section acting as a portal to ejournals, respiratory and quality health sites, health organisations and ongoing clinical trial information.

Personally, I mainly use this site for its detailed respiratory learning modules but also as an adjunct for general medical learning to back up the eCME in Doctors.net. The conference section has come in useful for discussions with respiratory colleagues who don't use the forum on Doctors.net.

REFERENCE

1 Beard R. Web alert: online learning. *Quality in Primary Care* 2003;11(3):221–4.

ADDRESS FOR CORRESPONDENCE

Dr Andrew Medford, Lung Research Group, University of Bristol, Southmead Hospital, Westbury-on-Avon, Bristol BS10 5NB, UK. Tel: +44 (0)117 959 5348; fax: +44 (0)117 959 5018; email: andrew.medford@bristol.ac.uk