

# Choosing and Using Technologies in Education and Training

## ***Resources in Web-based Learning***

### Further Reading

#### **Alexander, Shirley**

1996, 'Teaching and learning on the World Wide Web', paper delivered at AusWeb95 conference.

<http://www.scu.edu.au/sponsored/ausweb/ausweb95/papers/education2/alexander/> Site accessed June 1997.

A thoughtful analysis of the way new applications of technology begin with a roar and fade with a whimper, with sound advice on establishing what teachers want their students to learn, and designing Web-based instruction and interaction accordingly.

#### **Bates, A. W.**

1995, *Technology, Open Learning and Distance Education*, London: Routledge.

A book which provides an eminently useable methodology for making competent and informed decisions on choice and use of technologies in education. Bates sets out criteria for decision-making based on an analysis of common questions each institution must answer for itself, to do with access, costs, teaching and learning, interactivity and user-friendliness, organisational issues, novelty, and speed.

Teachers and managers will find the first chapter especially useful. In it, Bates proposes '12 golden rules' for using technology in education and training: good teaching matters; each medium has its own aesthetic; educational technologies are flexible; there is no 'super-technology'; all major media types should be available to teachers and learners; balance variety with economy; interaction is essential; student numbers are critical; new technologies are not necessarily better than old ones; teachers need training to use technologies effectively; teamwork is essential; and technology is not the issue but how and what do we want students to learn is.

Subsequent chapters deal with the educational, technical and cost issues involved in technology selection and implementation of four major types of media: print, television, audio (including telephone), and the computer. He concludes with a thoughtful look at the future of technology and its limitations in education and training.

#### **Birks, A., Donnan, P. & Messing, J.**

1995, 'A hypermedia teaching/learning resource for Grape and Wine Production', *Occasional Papers in Open and Distance Learning*, Charles Sturt University, Vol. 18, Nov.

<http://www.csu.edu.au/division/oli/oli-rd/> Available in hard copy from CSU or online (site accessed June 1997)

A report on the design and teaching of a CD-Rom Macintosh program for the subject Grape and Wine Production. It analyses the development process, sets out an evaluation framework for the program, and concludes with comparisons between the

CD-Rom and an earlier print version of the unit.

**Boalch, Greg**

1996. 'WWW as an educational support medium: an Australian case study'. Paper presented at AusWeb96 conference, Southern Cross University.  
<http://www.scu.edu.au/sponsored/ausweb/ausweb96/educn/boalch/> Site accessed July 1997.

The paper describes the use of the Web as a support medium for an undergraduate Information Systems unit taken by over 1000 commerce students at Curtin University of Technology, in a 15 week semester. Students are given online access to their support material from any machine on campus or from home (some live over 2000 km away from the home campus in Perth). The study examined whether and how students used the Web material (a majority preferred to access information via the Web than to use paper-based sources), and implications for reduction in costs of running the unit (course administration improved).

**Evans, Peter,**

1996, 'Development and delivery of a Graduate Certificate (Open and Distance Learning) via the WWW', paper presented at AusWeb96, Southern Cross University.  
<http://www.scu.edu.au/sponsored/ausweb/ausweb96/educn/evans/> Site accessed July 1997.

A report on this course which is offered online by the University of Southern Queensland. Evans covers the rationale for offering the course, the pedagogical principles underpinning its design and delivery, the course structure, materials development and production processes, the designs and software tools used in course construction, site creation and maintenance, and interaction with students.

**Gilbert, Cheryl**

1996, 'Teaching and learning on the web at Queensland University of Technology', Paper presented at AusWeb96 Conference, Southern Cross University.  
<http://elmo.scu.edu.au/sponsored/ausweb/ausweb96/educn/gilbert/paper.html> Site accessed July 1997.

A report on ways in which Web technologies are being used in teaching a variety of science and social science subjects at QUT, recognising that most teachers presently see the web as 'foreign technology' and are concerned about its effectiveness. Gilbert describes a QUT professional development initiative to help overcome this problem. QUT has set up a Webworkers group of staff from 27 different Faculty schools and service areas to share information and collaborate in designing, teaching and evaluating web-based learning.

**Ivanoff, George & Clarke, Justine**

1996, Sept. 'The use of the World Wide Web for teaching - things to consider before putting materials online'. Paper presented at Australian Communication Conference on Teaching Communication Skills in a Technological Era. Monash University.  
<http://www.ola.edu.au/paper4.htm> Site accessed July 1997.

Practical advice to teachers on ways of putting materials online and teaching through the Web. IT covers access issues, skills of users, the importance of good design (and advice on that), maintenance of content and design standards, and intellectual property matters.

**Jacques, Michele M.**

1996. How to find World Wide Web distance education resources. Distance Education Clearinghouse.

<http://www.uwex.edu/disted/resources.html> Site accessed July 1997.

A succinct and helpful guide to finding one's way through the plethora of Websites providing information and resources on technology-mediated education. Jacques shows how the sites can be categorised and identifies the characteristics that indicate excellence in a site. An annotated list (including hotlinks) is provided to a range of sites from around the world. This paper was first published in 1996 and is regularly updated. It is an excellent jumping off point to searching the Web for any type of material on teaching and learning at a distance or electronically.

**Laurillard, Diana**

1993, *Rethinking University Teaching: a Framework for the Effective Use of Educational Technology*, London, Routledge.

book, written by a leading UK Open University academic, has greatly influenced approaches to staff development in Australian universities in recent years. Laurillard sets out a framework to help teachers think about the nature and processes of learning and how best to use and combine new and established media in their teaching. Part 1 explores students' learning, and what it is that they need from educational technology. Part 11 looks at individual teaching methods and media, including non-interactive media (lectures, print, audio), hypermedia (CD-Rom and the Web), and interactive media (simulations, modelling programs). Part 111 examines design methodology, designing learning activities, setting up the learning context, and maintaining quality.

**McGreal, Rory**

1996. OR Even Worse: a Dozen Things That Can Go Wrong in a World Wide Web Course.

<http://tenb.mta.ca/evenworse.html> Site accessed July 1997.

Advice from one who knows – hopefully, they don't happen all at once.

**Nash, Chris & Alexander, Shirley**

1995, 'Australia Street archive on the World Wide Web', paper presented at AusWeb95 Conference.

<http://www.scu.edu.au/sponsored/ausweb/ausweb95/papers/education3/nash/> Site accessed June 1997.

A summary of a large multidisciplinary project - the Australia Street Archive – creating curriculum materials in prototype multimedia form for distribution on CD-Rom for use in school and tertiary courses. It describes the project development

strategy, narrative structures, and collaborations required to make it work.

**Oliver, Ron, Herrington, Jan, & Omari, Arshad**

1996, Creating effective instructional materials for the World Wide Web, Paper presented at AusWeb96 Conference, Southern Cross University.

<http://elmo.scu.edu.au/sponsored/ausweb/ausweb96/educn/oliver/> Site accessed July 1997.

Firmly grounded on learning theory, this paper proposes design strategies for Web materials aimed at improving the instructional effectiveness of the media. The authors explore in some detail aspects of information organisation and selection of the most appropriate forms of hypermedia for the intended learning outcomes - e.g. strategies such as placement cues and semantic nets to help orient the learner within learning materials; navigation between nodes; text structure and its readability; and effective forms of interactivity. They consider ways of varying the role of the learner (e.g. collaboration, reflection and articulation), and implementation strategies such as coaching and scaffolding, and integrated assessment.

**Oliver, Ron & Omari, Arshad**

1996, The place of the WWW in an undergraduate multimedia degree program, Paper presented at AusWeb96 Conference, Southern Cross University.

<http://elmo.scu.edu.au/sponsored/ausweb/ausweb96/educn/omari/> Site accessed July 1997.

An outline of experience at Edith Cowan University in developing and teaching an undergraduate degree in Interactive Multimedia Technologies. The paper discusses the form and structure of the program and the place of the Web as an authoring medium. Teachers will find especially useful the sections on teaching and learning issues raised by the program, such as catering for individual and diverse learning needs, demonstration of skills acquisition, and choice of pre-requisite knowledge bases on which to develop course content.

**Oliver, Ron & Grant, Mike**

1994, *Distance Education Technologies: a Review of Instructional Technologies for Distance Education and Open Learning*. Perth: InTech Research, Edith Cowan University.

A highly practical and very useable guide to the various instructional technologies that can be used to support distance teaching and flexible learning. Four groups of technology are outlined - telelearning (including various forms of television and teleconferencing); computer mediated communications; computer mediated instruction; and print and other 'hard copy' materials. Each section briefly describes the technology, its instructional applications and learning opportunities, its relative strengths and weaknesses as a delivery medium, the costs and equipment required to support its use, and information on groups and organisations able to provide services and assistance to providers of education and training.

**Tkal, Lucy (Series editor)**

1997, *Technology Survey Report* (3rd ed.), Open Training and Education Network, NSW

TAFE.

A deservedly popular and eminently useable introduction to the communications technologies available for flexible learning, the Report is a handy reference to keep at one's elbow. Technologies covered include the range of teleconferencing, computer mediated communications, computer managed learning, broadcasting, and online technologies. Each section describes the technology, its applications, equipment and service requirements, its advantages and disadvantages, and cost factors.

### **University of California, Berkeley**

How to Choose the Search Tools You Need. Teaching Library Internet Workshops.  
<http://www.usq.edu.au/library/pubsexms/elecinfo/search.htm> Site accessed June 1997.

An excellent, easy to follow set of information and self-instructional tutorials on the do's and don'ts of searching, shortcuts, and ways of maximising relevant hits. It covers choice of tools that will work successfully and two ways to learn to use them; recommends general Web search tools and good features for refining searches; and provides information on other general Web search tools and directories. It is hotlinked to the major large search engines and a number of more specialised ones.

### **University of Southern Queensland Library**

Referencing of electronic documents.  
<http://www.usq.edu.au/library/pubsexms/elecinfo/cite.htm> Site accessed June 1997.

Helpful advice from the USQ Library on how to reference electronic documents using various well-known referencing systems.

### **Willis, Barry**

Distance Education at a Glance.  
<http://www.uidaho.edu/evo/distglan.html>. Site accessed July 1997.

A set of 14 concise, well-presented guides on distance learning, covering an overview, teaching strategies, instructional development, evaluation, instructional television, instructional audio, computers in distance education, print in distance education, learning strategies, distance education research, interactive videoconferencing, the worldwide web, copyright, and a glossary of terms. The guides can be downloaded free.

### **Wilson, Katie**

1996, World Wide Web Walkabout: a subject-oriented program for teaching and learning the Internet, Paper presented at Ausweb96 conference, Southern Cross University.  
<http://elmo.scu.edu.au/sponsored/ausweb/ausweb96/educn/wilson> Site accessed July 1997.

Wilson outlines the development of a WWW-based independent Internet tutorial program developed at Macquarie University Library. It offers self-paced learning about the Internet, and acquisition of skills to access and navigate it effectively. WWW Walkabout is used by students independently or in conjunction with

academic courses. Development is modular, with live links to specific and relevant information resources.