

# Choosing and Using Technologies in Education and Training

## **Resources in Videoconferencing**

### Further Reading

**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.

**Bivens, Herbert L, Chute, Alan**

1996, 'Distance Learning Futures: Creating New Learning Environments and Developing New Pedagogical Skills'. Lucent Technologies.

<http://www.lucent.com/cedl/icdeenv2.html>. Site accessed 17 July 1997.

Guidelines for educators on constructing appropriate video teleconferencing environments, and advice on pedagogical skills that will maximise student learning based on videoconferencing. The paper covers group and desktop videoconferencing technologies - physical issues of room design, desktop layouts and protocols; methods of presentation; maintaining audience attention; and learning strategies.

**Chute, Alan G.**

1991, 'Strategies for implementing a teletraining system', Paper presented at International Teleconferencing Association Convention.

<http://www.lucent.com/cedl/strategy.html>. Site accessed July 1997.

A useful paper for teachers and managers which defines 'teletraining' as an integrated system for planning and delivering interactive training in several sites using audio, video and audiographics. The technologies themselves have moved on since the article was published, but the principles for design and implementation are still

current.

**Chute, Alan G., Balthazar, Lee B., & Poston, Carol O.**

1988, 'Learning from Teletraining', article originally published in *American Journal of Distance Education*.

<http://www.lucent.com/cedl/learnt.html>. Site accessed July 1997.

A summary of five years' learning from teletraining, identifying what students and teachers have each learned about design and management of teletraining systems - defined as 'a complete system that integrates the planning, delivery and management of training by using a combination of information technology and teleconferencing services'. Media used are audio, audiographics and video. The article covers instructional effectiveness, cost benefit analyses, course and curriculum development, instructor competencies, and media attributes.

**Gilbertson, Denny & Poindexter, Jamie**

1997, Distance education classroom design.

<http://www.uwex.edu/disted/rooms/county.htm>. Site accessed July 1997.

Excellent tips for designing teleconferencing meeting rooms and flexible learning classrooms using audio and videoconferencing, satellite, computers or desktop collaboration. While the details are specific to the University of Wisconsin, the issues and the advice on how to maximise effective utilisation of the technologies are pertinent to Australian conditions.

**Laurillard, Diana**

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

This 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.

**Mason, Robin**

1994, *Using Communications Media in Open and Flexible Learning*, London, Kogan Page.

An accessible, practical and reliable introduction to three telecommunications technologies: computer conferencing, audiographics and videoconferencing, which demystifies the jargon. In the first three chapters, Mason covers issues for teachers, organisations and students considering courses and training programs based on these media, the educational value of interactivity, the support mechanisms which are

necessary, and the broader implications of asynchronous media. Chapters 4-6 are especially useful, being devoted to the types of educational use, advantages and disadvantages, equipment and techniques, and future trends in each medium. She argues that the three components of success in each case (course design, quality of teaching, and support facilities) are not medium-dependent, but that these components in turn depend on a thorough understanding of the strengths and limitations of the medium used.

**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.

**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.