

Choosing and Using Technologies in Education and Training

Resources in Audio conferencing

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.

Carmichael, John

1995, 'Voice mail and the telephone: a new student support strategy in the teaching of *Distance Education*, Vol. 16, No. 1, pp. 7-23.

A readable account of how voicemail can be used to provide up to date, regular feedback to a large class of Australian distance students. Bulletins (up to 10 minutes long) were recorded which explained and clarified issues on-campus students in the same course were finding difficult, feedback on assignments, and administrative information. Voicemail is an easy-to-use, affordable addition to the familiar technologies of the telephone.

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.

International Teleconferencing Association (ITCA)

<http://www.itca.org/>

The International Teleconferencing Association (ITCA) is an American professional association linking users, providers, strategists, educators, learners, managers and workers who use teleconferencing, tele- collaborative and distance education technologies. The site provides membership information, a calendar of events, and links to other resources including information about inter-operability standards, teleconferencing, tele-collaboration and distance education. Its list of resources is constantly updated.

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.

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 suable 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.

Robson, Joan

1996, 'The effectiveness of teleconferencing in fostering interaction in distance *Distance Education*, vol. 17, No. 2, 1996, pp. 304-334.

A detailed study of the use of teleconferencing in teaching Year 11 and 12 mathematics students in a cluster of rural schools in NSW. Although one aim was to improve interaction among students, most interactions were between individual students and the teacher, and the study raises useful questions about lesson structuring, power and control in the class, and the potential advantages of using audiographics rather than audioconferencing for the purpose.

Tkal, Lucy (Series editor)

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

A deservedly popular and eminently suable 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).

<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.