

Choosing and Using Technologies in Education and Training

Resources in Student-centred 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.

1997, 'The impact of technological change on open and distance learning', *Distance Education*, Vol. 18, No. 1, pp. 93-109.

Bates is a leading writer about technology-mediated education. Here he outlines the major structural and conceptual changes required in both dual mode and dedicated open learning institutions to achieve the most cost effective use of the new technologies.

Bates, A. W.

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

A book which provides an eminently usable 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.

Brown, Stephen (ed.)

1997, *Open and Distance Learning: Case Studies from Industry and Education*, London, Routledge.

A book aimed at educators and managers considering how to introduce forms of technology-based flexible learning into a conventional, face-to-face setting, or grappling with the problems of doing so. It comprises 14 case studies from industry, commerce and education in Britain and Australia which show that the main issues tend to be related to human and educational factors rather than technical ones or even cost.

The case studies cover topics such as: costing models and investment strategies; user expectations and reactions; role of the tutor/trainer; methods of integration of technologies and flexible learning; leadership and the role of champions in introducing flexible learning; dissemination of expertise; staff development and student learning support systems; cultural change and vested interests; scalability and rates of change; evaluation strategies and techniques; collaboration and competition; and models for priority setting, planning and resource allocation. They also cover a range of old and new technologies, including print-based materials and video, stand-alone computer-based learning, and a variety of electronic and Web-based approaches.

The final chapter, by Stephen Brown, is a useful synthesis of the lessons learned in the diverse settings of the case studies, especially in relation to technology, human factors, and institutional cultural change. He argues that there is no one best practice, but each proposed innovation must take into account issues such as whether to set up an internal design and development team or outsource the specialist services; centralised versus distributed models of development and support; growth and integration of the innovation into the mainstream; learning support; and costing models.

Burge, Elizabeth

1994, 'Learning in computer conferenced contexts: the learners' perspective', *Journal of Distance Education*, Vol. 9, No. 1, pp. 19-43.

A very readable and realistic account by a leading writer on computer-mediated learning, which examines the pros and cons of computer conferencing, and provides advice for teachers on good practice.

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.

Mason, Robin & Kaye, Anthony (eds.)

1989. [Mindweave: Communication, Computers and Distance Education](http://www-icdl.open.ac.uk/mindweave/mindweave.html). Oxford, Pergamon Press.
<http://www-icdl.open.ac.uk/mindweave/mindweave.html>

A classic text, now out of print but available electronically for research/study purposes. The book comprises 20 chapters on a wide range of issues under the broad headings of themes and issues to do with computer-mediated communications (CMC) and distance education; computer conferencing and mass distance education; applications of CMC in education; and reflections on CMC as a medium for education.

Moore, Michael G. & Kearsley, Greg

1996, *Distance Education: a Systems View*, California: Kearsley, Wadsworth Publishing Co.

For practitioners, the most useful chapters are those on technologies and media, course design and development, teaching and tutoring, and the distance education student. Managers will find the chapters on fundamentals of distance education, and administration, management and policy particularly useful overviews of the present environment and

requirements. In addition, the book includes an extensive set of sources on published material, online networks, journals and databases.

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.

Race, Phil

1993 (2nd ed.), *The Open Learning Handbook*, London: Kogan Page.

A down-to-earth handbook for teachers and specialist staff involved in resource-based learning delivered on campus, at home and at work. The approach and style exemplify Race's views about good practice in designing and presenting material and the book is very easy and practical to use. Regardless of the mode of delivery, practitioners will find helpful the chapters on designing for flexible learning, the preparation of 'study guides', learning outcomes, assessment, tutor-marked assignments, tone and style, tutoring and mentoring. Chapter 7 covers computer marked assignments (design, scoring, feedback, etc), while Chapter 10 deals with flexible learning in traditional classroom settings.

Ramsden, Paul

1992, *Learning to Teach in Higher Education*, London: Routledge.

This well researched, thoughtful book by a leading Australian academic addresses the problem of how best to evaluate and improve the standard of teaching in a climate of accountability and appraisal. Designed for practitioners, it links educational theory and the practical realities of teaching, arguing for a more professional approach to teaching.

Ramsden outlines the experience of learning and teaching from the student's point of view, sets out a set of principles for effective teaching. He then considers these principles in the light of four problems commonly encountered by teachers - organising course content, selecting teaching methods, assessing student learning, and evaluating the effectiveness of teaching. Case studies of good practice are used to link theory and practice, and the book concludes with examination of appraisal, performance

indicators of teaching, accountability, and educational development and training.

Rowntree, Derek

1993, *Preparing Materials for Open, Distance and Flexible Learning*, London, Kogan Page.

Rowntree guides the reader through all the key stages of planning and developing learning materials, no matter which medium they will be provided in. He includes sections on profiling your learners, agreeing on aims and objectives, deciding context and sequence, making materials user-friendly. A text to keep close to the elbow when developing curricula based on learning resources.

Rumble, Greville

1997, *The Costs and Economics of Open and Distance Learning*, London, Kogan Page.

Rumble uses examples from around the world to dissect the costs and economics of flexible delivery, and builds on his earlier work in this area. He is one of the leading writers on distance education systems and economics, and this book will be of particular use to policy makers and program managers.

Tinkler, Don, Lepani, Barbara, & Mitchell, John

1996, *Education and Technology Convergence*, Commissioned Report No. 43, National Board of Employment, Education & Training. Canberra, AGPS

NBEET commissioned this report as part of its examination of the nexus between employment, convergence of communications technologies, and the ability of the education and training systems to equip the workforce with the required knowledge and skills. The report focuses on three aspects. It provides an overview and assessment of the technological infrastructure used in the delivery of education and training, including availability and application of computing and communications technologies and technical support services. It identifies needs and opportunities for professional development and support of educators and trainers as a key priority. And it reports on strategies available and required to ensure maximum access for students, especially those in equity targeted groups. Notwithstanding rapid changes in the technological, if not the policy environment, the report is a valuable survey of what is happening 'on the ground', and the emerging problems and issues which policy makers and educators must deal with. Each area is illustrated with case studies.