Book Reviews

DANIEL, J.S. (1996). *Mega-Universities and Knowledge Media – Technology Strategies for Higher Education*. London: Kogan Page: pp. 212.

John Daniel defines a Mega-University as "a distance teaching institution with over 100,000 active students in degree-level courses." Eleven mega-universities are identified in various parts of the world on the basis of three criteria: distance teaching, higher education and size. The Open University in the United Kingdom, of which Daniel is Vice-Chancellor, is thus identified as a mega-university, as is the University of South Africa (UNISA), Indira Gandhi National Open University in India and the Universitas Terbuka in Indonesia. The purpose of studying mega-universities is not only to consider the role of university education in the national life of the countries in which they are located, many of which are developing societies, but, also because

> The achievements of the mega-universities pose a challenge to conventional academic practice because they show that a different approach to teaching can be more successful than lecturing.

Daniel begins with an overview of the global "challenges and opportunities" facing conventional universities at the present time. Most of the challenges are familiar to all who teach in Universities and other tertiary education institutions: increasing demand for higher education, increasing operating costs, the demands of life-long learning and the accompanying increase in part-time students, and increasing demands for "quality, coherence and consistency" in courses. As campuses grow, they often become increasingly impersonal places for students. The essence of higher education, however, according to John Daniel, is "connecting people into learning communities." To this end he notes, "new technologies, notably the Internet and the World Wide Web, may provide superior ways of creating academic communities."

This book lays out a vision of a technological future for universities. First, education will be "unbounded by existing campuses because it will be available anywhere, anytime." In this vision, the difference between distance education and on-campus education will blur because students will use the same devices, particularly computer conferencing, wherever they are. Curriculum and the "delivery mode" will put academic content in "real world contexts" such as the home and the workplace and learning, working, family and social life will converge. Courses will become more affordable for students because opportunities will be easier to access and technology will create a market for higher education that will give students much greater choice.

The themes of life-long learning and increasingly personalized education are key features of the vision John Daniel has for Universities and the role that "knowledge media" - a term coined by Eisenstadt (1995) to refer to the convergence of computing, telecommunications and cognitive sciences to higher education - will play in them.

All this is challenging for conventional universities used to having lecturers and professors deliver lectures to students who attend classes on-campus at scheduled times. While knowledge media are fundamental to the mega-universities and to other insitutions that teach courses at a distance, they are not necessarily mainstream in institutions that are not providing off-campus instruction. This

book is a useful introduction to modern technologies and their role in university "renewal" for teachers as well as administrators in universities considering new ways of teaching and providing learning opportunities.

John Daniel is well known and highly respected in the world of distance education. As a former Vice-President of both Athabasca and Concordia Universities, and President of Laurentian University, all in Canada, before taking up his present position in a British mega-university, John Daniel is possibly uniquely qualified to comment on the changes he sees ahead for higher education. For these reasons his name will attract many distance educators to this book. However, *Mega-Universities and Knowledge Media* has a lot to offer all university teachers and administrators who face the global challenges of providing higher education to more people with fewer resources. Daniel makes a powerful case for doing things differently in Universities, whether or not they are 'mega' institutions and even if they do not at present provide any courses at a distance.

I found the small section on pedagogies particularly interesting. A key point in Daniel's discussion of pedagogy is that "the knowledge media may bring the correspondence and remote-classroom traditions of distance education together." Daniel believes that today

> distance education no longer has a distinct and common pedagogy. The pedagogy of synchronous and remote classroom teaching resembles the pedagogy of classroom teaching more than it resembles the pedagogy of asynchronous correspondence teaching.

This is a challenging book for distance educators, educational technologists and for all university teachers and administrators. I found John Daniel's vision of higher education compelling and insightful. It is compelling for the vision it offers of how technology is changing the nature of universities and the ways in which they will, in future, function. It provides readers with many insights into the complex challenges presented to Universities by increasing demands for higher education coupled with declining government expenditure.

Reference

EISENSTADT, M. (1995, Multi-Media Section, 7 April,) Overt strategy for global learning *Times Higher Educational Supplement*, pp. vi-vii.

Ken Stevens
Memorial University of Newfoundland

HOBBS, V. M & CHRISTIANSON, J. S. (1997). *Virtual Classrooms - Educational Opportunity Through Two-Way Interactive Television*. Lancaster Pennsylvannia & Basel, Switzerland: Technomic Publishing Co. pp. 297.

This American book will have particular interest to rural educators and educational administrators who have the financial means to consider this expensive but impressive technology. Two-way interactive television, or I-TV, is

> the linkage of three to ten school districts over fibre optic, coaxial cable or dedicated copper telephone lines, which enables participating schools to share teachers and electronically combine students.

The authors' claim is that the major advantage of I-TV over other distance education learning methods is the ability of students and teachers to simultaneously see and hear one another, enabling spontaneous interaction. According to Hobbs and Christianson, I-TV preserves the dynamics of the traditional classroom and allows students to interact with one another from a range of sites.

For rural schools I-TV has particular appeal

and enables geographically isolated learners to access teachers from diverse places. Many rural schools cannot offer advanced courses because of small enrolments and many find it difficult to retain teachers. By collaborating and developing an I-TV network small rural schools can expand curriculum offerings at a cost, according to Hobbs and Christianson, roughly equivalent to that of hiring one beginning teacher. This claim is made in the context of education in the United States but is worth considering in other places, including New Zealand.

There are obvious benefits in this technology for rural students hoping to gain entry to tertiary education institutions. There are even more obvious advantages for geographically isolated communities that have found it difficult to provide educational and vocational opportunities for young people equivalent to those provided by larger, usually urban, schools.

Virtual Classrooms is a comprehensive analysis of two-way interactive television in schools. In spite of the technical subject the authors have written a book that is largely jargon-free and easy to follow. Guest essays and 'sidebars' enliven the text and provide examples of I-TV in various applications, particularly in rural areas.

Hobbs and Christianson introduce the reader to a range of distance education options including desktop video-conferencing, audiographic technologies, satellite based instruction and teaching by correspondence. Within this broad distance education context, I-TV's advantages are considered and a nine-step programme for establishing a school-based I-TV network is outlined. Chapters are devoted to the organization and administration of an I-TV network and to evaluating its effectiveness. The technological "style" of an I-TV classroom is considered in relation to the teacher's willingness to experiment and "take risks" with various technologies:

> Unlike watching television, I-TV can and should be a demanding and engaging process in which students are participants in their own learning.

This is a comprehensive treatment of an emerging dimension of distance education. The authors include chapters on teaching and learning in virtual classrooms using I-TV and on "issues in human and social capital." Readers are even introduced to a method of conducting an I-TV cost-benefit analysis.

Virtual classes are becoming more accepted in New Zealand, North America, in the Nordic countries and elsewhere in the developed world. The introduction of two-way interactive television is not an initiative that can be introduced without considerable study and planning. *Virtual Classrooms* is a comprehensive treatment of a complex area of educational technology, management, teaching and policy that is written and illustrated in a way that lay people can follow. Where there are, inevitably, technical terms in the text, explanations are provided in an extensive glossary. This is an interesting study in itself. For educational administrators, particularly those with teachers and students in rural schools, Hobbs and Christianson provide a new dimension to the management of isolation.

Ken Stevens
Memorial University of Newfoundland

FORSYTH, I. (1996). *Teaching and Learning Materials on the Internet*. London: Kogan Page. pp.181, £18.99

I wasn't there when the Phoenicians developed the alphabet. Nor was I present at the unveiling of the printing press. I have only read about the advent of the wireless and the subsequent rise of radio. Television was already an all-too-common medium to my parents' generation. Yet, in spite of my ignorance about how the introductions of these earth-changing media were received at their respective moments in history, I find it

difficult to imagine any of them being surrounded by the sort of hype with which the Internet has been accompanied. From the most respected Wall Street tycoon to the strangest of crackpots, we've all jumped on the Internet bandwagon. From the very young to the very old, we've all thrown ourselves into cyberspace.

No small wonder then that educators have bought in as well, investing time and money in the pursuit of what may possibly be the first sweeping alteration in traditional pedagogy since Aristotle sat down with Plato. No small wonder either, that we see the rise of the "how to" book; the much sought after manual that will show us the way to join the ranks of the progressive, the innovative, and the visionaries.

Ian Forsyth has given us just such a manual in his timely *Teaching and Learning Materials on the Internet*. If not a "how to" book, he has at least given us a guidebook on the considerations involved in developing Internet courses. In some 180 pages he covers such topics as preparing material for the Internet, why use the Internet, general considerations, getting started, instructional design, forms, specific considerations, cost considerations, developing areas, and glossary of Internet terms. It intends to carefully avoid specific technical considerations, understanding that the ever-changing nature of the Internet technology would render a technical manual archaic the moment it was printed. He focuses rather on the pedagogy, instructional design, and administrative considerations of Internet course delivery.

In these areas he does well. His discussion of what courses may be appropriate to Internet delivery will be invaluable to faculties seeking to take advantage of the new medium. His cautions against creating nothing more than "electronic page turning" will expand the understanding of those educators who do not appreciate the potential of the Internet as a new medium. His analysis of the strengths and weaknesses of the Internet as a medium for course delivery explores an often ignored issue by course developers while his outlines of cost considerations will be of immense interest to educational institutions. And his glossary of Internet terms will be appreciated by the newcomer.

The weakness of the book, however, is not in the specific topics covered, but rather in the ambiguity of the intended audience. Institutions interested in cost analysis will not be interested in instructional design. Subject matter experts will not be interested in cost analysis. Those advanced enough to be interested in his chapter on the development of forms will find his glossary simplistic, and those interested in launching their first Internet course will find his book intimidating.

He neglected to mention the development of course template packages such as WebCT, First Class, and Web Course in a Box. In fact, it may well be that the developers of these course templates will be the ones who benefit the most from Mr Forsyth's book. They will appreciate his examinations on the presentation of material in the Web environment. In the end I suspect it will be the design specialists and programmers who will determine the most appropriate presentation of courses on the Internet, and not the individual subject instructors.

As a course developer I found portions of *Teaching and Learning Materials on the Internet* useful. I will even keep it handy for reference. However, I will probably never again read the sections on administrative considerations, completely ignore the glossary, and smile next year at his future considerations. I recommend Mr Forsyth's book with some reservations. I recommend it to administrators considering the advantages of Internet instruction, to faculties considering which courses are appropriate to Internet delivery, and to course designers considering the effectiveness of Internet presentation. Yet to each I caution that they will find portions of absolutely no interest.

Nevertheless, with so very little written as yet on instructional design of Internet courses, Mr Forsyth has made a brave start. I'm pleased to see the advent of this type of book and eagerly anticipate many more to come.

Lyndon Williams,
Musgravetown High, Newfoundland

COLLIS, *B. (1996). Tele-learning in a Digital World – The Future of Distance Learning*. London: International Thompson Computer Press. pp. 651. NZ$79.00

Questions likely to be asked by distance educators are "what is tele-learning?" and "how is tele-learning different from distance education?" Most universities that teach at a distance have traditionally done so through centralized, highly co-ordinated structures. Learning materials have been paper-based and considerable use has been made of postal services. Increasingly, distance educators have used telecommunications technologies to supplement printed materials and often radio and television have been very effective in this respect. Tele-learning is a new field of education that is likely to hold considerable interest for distance educators. Betty Collis defines tele-learning as "making connections among persons and resources through communication technologies for learning related purposes." A key difference between distance education and tele-learning is the ways in which telecommunications technologies are used. The Internet is central to tele-learning and this opens up teaching and learning issues that many of us are struggling with. The concept of the 'information age' becomes very real as students access information from an increasingly diverse range of places through their personal computers. Computers linked to the Internet enable many teachers to develop tele-learning, making distance teaching and learning available to those who have access to appropriate technologies. While new technologies are changing the nature of teaching at a distance, it is the pedagogical considerations that are of particular significance at the present time. Many people realize the potential of the computers on their desk for teaching in new ways but few have considered the pedagogy of tele-learning. Many teachers are unsure why they should consider the World Wide Web as part of their classrooms. Betty Collis offers some insights into the pedagogical dimensions of the technologically changing educational environment and sets out three dimensions of tele-learning. It is multi-faceted, it is a multi-player phenomenon and it involves many pedagogical considerations. For any teacher wondering what the much publicized digital world of education is all about, this book would be a good place to start.

This is the most comprehensive book I have seen on tele-learning. It examines many aspects of the subject in both breadth and depth and gives particular attention to the place of the World Wide Web in the provision of education. Collis takes a thematic approach to the subject including tele-learning in primary and secondary school classrooms and its place in post-secondary education instruction. There is coverage of management and, of course, technology issues involved in the incorporation of tele-learning in an educational institution.

The particular value of this book, apart from its comprehensive coverage, is its practical approach to tele-learning. Collis takes the reader through a range of technologies required for "being connected" in one's classroom and introduces teachers to new ways of disseminating and exchanging information. Of particular interest to many teachers will be the section on "Adding Tele-learning to Face-to-Face Courses." Collis outlines ways in which the teacher can make course resources more accessible to students, present lessons in new ways, improve communication between teacher and student and organize discussion between students. There is also a useful section for teachers on ways of extending the range of learning activities in a classroom

using new technologies.

Readers of *Tele-learning in a Digital World* can, if they wish to, purchase WebExtra in addition to this text. This provides an online supplement to the book with a hyperlinked overview of it as well as a framework for discussions about tele-learning with the author.

Tele-learning in a Digital World is a major contribution to a new area of education. It is a text that professional distance educators should seriously consider adding to their libraries. As a guide to the complexities of incorporating web-based teaching and learning into classes, whether at school or tertiary level, this book, at present, is the definitive work on the subject.

Ken Stevens
Memorial University of Newfoundland

MELTON, R. F. (1997). *Objectives, Competences & Learning Outcomes: Developing Instructional Materials in Open and Distance Learning.* London: Kogan Page. NZ$49.57.

Objectives, Competences & Learning Outcomes: Developing Instructional Materials in Open and Distance Learning is a further addition to the growing open and distance learning series of "just in time" references associated with the rebirth of educational technology. The author, Reginald Melton, is a Senior Lecturer in the Institute of Educational Technology at the Open University, where he has been advising on the design and development of instructional materials and related systems for 25 years. This series of books are all edited by Fred Lockwood and are published in association with the Open University's Institute of Educational Technology.

If you have ever been involved in the development and design of instructional materials, no matter what the intended mode of delivery, I am sure you have struggled at some point in the process. Whether it be developing and/or assessing the objectives, determining how to measure learning outcomes, deciding on an appropriate approach to development, selecting the materials and media, working within a team environment, or deciding on an evaluation model, this book certainly covers these issues and also provides practical advice and relevant examples. As Melton discusses in the introduction, the prime purpose of this book is in fact to highlight key issues that need to be taken into account in adopting a behaviourist approach to teaching and testing.

Melton has divided the book into two separate, but complete sections. The first section is a very comprehensive look at the behaviourist approach that is re-emerging in teaching and training today. The background of the behaviourist approach is examined as are the traditional tools of instructional design, i.e., objectives, competences and learning outcomes. The second section of the book examines how students might be helped to achieve these standards through the design and development of instructional materials intended to encourage students to become actively involved in a behaviourist approach to learning, particularly through projects and related activities.

In the first part of the book, Melton takes a look at the nature of objectives, competences, and learning outcomes, and the inter-relationships between them. He claims, "The intent is not only to highlight their strengths and weaknesses, but also ways in which they might be strengthened" (p. 2). According to Melton, "...with the behaviourist approach to the setting and realization of standards re-emerging so strongly, it is important that those adopting such an approach are aware of the lessons that have been learnt from the past" (p. 2). Melton argues that as "...behaviourist approaches re-emerge, it is all too easy for new terminology to hide the fact that the approaches adopted still build on the same basic behaviourist principles."

Melton looks first at objectives, and reviews

the background from which behavioural and domain-referenced objectives emerged. This is followed by a discussion of how one might set about identifying such objectives for education and training purposes which makes it clear that human judgement has an important role to play.

Identification and definition of standards in terms of competences, and the idea of learning outcomes is then addressed. Melton examines the nature of the assessment process, and looks at performance criteria, range indicators, and evidence required including forms of evidence accepted. Again, the implications of human judgement are also discussed with respect to the identification and assessment of competences with emphasis on context. Melton also examines how to set about identifying learning outcomes, and highlights key roles that learning outcomes have to play in developing education and training.

The final chapter of this section covers the natural links between competences and learning outcomes, and Melton then ventures into a description of ways and approaches in which the development of a broad range of competences and skills can contribute to the development of knowledge and understanding.

In part two of the book, Melton provides a comprehensive overview of the behaviourist approach to the design and development of instructional materials. The emphasis throughout is clearly on helping students achieve specified objectives. He makes note that "...the strategies described are valid regardless of whether the objectives to be achieved are behavioural or domain-referenced objectives, competences or learning outcomes". And, in a later chapter, he goes even further and describes how to transform existing quality instructional materials, to meet the requirements of the behaviourist approach. Also, throughout the second part of this book, he is able to neatly thread the idea of related assessment for instructional materials, as well as recommendations for ways in which final products might best be presented.

The first chapter of this section logically plunges right into the process of designing instructional materials. Melton addresses everything from identifying the needs of the target group, clarifying the aims and objectives of the instruction, developing the content and a framework for the process, and he is able to integrate every detail right up to the actual production. Furthermore, he also devotes an entire chapter to the very effective team approach to instructional design. As he puts it, "...there is much to be gained from individuals working together in course teams." However, he does add that this approach "...subjects individuals to new constraints and new demands...". Then, as the finalé, I was glad to see that Melton saw fit to include an entire chapter on the process of evaluation. He stresses that evaluation has to be an integral part of the course development process, and briefly looks at some basic philosophies and strategies – just enough to get the reader thinking of the importance of evaluation for whatever instructional materials are being designed.

All in all, I consider *Objectives, Competences & Learning Outcomes: Developing Instructional Materials in Open and Distance Learning* an excellent book. I have no hesitation in recommending it to anyone designing instructional materials. I believe that Melton has done a great job of outlining the behaviourist approach to instructional design with newer terminology woven throughout. Whether you are a beginner or a pioneer, I am sure that a book such as this can provide the information needed to get focused and started on a project with minimal time delays and frustrations. In addition, with Melton's emphasis on learner needs and outcomes, I am certain referring to this book can ensure a better end-product.

Brian D. Kerr
Memorial University of Newfoundland