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# Reviews

edited by Philip Barker

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**Rob Phillips, *The Developer's Handbook to Interactive Multimedia*, London: Kogan Page, 1997. ISBN: 0-7494-2121-5. 241 pages. £22.50.**

A rising number of individuals and institutions are now developing multimedia courseware, or interactive multimedia (IMM) as Rob Phillips, calls it. This book sets out to offer practical advice in projects focusing on general issues of design, development and project management. Although it includes an appendix that describes the characteristics of a number of authoring tools, it is largely intended to be independent of any particular software.

The book is divided into two sections. The first seven chapters are devoted to all aspects of the design, development and production of an IMM product. The second section (Chapters 8 to 11) consists of a number of case studies of projects with which the author has been involved, and is designed to offer practical examples of the issues discussed in Section 1.

Chapter 1 provides an introduction to IMM, its applications and some factors to consider when considering embarking on a project. The second chapter focuses on educational and pedagogical aspects of IMM. I felt that, for a book which is explicitly concerned with the development of educational packages, this chapter is rather limited in its scope. It does not pay enough attention to this fundamental aspect of the design of effective educational courseware, and the treatment of objectivist versus constructivist philosophy tends to be rather simplistic and polarized.

Chapter 3 provides an overview of the whole process of IMM production as a precursor to the more detailed coverage of each major element. It covers the design process, the development team, and feasibility studies, as well as a brief section on problems and possible sources of funding. This chapter also looks in detail at prototyping methods and the development cycle, focusing on the roles of the development team and the problems generated by each individual role within the team.

Visual and navigational design are covered in some detail in Chapter 4. There is an extensive section on graphic design which will be particularly useful to project teams which do not include a member with specific skills in art and design. It presents a number of case studies of the graphic design of some of the projects with which the author has been involved. There are a number of screen shots illustrating the case studies, which, curiously for a book on multimedia, are in black and white. While some include the URL of a Web site at Curtin University containing colour versions of the screens, I found this a rather cumbersome and inconvenient method of comparing the remarks of the graphic designers with my own evaluation of the screens. I also felt that some attention should have been paid in this chapter to content design – the process of taking existing educational material and restructuring it for multimedia presentation.

Chapter 5, on development, contains fairly basic descriptions of resources and development

environments. This is followed by a rather more technical discussion of programming techniques. Phillips does, though, acknowledge that this section may be too technical for non-programmers.

The book emphasizes the importance of an area of project management often overlooked by novice developers and students by devoting a whole chapter (6) to the subject, namely that of evaluation. The chapter addresses evaluation of both process and product. During the development stage, document evaluation (do the processes work?) and formative evaluation (can users use the program?) are the key areas identified for analysis. There is some useful advice on possible methods of implementing quality assurance procedures, including minutes of meetings, personal activity logs, status reports, problem reports and budget reviews. In terms of formative evaluation, techniques including expert review, student observation and interview, automatic data collection and alpha and beta field tests, are discussed. At the implementation stage, summative evaluation (was learning effective in the short term?) and impact evaluation (was there long-term retention of knowledge?) is covered. For the former, Phillips suggests measures such as traditional tests and examinations, computer-based tests, or simulation and performance tests. To evaluate long-term impact, he suggests that techniques including anecdotal records, observations and interviews are employed. Though this advice is undoubtedly sensible, I am sceptical that much long-term evaluation will actually be carried out in practice, since a developer is likely to have moved on to the next project. However, Phillips rightly points out that evaluation is a vital part of the IMM development process and, used properly, will enhance the quality of future products.

The final chapter of the first section deals with standard issues of implementation and maintenance. Implementation covers platform considerations, delivery, installation and distribution. Maintenance covers debugging, version control and back-ups.

Section 2 reviews four IMM projects carried out by the author and his team. These are all products to support the teaching of a nursing programme based at Curtin University. Each case study follows the same format. The background to the project is described, including the teaching context, objectives, feasibility study,

funding details and the development team. A description of the project itself includes the development model used, the content of the program, the user-interface, and evaluation and implementation of the product. Finally, there are individual reviews and opinions of all team members involved in each project. Team member reflect on their own experience of the project, the problems and obstacles encountered, how those problems were tackled, and how the experience would inform their approach to future projects. My main criticism here is that the best way of illustrating multimedia applications would have been the inclusion of a CD-ROM containing examples of the projects described. This has to be a serious shortcoming for a book of this nature.

Notwithstanding this and some other minor reservations, this book will be useful to those with no previous experience who are considering embarking on the development of an IMM package. I would also recommend it as a supplementary text to students of multimedia applications to provide a comprehensive overview, principally of project management in relation to IMM development.

*Elaine Pearson, University of Teesside*

**Aidan P. Moran, *Managing Your Own Learning at University: A Practical Guide*, Dublin: University College Dublin Press, 1997. ISBN: 1-90062104-5. 165 pages. £5.95.**

When I received this book to review I wondered what I was going to be able to say about it – yet another book on study skills. On reading it, my problem was solved.

The author is a cognitive psychologist based at University College Dublin and Director of its Psychology Research Laboratory. He backs up a plethora of handy hints about approaches to study with an extensive list of references and the use of supportive research-based evidence. If, as a student, your mission (and you must have ownership of the problem if you want to make it happen) is to be successful at university, you need to get in the driving seat and assume personal responsibility for your learning through becoming an active, independent and self-motivated learner – this book explains how.

Chapter 1 is the key to the rest of the book, providing a cogent summary of the salient issues and presenting a backdrop for the other nine chapters. Active learning requires active

questioning: 'Knowledge produced by deliberate intention [...] is richer, better linked to what we already know and more durable than that yielded by random discovery'. So 'get real': change your attitude to study, explicitly through modifying your study behaviour, develop a set of learning skills, and make the transition from being an accidental learner to a deliberate learner.

Chapter 2 is on motivating yourself to study. It explores the issue of motivation and increasing motivation through goal-setting using the principles of being specific, measurable, action-related, realistic and time-based. Chapter 3 explores the sticky issue of time management and of planning and sticking to study timetables. Chapter 4 covers how to take notes in lectures, advising students to go into 'prospector' mode and to pick out the nuggets. Chapter 5 explains how to take notes from books and journals. Chapter 6 is about improving your concentration. Chapter 7 is on learning to think critically – making sense by evaluating new information against your existing cognitive perspective, and stressing the importance of being sceptical. This chapter lists questions you can apply to your chosen subject and which promote your critical thinking. Chapter 8 considers remembering and understanding, explaining about memory and providing lots of useful tips on how to enhance your ability to remember. Chapter 9 is on planning and writing essays, papers and research projects. Chapter 10 tackles the thorny issue of doing your best in examinations.

It is not often that I concur with the publisher's comments, but this time I am forced to: 'Written in a lively entertaining style and laced with interesting practical exercises, this book, which is based on solid psychological principles, is essential reading for all students who wish to fulfil their academic potential in university'. This is not just another book on study skills. It is an extremely interesting read, and it is well-researched and well-illustrated with lots of cartoons, boxes and tables. Whether you sit on the student or a lecturer side of the fence, I would recommend that you read it too.

*Eleri Jones, University of Wales Institute, Cardiff*

David Little and Bernd Voss (eds.), *Language Centres: Planning for the New Millennium*, Plymouth: CERCLES, 1997. ISBN 0-905-227-80-8. 314 pages. £12.

This volume is a collection of papers from the

4th CERCLES Conference held in Dresden in September, 1996. CERCLES is the Confédération Européenne des Centres de Langues dans l'Enseignement Supérieur (European Confederation of Language Centres in Higher Education – <http://www.cml.plym.ac.uk.cerchp.html>), and is well known amongst language-teaching specialists for whom this book will have the greatest interest. Others may also find some of the papers of value. Certainly, the opening section on learner autonomy is by no means of relevance only to language learners. Similarly, the sections dealing with study abroad and the application of new technologies may be of interest to a wider audience.

The book contains 23 papers organized thematically into six sections: Learner Autonomy, Self-access and Counselling; Exploiting New Technologies; Study Abroad; Languages for Specific Purposes; Language Testing; and Language Centres; Issues and Case studies. The papers are by no means evenly distributed across these six sections, and the distribution provides an interesting insight into some of the issues facing language centres.

The section on learner autonomy has the greatest number of papers (seven), followed by the section on exploiting new technologies (five). This bias clearly reflects the shift that is going on in language learning from tutor- to student-oriented learning. The sections on study abroad and language for specific purposes (LSP) have the least number of papers (two and one respectively), and the remaining two sections have four each.

It is interesting, too, if perhaps not as significant, that LSP and study abroad should have been the least popular sections. Interesting, because in addition to these 23 papers, the collection includes the text of the conference's keynote address by Hans Joachim Meyer, the Saxon Minister for Learning and Art. In his address, Herr Meyer takes up the issue of the study of 'academic language' in its own right. He argues, quite convincingly, that in preparing learners for study abroad, we need to better understand that such preparation is an LSP issue. Too often such learners are regarded as in need of remediation, when in reality they have never been given the opportunity to acquire the appropriate skills in the first place. Academic study is a special subset of language usage and should be treated as such. What is needed, Herr Meyer argues, is research into the characteristics

of this language and then practical application of that research in language centres both in preparing students for academic study abroad and in supporting them when there.

This issue is touched upon again in the section on study abroad. Gilles Couzin's paper, 'Problems and difficulties of studying in a foreign academic environment', considers the impact of foreign study on the increasingly large number of students, Erasmus placement students for example, who are not first and foremost linguists. The paper considers a range of questions, linguistic and otherwise, arising from such placements. Similarly, Uwe Zemke's 'An assessment and evaluation of student performance on work placements abroad' examines issues that arise when students undertake work rather than study placements. These issues are further developed in the section on LSP in Susan Price's 'Language and business: issues arising in interdisciplinary studies'. Here the concern is expressly with problem of training students, again not first and foremost linguists, in the language of their discipline: in this case, Business.

The two areas that account for more than half of the collection, learner autonomy and new technologies, contain a wide range of materials many of which address some aspect of the use of new technologies to support learner autonomy. Indeed, the alliance between autonomy and new technology is the express subject of Evelyne Namenwirth's paper 'Autonomie et nouvelles technologies: alliance fortuite?', which considers the value of the new technology as a response to the growing demand for autonomy in learning. Several papers in the section on autonomy consider specific technological responses (Bucher, Poteaux and Frath; Poppi), and others concentrate on the development of strategies for autonomous learning (Lutjeharms) or on the psychology of such learning (Ushioda; Simpson). Perhaps most interesting, however, is the development of the concept of the language adviser developed by Marina Mozzon-McPherson. In 'The language adviser: a new type of teacher? An analysis of an emerging role', she reports her work at the University of Hull in providing an advisory service to students seeking to pursue autonomous language studies. The role of the advisor is to help learners assess their degree of proficiency, identify deficiencies, and advise on an appropriate personal learning strategy and the resources to support it.

The section on exploiting new technologies

contains several reports on the development and use of specific resources. O'Rourke reports on the continuing development of Autotutor at Trinity College, Dublin; and Cafazzo on the STACCATO project at Pisa which is concerned with cataloguing and retrieving multimedia language teaching materials. Schwienhorst, on the other hand, reports on the use of a generic strategy, the MOO, to support communication and collaborative learning; while Bangs and Jones in their separate papers consider some more general issues surrounding the use of the emerging technologies.

The eight papers in the remaining two sections touch upon a range of issues from specialist developments in Cloze testing (Grotjahn) and compiling tests to support entrance examinations in Belarus (Simurova) to developing a certification system for German Universities (Voss) and the management of language centres (Cecioni).

Overall, this is a valuable collection of papers that provides a useful insight into the issues and concerns surrounding the role of language centres in higher education at the moment and for the foreseeable future. It is to be recommended to centre managers and tutors alike.

*Bruce Douglas Ingraham, University of Teesside*

**Jeroen J.G. van Merriënboer, *Training Complex Cognitive Skills – A Four-Component Instructional Design Model for Technical Training*, Englewood Cliffs, NJ: Educational Technology Publications, 1997. ISBN: 0-87778-298-9. 338 pages. \$59.95.**

Anyone who is involved in the development of computer-based teaching and learning materials will probably need to be familiar with four basic types of model. First, models of how people process and react to information; second, mental models that people build 'in their heads' as a result of exposure to various (learning) experiences; third, models about technology uptake within organizations (particularly, schools, colleges, universities and the training departments of non-academic establishments); and fourth, models relating to instructional design (ID) and instructional systems development (ISD).

According to the author of this book, its main purpose is to give a comprehensive description of the 'Four-Component Instructional Design'

(4C/ID) model. This model presents diverse guidelines and heuristics for the development of training programmes for complex cognitive skills in mainly technical domains. It embodies an integration of theoretical developments and empirical results originating from a number of research projects involved with the training of complex cognitive skills. These projects have been largely conducted at the author's institution (the University of Twente in The Netherlands) starting at the beginning of the 1980s and continuing through to the present time.

The book has 16 chapters. The first provides an introduction to the model and outlines the structure and contents of the book. The remaining chapters are organized into three parts. Part A (Chapters 2 to 5) deals with the psychology of complex cognitive skills. Part B (Chapters 6 to 10) is devoted to the analysis of such skills. Part C (Chapters 11 to 16) deals with the design of training to support the development of complex cognitive skills.

The 4C/ID model is described in terms of four basic layers. These refer to activities or sets of methods and techniques that are typically employed by instructional designers in order to produce effective training. The four layers involved are: principled skill decomposition (the breaking down of a complex cognitive skill into a hierarchy of constituent skills); analysis of constituent skills and related knowledge; selection and specification of instructional methods; and the development of a learning environment. Naturally, although the four layers are listed, presented and described in a linear order, within an actual project many switches and iterations between the layers usually take place.

The 4C/ID model takes a 'middle' position between analytical and empirical approaches. It therefore contains both descriptive and prescriptive elements. The descriptive elements are most discernible in Part A of the book. Here the focus is on describing relationships between different aspects of environments in which learning takes place, learning processes and learning outcomes. The prescriptive elements are most apparent in Parts B and C. Part B provides methods and techniques for the analysis of complex cognitive skills, as well as guidelines and heuristics indicating under which conditions particular methods or techniques may be used. Part C provides an overview of instructional methods and strategies for the design of learning environments, as well as guidelines and

heuristics to support the selection and integration of strategies.

The book is comprehensive in its treatment of complex cognitive skills, and makes numerous references to related work through its extensive bibliography. Undoubtedly, it will prove both useful and exciting reading for those who might wish to explore the use of the 4C/ID model within their own areas of endeavour.

*Philip Barker, University of Teesside*

**Robyn Peterson, *Training-Needs Assessment: Meeting the Training Needs for Quality Performance* (second edition), London: Kogan Page, 1998. ISBN: 0-7494-2568-7. 147 pages. £16.99.**

Training is the key to organizational and personal growth and development. This book, part of Kogan Page's Practical Trainer series, is aimed at anyone involved in the training process, from senior personnel, through line managers and supervisors to on-the-job trainers. This particular volume will facilitate those involved in provision of advice or consultancy in relation to training needs assessment. It covers not only the 'what' and 'how' of training needs assessment, but also gets into the 'why' things are done in particular ways.

With a background of over 25 years in training, the author, Peterson, emphasizes the importance of sifting organizational politics, irrelevancies and sensitivities to focus on the salient issues and achieve a thorough and systematic analysis of organizational performance requirements which should drive training. Peterson opens with the assertion that 'quality training is usually tailored training', and goes on through seven chapters (the Contents page shows two Chapter Ones!) and one appendix to concisely present proven tips and techniques and guidelines to achieve a holistic approach to training-needs assessment.

Chapter 1 covers the process of training-needs analysis, setting out a framework for the process to ensure cost-effectiveness, and stresses the importance of feedback throughout the process to ensure continuous incremental improvement. Chapter 2 explores the role of adviser, whether internal adviser or external consultant, in the training-needs analysis process and issues arising from fear of change and management of change. Chapter 3 covers the performance perspective, defining behavioural objectives and the concept of performance sets, linking these to training.

Chapter 4, on planning training-needs analysis work, outlines the use of action appraisal, and with a worked example demonstrates the prioritizing of issues using a factors chart in good problem-solving style to develop a training-needs analysis process plan. Chapter 5, on conducting the analysis, takes the reader through the process highlighting potential pitfalls, and discusses how to present the outcome of the analysis to the client or organization. Chapter 6, on examining the potential training, provides specific models and guidelines for analysing potential training or educational effectiveness, and checkpoints for ensuring that a training design is appropriate to the identified training needs. Chapter 7, on information tips and techniques, includes a range of practical hints on how to make the process more effective when working with client groups, how to design a questionnaire as a data-gathering instrument, and how dynamic classification charts can be used to sort a variety of types of information. The appendix includes a Personal Evaluation Inventory for Skill with the training-needs analysis process, and consists of 39 questions which, answered honestly, will generate a personal agenda for action in terms of enhancing personal skills.

Written in straightforward warts and all, non-nonsense style, this book is an invaluable guide for anyone contemplating training-needs assessment, whether as client or consultant. It is an invaluable resource, and even for those who have undertaken training-needs assessment previously, it will bring together key information and issues for consideration in a lively and informative manner.

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**Millsom Henry (ed), *Using IT Effectively: A Guide to Technology in the Social Sciences*, London: UCL Press, 1998. ISBN: 1-85728-795-9. 201 pages. £14.95.**

This is a selection of papers, with some additional material, presented at the 1995 SocInfo (CTI Centre for Sociology, Politics and Social Policy) International Conference on Technology and Education in the Social Sciences. Despite the book's title, which would tend to indicate a broader use of IT within the social sciences than just in teaching and learning, nearly all of the 16 papers focus on educational uses of IT, especially in higher education, and despite the fact that many of the

papers do deal specifically with the social-science issues, the volume will be of interest to readers of *ALT-J* in whatever discipline they are working.

The book opens with a view of where we have come from and where are heading by Peter Cochrane which makes interesting (sometimes heady) reading. Stephen Heppell follows suit, in a good piece, highlighting some of the problems we face. Anne Campbell MP gives a (largely expected) governmental view. This is followed by an excellent paper by Adrian Kirkwood on the social aspects of the impact of IT with some interesting data. That ends Section 1, called *New Challenges for Teaching and Learning*.

The next section, concerned with developing courseware, consists of some case studies and project reports (Ruth Madigan *et al*; Stephen Morris and Jill Szuscikiewicz; David Garrett; Stephen Scrivener and Susan Vernon). There is not all that much here that is startlingly new, but the pieces are clear and reasonably well written.

Section 3 offers four papers supposedly on implementing CAL in the social sciences, but which could easily have been categorized under a more general heading. The first of these, by Graham Gibbs and David Robinson, contends that we should avoid the notion that CAL can replace a teacher, and explains why. Vernon Gayle takes a roughly similar line, arguing that technology in teaching is not necessarily a Good Thing, a line also tangentially taken by Danny Lawrence *et al* who maintain that we need to be wary of IT fanatics in our midst. These three partly negative – or at least sceptical – papers are followed by a generally more positive view, that of Ann Wilkinson who describes how CAL can benefit the non-standard student.

Section 4, on the effectiveness of IT in teaching and learning (though, again, not all of the four papers in this section fit well into this category), opens with a piece by Chris Turner on IT in sociology and the TQA in Scotland, arguing, among other things, for recognition in terms of career advancement of staff who successfully implement CAL. I could not agree more, and I imagine most readers of this journal would be with me. David Newlands *et al* give us a welcome paper on the difficulties of quantifying the financial costs of using IT for teaching purposes. This question is rarely tackled directly in the literature, and while the authors of the paper reach no hard conclusions, at least some of the problems are identified (half the battle). The advantages of using multimedia technology in

case studies is the theme of the next paper, by David Crowther *et al*, who also take financial and other costs into account but conclude that case studies can be a cost-effective way of using IT in curricula. The final paper, by Duncan Timms, looks generally at obstacles and opportunities in teaching social sciences with the use of IT, and draws together many of the points made earlier in the book, ending suitably with a look at future possibilities (by chance, with an editorial decision to put this piece at the end – where it fits best – or was it written after the fact?).

As with any set of conference papers, the quality varies. There is some really good material which challenges assumptions and puts forward exciting ideas without going overboard, and amongst such material is some which is best described as mediocre, but mediocre in the sense that we have heard it many times before rather than because it is poorly written or that the opinions and judgements put forward are

unsupported. On the contrary, in nearly every case the level of writing is high (a velvet editorial glove, I suspect, given my own experience as an editor of books and journals), although it is irritating to turn to a reference, in the case of some contributions only to find that it was an unpublished piece which therefore cannot be easily obtained. Still, that it is a very minor minus point. On the whole, this is a good set of carefully selected proceedings.

There is a short glossary and an index, and a stimulating foreword by Howard Newby, Vice-Chancellor of Southampton University. In it, he states, talking of IT, that 'most developments over the next decade are known or knowable' (p. ix). Of course, it depends on what he means by 'knowable' (retrospectively, anything might be), but if he means that we are certainly not in for any real surprises before the year 2008 ... well, only time will tell. I would not be so sure.

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