Reviews

edited by Philip Barker

Francis Botto, *Dictionary of Multimedia and Internet Applications – A Guide for Developers and Users*, Chichester, UK: John Wiley & Sons, 1999. ISBN: 0-471-986240. Hardback, x+362 pages, £34.95.

For many people, the terms 'multimedia' and 'Internet' are now quite familiar expressions that trigger many different thought patterns and associations. Very often, the associations that we make depend critically upon our backgrounds and prior experiences – particularly within hybrid areas such as multimedia, computing and information technology. Glossaries and dictionaries are therefore useful tools for providing a common level of meaning for the technical terms and jargon that we use in particular subject domains. This particular book offers a guide to the terminology associated with the Internet and multimedia applications.

Francis Botto has had substantial experience as a multimedia expert and, in compiling this dictionary, he has put together a valuable collection of terms and their associated 'definitions'. In some cases these are relatively short and run to just a single line or two (for example, the entries for 'list box', 'CONFIG.SYS' and 'cookie'). However, for many entries (such as those for 'Lingo', 'MPEG video production' and 'ToolBook') the definitions take the form of extended 'essays' that take up several pages. As well as providing explanations and definitions of conventional artefacts, the dictionary also includes selected entries for prominent personalities and companies who are active within the multimedia/ Internet field. Jaron Lanier, for example, is described as 'a VR specialist/evangelist recognised as having invented the term virtual reality' while the entry for Bill Gates states that he is the world's 'best known and financially most successful computer software programmer and entrepreneur' – who can argue with that? The dictionary defines 'Quantum' as 'a company engaged in the manufacture of mass storage devices' – incidentally, there is no entry for the term 'quantum computing'.

When evaluating a dictionary, glossary or encyclopedia, there are five important attributes that need to be taken into account: its coverage/ scope; its completeness; the relevance of the terms included; the accuracy of the definitions it contains; its consistency; and the overall quality of exposition. In my view this dictionary scores very highly in each of these areas. However, having said this, and bearing in mind the above criteria, I do have some very minor reservations about the book. These stem from some of my concerns about what the author has included, what he has excluded and how he has defined certain terms. In several sections he has included seemingly irrelevant entries – for example, why has the acronym for the American Association for the Advancement of Sciences (AAAS) been included? There are also several cases of terms that are poorly explained – such as XML, SGML and courseware (which is rather loosely defined as 'a generic term for material used in education/training'). Finally, some examples of

important excluded items include DTD, Hytime, Bèzier, style sheet, mobile computing, SMS and GSM. Interestingly, the author uses the acronym GSM in his introduction (page viii) but, as far as I am aware, never defines it – not even as a dictionary entry!

Despite my minor reservations, I think this book provides a very useful and valuable contribution to the growing volume of literature on multimedia. The author has done a good job in compiling the entries and, in most cases, lucidly explaining them. I think many people will find this dictionary an invaluable companion to have with them while exploring the vast volume of technical literature that is now available on topics relating to multimedia applications and the Internet.

Philip Barker, University of Teesside

J. Calder and A. McCollum, *Open and Flexible Learning in Vocational Education and Training*, London: Kogan Page, 1998. ISBN: 0-7494-2172-X. Paperback, xiv+160 pages, £18.99.

The genesis of this book emerged from research originally undertaken by Judith Calder and Ann McCollum in 1994 for the Department for Education and Employment. This explored the relative effectiveness of traditional versus open and flexible learning routes. The authors now return to the scene, wielding a broader brush, to consider 'the environment in which education and training strategy is determined and delivered; the nature of the major stakeholders and of the needs being addressed; and the resulting behaviours – the types of provision made available, the implementation of training provision and the different outcomes which result'.

In the first chapter, the authors attempt to chart and explain why open and distance learning systems have come under the spotlight in the last decade or so. The increasingly market-driven nature of change has forced a growing number of businesses and organizations to be faced with competitive challenges and reskilling needs that must be met within desperately short periods of time. On the other hand, although open and flexible learning has provided a suitable way of meeting these requirements, available evidence quoted by the authors suggests that its employment is not as significant as one would at at first imagine.

On the one hand – and as the second chapter points out – there have always been a fairly discernible number of groups and agencies with a keen interest in flexible ways of delivering vocational education. Unfortunately, what links that there have been between such circles have not always produced fruitful outcomes. Now, thanks to increasing pressure on organizations for technological and organizational adaptability, the authors show the ways in which new productive alliances are being formed and operated to certain agreed standards.

Indeed, as the authors suggest (in the following two chapters), vocational training can only really succeed if it marries up the different needs and expectations of the various main players. As part of this process, organizations need to break down and open up for dialogue the key aspects that should be included when implementing a well-structured cycle of course design, delivery and evaluation (see Chapter 5). The authors conclude (in Chapter 6) that the critical aspects of such initiatives include the pedagogical structure of the programmes and the degree to which support mechanisms can motivate and encourage employees throughout their rather isolating open and flexible learning experiences.

The final chapter shows that the process is not helped when, for example, unwillingness on the part of employees even to get involved with any training is actively encouraged by management – who, especially in small companies, are often operating to tight budgets. Even in larger organizations, which tend to have a far better track record of late, a lack of trust may allow employees to perceive training in a negative light. The resulting environments are in fact hurtful, excluding and produce negative outcomes; it would be far better and more cost-effective if meaningful networking arrangements could be established instead.

In the final analysis and at a strategic level, the government needs to clarify well-defined goals, priorities and standards for vocational education and training in the economy as a whole. It should also, as part of this push, continue to spell out the ways in which the use of open and distance-learning techniques and technologies can be of relevant, lasting and wide-reaching benefit. In the past, British governments were unfortunately hesitant about showing too much involvement and were almost alone within Europe in being against direct state intervention in training. Furthermore, those publicly funded open and flexible learning ventures that were put in place did not produce very positive results.

The problem with the Open Tech in the 1980s, for example, was that money was pumped into various projects without much thought being given to creating either any coherent span of provision or quality standards. The Open College was established with the best of intentions but, as the authors point out, in the end, the dream evaporated. That was, of course, before lifelong learning became an accepted term; but it remains to be seen if the more visionary assumptions of the latest incumbent of the 'hot seat' – the University for Industry – will be sustainable. A crucial job for the UFI (and its Scottish equivalent) will be to achieve the cultural shift required through a promotion of partnership – a concept ably investigated and highlighted by Calder and McCollum.

This book in fact provides a sound, well-structured overview of its chosen subject, with plenty of case studies and examples from business, public organizations and education to illustrate the successes and errors. Anyone desiring to trace practices and developments in this area over recent years could do no better than consult Judith Calder and Ann McCollum's work.

Geoff Goolnik, Aberdeen College

Eamon Murphy, *Lecturing at University*, Curtin University of Technology, Australia: Paradigm Books, 1998. ISBN: 1-86342-669-8. A4 paperback, viii+63 pages, no price given.

Lecturing is a demanding occupation with responsibility for disseminating knowledge to students. We need to consider, in addition to this primary function, the many other additional roles that lecturers perform such as administration, seeking out funding, recruitment, research and assessment – to name but a few. So, what processes are prerequisites for lecturing at university? What are the issues involved in lecturing? What should a lecturer do to prepare the first lecture? What should not be done? What are the good and bad attributes associated with lecturing? What do you do to motivate students? These are the kinds of issue that are presented and discussed in detail in this book.

As stated at the beginning, this book is designed both for those who are experienced lecturers and for those who are just starting out on their lecturing careers. The book contains many new ideas which can be used to support and extend current lecturing practice; it is thus well able to equip lecturers with everything they need in order to handle all the situations that they are likely to encounter in a lecturing career. The book even discusses the emotional perspectives of lecturing. The enthusiasm of the author with respect to lecturing resonates throughout the whole book.

This publication is quite short and the chapters are brief and to the point. The format of the book is very good – the main text is very readable and the layout is easy on the eyes. To the left of the main text, quotations and ideas are listed which are relevant to the issues being discussed. These come from the extensive research undertaken in producing this book. Indeed, the book is augmented by extensive research involving interviews with staff and students.

The book consists of an introduction and eleven chapters. The first three chapters provide background material to the topic of lecturing. Chapters 4 to 6 then describe what to do in lectures. Following on from this, Chapters 7, 8 and 10 discuss student interactions while Chapter 9 deals with the pros and cons of handouts and other visual aids. The final chapter provides some invaluable information about presenting at conferences. At the end of the book there is a short list of titles for 'Recommended Reading'; this includes web-based and multimedia-based references in addition to paper-based resources.

Chapter 1 ('Why Give Lectures?') explains the need for lectures whilst, simultaneously, questioning their widespread use – obviously, they should fit a purpose. Chapter 2 (entitled 'Failing to Plan is Planning to Fail'), as its title suggests, is the key to successful and stress-free lecturing (and also how to enjoy lecturing!). This chapter tells us that if there is a secret to successful lecturing, it is that 'planning carefully lays the foundation for success'. Together with the third chapter ('The Secret of a Good Lecture: Preparation'), this chapter provides a useful template for lecturing effectively.

Chapter 4 ('Ready, Steady, Go: Getting Started') and Chapter 5 (entitled 'Going Out With a Bang: Closing off the Lecture') focus, respectively, on the need to get to a good start and finish to lectures. The middle part of a lecture is where it is accepted that a lecturer might drift away from the original/intended plan of the lecture. Chapter 6 ('Getting Great:

Polishing Your Presentation Skills') lists useful advice on using body language amongst other skills to enhance lectures.

In Chapter 7 ('Involving Students'), Chapter 8 ('Handling Nerves and Difficult Students') and chapter 10 ('Lecturing to Students from Other Cultures') the author lists additional techniques that are aimed specifically at enhancing the effectiveness of student interactions.

The author uses Chapter 9 ('The Humble Handout and other Visual Aids') in order to explain the virtues of using various technologies to assist in lecturing. The advice given is very practical and relevant. In the final chapter (entitled 'Presenting at Conferences') the author explains and highlights presentation techniques that can be used for the major types of conference event.

Overall, this book lists, explains and describes a breadth of suggestions for improving all aspects of lecturing. It is independent of any subject domain yet covers relevant ideas applicable to all disciplines. There is nothing new or complex in the book yet it embodies the simple techniques and ideas that will make all the difference in every aspect of lecturing. All advice is very relevant and openly discussed, even embarrassing situations which most of us would not dare declare are considered. Another attractive feature of this book is the fact that practical aspects of lecturing are put across well – without the educational jargon that can often be off-putting to new entrants into this field.

In my view this text should be made mandatory reading for all holders of new lecturing posts and for existing lecturers who want to review where to go from wherever they are. Heads of department and deans too could benefit from keeping this book accessible. Of course, the book could be used as a resource to support induction sessions for new lecturers. Undoubtedly, it would help them to build up their confidence before delivering their first few lectures.

Harish Ravat, De Montfort University

P. Race and S. Brown, *The Lecturer's Toolkit*, London: Kogan Page, 1998. ISBN: 0-7474-2496-6. A4 hardback ringbinder, vi+223 pages, £75.00.

What a great book! It should be on the desk of (and used by) every academic lecturer, whether a new appointee or nearing retirement. Its detailed advice on teaching and administration (not research!) is the fruit of years of staff develop-

ment by the authors and is refreshing and stimulating rather than prescriptive.

The first feel is different: it is a loose-leaf ring binder rather than a bound volume so that pages may be used for instructional purposes by an individual lecturer or by a team of lecturers addressing the development of a specific area of teaching, learning or assessment. At first, flicking through the pages is daunting; there is such a breadth of coverage and mass of detail. But it is not dreary, hard-to read, continuous text. It is a workbook and reference companion punctuated with tables to fill in, invaluable lists and bullet points, self-evaluation, etc. This book is not designed just to be read but, to quote the authors, it is 'intended to fuel professional development, and includes a considerable number of tasks and activities, which are intended to help you enhance usefully the ways that you promote your students' learning, the approaches you adopt in your teaching, and the ways in which you design and implement assessment of students' learning'. The contents are linked to the Staff and Educational Develop-ment Association (SEDA) in the Accreditation Scheme for Teachers in Higher Education.

The eleven chapters look at the learning process; lecturing and assessment; small-group teaching, tutorials and practical work; flexible learning materials; student feedback; appraisal; and survival. Each chapter has a substantial list of references and sources for further reading.

In the first chapter an interactive series of questions effectively guides the participant (not reader – shades of workshop presentation) to identifying the main factors behind successful learning and recognizing that learning is not a simple cyclical process but involves overlap of wanting, doing, feedback and digesting.

The second chapter 'Refreshing Your Lecturing' is a key chapter and justifiably the longest. It is aimed at staff required to give lectures to large groups of students and who are looking for guidelines for preparing, planning and presenting material as well as enhancing and evaluating performance. An experienced lecturer has much to gain as has a new lecturer. Then, after querying the need for assessment, the authors systematically address ten forms of assessment ranging from traditional examinations and essays to portfolios and vivas. The advantages and disadvantages of each method are listed along with ways by which they can be

improved. Again, there are exercises designed to make lecturers think about the effectiveness and quality of their own assessment methods.

Small-group teaching is quite different from formal lecturing. It can be a disaster unless very carefully planned; the seminar, tutorial or practical does not free-wheel! The two chapters devoted to this area provide excellent lists of 'how not to do it' and 'what can go wrong' as well as advice on, for example, dealing with students and even learning and using their names. The authors provide very useful guidance on small-group process techniques such as buzz groups, syndicates, fishbowls, brainstorming, etc.

In the UK, flexible, resource-based learning is increasing dramatically. Two chapters address the choice and design of flexible learning materials, and ways of helping students to learn from these resources. There is an extremely valuable quality checklist of some thirty points covering objectives, structure, self-assessment and feedback, introductions and summaries, text and graphics.

Only a single chapter is devoted to project, practical and laboratory work but it covers in detail ways of enhancing the effectiveness of projects; assessing presentations, dissertations, reviews, performances, poster displays and exhibitions; as well as enhancing and assessing practicals and laboratories.

Later chapters may be loosely considered as dealing with administration in the guise of preparing oneself for appraisal and performance review, obtaining reliable feedback from students, and surviving as an effective member of staff. There are a myriad of 'tips' on coping with stress, meetings and paperwork, managing time, as well as 'trips' and 'traps'.

Four final pages provide an invaluable self-examination presented as 'values for learning, teaching and assessment'. Under each of these three headings is a list of essential attributes, such as 'teaching should be dynamic', 'assessment must be reliable', etc. There follows a succinct sentence outlining requirements in this context, then readers are questioned as to how their methods meet these requirements.

Presentation makes this book. With its variety, it is so easy to dip into as well as to read page-by-page. It is active and sympathetic, ever constructive and enthusiastic, never paternalistic.

Gordon Ritchie, University of Essex

S. Higgins, N. Packard and P. Race, *500 ICT Tips for Primary Teachers*, London: Kogan Page, 1999. ISBN 0-7494-2863-5. Paperback, viii+200 pages, £15.99.

The difficulties faced by many primary teachers in attempting to adopt ICT-based approaches to teaching and learning, since the early 1980s, have spawned a plethora of 'practical guides'. These have tended to be 'light' on philosophy and 'heavy' on 'tips' for classroom success. If the nature of this particular example of the genre is not obvious from its title then reading the first tip in the chapter giving reasons why primary teachers should consider teaching about ICT – 'Because you have to . . . ' – makes it very clear.

The practical philosophy of this book is clearly stated by the authors at the outset and lived up to throughout. Chapters are clearly and meaningfully labelled, logically grouped and contain short clear answers to, in the main, commonly occurring problems in the classroom or in school management. Some tips have the addition of a small icon indicating relative importance with respect to other tips on the page or matching the information to a pupil stage.

There are sixty-five sections grouped in eleven chapters and supplemented by six appendices. In total, as the authors admit, there are in excess of seven hundred tips and it is this 'generosity' which may indicate the only real need for improvement, with a view to helping the reader who does not have a prior and broad overview of ICT in education. Perhaps a short structured introduction to the book and its components, made coherent by a diagram, would make for easier use of the advice that follows. The style adopted in Open University study guides is a good model.

Chapter 1 sets the scene for ICT use, dealing with accommodation requirements and introducing themes covered in more detail by later chapters. Chapters 2 and 3 provide a 'punchy' rationale, accepting optimistic views of ICT's potential to enhance learning and articulate ICT's links with the National Curriculum for England and Wales. Chapter 3 requires the Scottish reader to do a little translation of terminology but is still useful. All of the other sections are sufficiently generic as to be helpful to teachers working well beyond the National Curriculum area.

Chapter 4 covers the use of ICT with pupils who

have special educational needs. This field, with its wide range of physical devices, perhaps most of all, would have benefited from pictorial representation. A link here to web-sites such as the Special Education Microelectronics Resource Centre or SEMERC (mentioned in the appendices) would help readers to find visual references. Also, the inclusion in this chapter of a section concerned with stretching more able pupils is good to see. ICT does have a particular potential for pupils unchallenged by the core curriculum in primary schools.

Chapter 5 advises on resource issues in a fairly general way for class teachers as well as for ICT co-ordinators, while Chapter 8 goes into greater depth and introduces new themes of particular interest to the latter group. This is a sensible distinction that the reader might benefit from seeing made explicit in the kind of introductory diagram suggested above.

The critical importance of assessing ICT is given due attention, with its own chapter (6). Teachers face particular problems in accessing and in processing evidence of attainment using ICT. This is a particularly strong section which, as suggested above, would benefit from greater 'visibility' in an opening diagram.

Chapters 7 and 9 provide the school ICT co-ordinator or headteacher with very useful advice on the fundamental tasks of managing ICT and of supporting colleagues. Research has shown the key role played by promoted staff in supporting and in expecting ICT use by classroom teachers.

The Internet, as might be expected at this time, is the subject of the biggest chapter (10). Surprisingly, the publishers have not decorated the book's cover with any marketable reference to the Internet or World Wide Web. This, again, is rich with clear, detailed and helpful advice. Perhaps the excellent guide to useful educational web-sites might have been better brought forward from the appendices into this section.

Finally, Chapter 10 offers advice on 'troubleshooting' and the development of 'good habits'. The appendices include an extensive guide to ICT terminology or jargon.

Overall, bearing in mind its clearly stated purpose, this is a reasonably easy to use and very well stocked collection of practical advice that would be of value to the staff of any primary school.

John Robertson, University of Paisley

Peter Lassey, *Developing a Learning Organisation*, London: Kogan Page, 1998. ISBN: 0-7474-2413-3. Paperback, x+192 pages, £18.99.

The publication of a 'how to' book on developing a learning organization is timely given the emphasis of the Dearing Report on lifelong learning and coping with change. As Lassey points out, the pace of change in modern times is rapid, and organizations, like individuals, have to keep abreast of change in order to react appropriately. The book is divided into three parts. Part 1, which is by far the longest section (70 pages), looks at the structures within organizations that can help to develop a learning organization. It also examines how occupational standards can be used to facilitate a coherent set of systems and procedures, job descriptions and appraisal systems that underpin a learning organization. Part 2 (containing 28 pages) looks at developing people within the organization. It examines how people can develop solutions to business problems and how flexible training and development activities can be implemented to meet learning needs. Part 3 (26 pages) focuses on external recognition for the organization and its people through NVQ, Investor in People and ISO 9000 certification.

The book begins (Chapter 1) with a general introduction encompassing definitions of a Learning Organization, e.g. 'an organization with an ingrained philosophy for anticipating, reacting and responding to change, complexity and uncertainty'. The chapter also identifies the features of a learning organization (e.g. learns from mistakes, trains employees, encourages experimentation and staff suggestions, practises devolution of power) as opposed to traditional organizations (e.g. punishes mistakes, sends employees on training course, discourages experimentation and staff suggestion, has a command and control management). This introduction effectively sets the scene for subsequent chapters.

Part 1 (Chapters 2–6) is entitled 'Organising the Learning Environment'. Chapter 2 introduces the concept of competence. It describes how a workable model of job competence should include all the necessary skills, i.e. knowledge to adapt to changing situations, interpersonal, social and communication skills, an understanding of the job, organization and the industry, basic numeracy and literacy, a positive attitude to the success of themselves and the organization, the confidence and a will to act.

The UK driving test is used as a compelling example of how to measure competence. National Competence Standards, NVQ (National Vocational Qualifications) and SVQs (Scottish Vocational Qualifications) are introduced and critically discussed. Problems are mentioned, for example, occupational standards are, of necessity, generic and need interpretation for specific situations. Useful suggestions are made as to how to tailor existing occupational standards to meet the needs of an organization.

Chapter 3 demonstrates how competence/occupational standards can be used to develop dynamic systems and procedures and also check lists and proformas. The chapter contains several nuggets of useful advice, e.g. when designing systems and procedures always involve the operator. The pros and cons of setting up documented systems, procedures and proformas (as for ISO 9000) are discussed. Such documentation takes large amounts of time and effort, which is advisable where mistakes are costly, but may not always be worthwhile. Chapter 4 explores how competence standards can be used to produce job descriptions and can form the basis of an appraisal system. Lassey points out that both employers and employees tend to favour hazy job descriptions. Often employers negate the precision of a job description by adding an 'anything the manager asks' clause. A description of an appraisal system is given which includes general points but not enough detail to set up such a system. Several germane comments are made, for example, the importance of support and development for appraisers.

Assessing performance (Chapter 5) is vital to determining what development is needed by a learner and also to measure the effectiveness of training. The importance of impartial, objective judgement is emphasized. Key pitfalls of the inexperienced assessor are listed, e.g. 'halo' or 'horns' effects, judgements based on exceptional events or on erroneous beliefs or which ignore context. It is pointed out that both performance and knowledge evidence should be collected and a useful supporting section gives hints on questioning techniques to elicit information. NVQ assessment is held up as best practice to which assessors should aspire. Chapter 6 describes how a learning organization in managing quality and change should 'harness the intellect of this work force'. The key role for the manager is to empower staff and to promote the use of problem-solving tools in creative ways. The point is well made that managers must

appreciate that their main resource is their staff. Quality is defined as 'fit for its intended purpose'. Ten quality enhancement conditions are presented in table form and the concept of quality circles is introduced. There is a useful section on techniques for identifying and resolving quality problems with explicit instructions on leading discussion groups and meetings.

Part 2 (Chapters 7–9) is entitled 'Developing People'. There is an attempt at the beginning of Chapter 7 on learning and coaching to introduce learning theory. However, the brief account does not do justice to the complexities of the underlying psychological research. Furthermore, the concepts are not picked up meaningfully in later sections. The practical sections on the importance of motivation and the benefits of coaching are much better. There are useful tips on how to coach.

Chapter 8 concentrates on how learning can be flexible and focused on the individual learner. It includes a section on personal development plans. The attributes of open and distance learning and flexible learning materials are discussed. A pertinent point is that such materials are most effectively utilized with the help of a coach. Learning projects are also mentioned and advice given on how to initiate such projects. Chapter 9 focuses on the designing and management of a learning resource centre. Such a centre is felt to be essential for supporting flexible learning. Detailed advice is given including a list of suitable equipment and even suggestions regarding opening times. The individual's use of the centre is not neglected and induction procedures and the use of learning files is mentioned. The latter can provide good evidence for Investors in People (IiP) – see Part 3.

Part 3 (Chapters 10–12) is entitled 'Gaining Recognition'. Chapter 10 gives an account of the Investors in People standard and elaborates on the four main principles of commitment, planning, action and evaluation. An appropriate overview is provided which, however, does not convey the amount of preparation and hard work that IiP recognition entails. Chapter 11 provides a detailed account of NVQs/SVQs and the associated quality assurance systems and assessment criteria. It also shows how organizations can become approved assessment centres and covers assessors' training, centre management and internal verification. This chapter gives a very clear impression of the

different development stages and the amount of work involved.

Chapter 12 covers ISO 9000, BS5750 and Total Quality Management (TQM). ISO 9000 and the UK equivalent BS5750 are recognition systems based on the documentation of systems and procedures. Implementation, including systems manuals and internal auditing, is described. The TQM approach is through customer satisfaction and involves all members in improving all aspects of the organization and its culture. TQM is often seen as an alternative to ISO 9000 but Lassey suggests it represents the next step on the quality ladder. Strictly TQM is an approach rather than a standard.

There is useful detailed supporting information in the appendices, a page of thought-provoking further reading and a helpful index. The reference list appears rather sparse. The 'remember' boxes to highlight important points are useful and could be used more extensively. In general the book is exactly what it purports to be, i.e. an introductory guide. There is often a great deal of detailed information but implementation of the various stages in becoming a learning organization would require more in-depth consideration of the issues. One of the book's strengths is its practical 'hands on' approach with only a few diversions into underlying theory or discussions of controversial issues. The subject matter is not new but it is presented in a convenient readable format. It is a useful text for managers in large or medium-sized organizations.

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Jen Harvey (ed.), *Evaluation Cookbook*, Learning Technology Dissemination Initiative, Edinburgh: Heriot-Watt University, 1998. ISBN: 0-9528731-6-8. Paperback, 88 pages, no cost.

This book is aimed at evaluation in the domain of learning and teaching where educational innovations, for example, a computer-assisted learning (CAL) package, are evaluated for their effectiveness in achieving specific learning outcomes. Based on the outcomes, action is taken, for example a package that is under development is redesigned or a decision is made to purchase an existing training simulator. Two main types of evaluation are formative evaluation (described in the book as 'when the cook tastes the soup') and summative evaluation ('when the dinner guest tastes the soup').

A wide range of evaluation techniques exists, including both quantitative and qualitative. Frequently, a suitable combination of different techniques can be useful to establish the effectiveness of an educational innovation. However, it is rare to find a comprehensive range of techniques applied to learning and teaching and concisely described in a single volume. This book is filling this gap and can be downloaded free of charge from the World Wide Web (http://www.icbl.hw.ac.uk/ltdi/cookbook/).

This publication is a practical guide for lecturers who want to evaluate learning materials. By combining the methods and other ideas contained in this book they can design and carry out their own evaluation studies to inform their educational practice. Although the book is geared towards CAL, it applies generally to a broad range of educational innovations.

The book contains forty-two chapters. Most of these consist of one or two pages. However, taken together, the chapters cover a substantial range of evaluation methods, although they are obviously not treated in extensive detail. Naturally, the book contains a section with literature references that should allow readers to obtain more details of specific methods that they may want to apply themselves. The edited book also includes a section with contact details for the authors who each contribute one or more chapters. Unfortunately, there is no index, which makes it more difficult to find particular topics relating to the evaluation methods covered by the book.

Logically, the rest of the book is organized into five broad sections. The first of these discusses the preparation of an evaluation. The second and third sections form the most important part of the text; they cover evaluation methods and supplementary information respectively. Unfortunately, the chapters from these two sections are interspersed in a way that is neither obvious to the reader nor systematic. The fourth section deals with reflecting and acting on evaluation results and the write-up of an evaluation study. Finally, the fifth section presents case studies that illustrate the use of various methods, separately or in combination, to inform the practice of learning and teaching.

The first three chapters provide a framework for planning and preparing an evaluation in terms of stakeholders, what will be evaluated and how this will be done. Of the next thirty chapters, eighteen ('recipe pages' in black print on a white

background) deal with methods and describe their main uses, procedures for applying the methods, variations on the methods, links to other methods and supplementary information. These chapters are interspersed with twelve chapters ('information pages' printed in black on a pink background) that offer practical suggestions and advice that apply to a range of different evaluation methods. The first chapter on evaluation methods is a quick guide to the methods and describes these in terms of relative resourcing implications; this information is summarized in each of the chapters that describe the separate methods.

The following eight evaluation methods that are presented in the method chapters are of a (predominantly) qualitative nature. Checklists can be used to check whether a range of materials fit certain standard criteria and to measure how materials match students' needs. Concept maps can be employed to assess students' knowledge of conceptual structures. Ethnography can be applied to account for the observed setting of learning and teaching in longitudinal studies, to investigate a user's point of view in participative design, to clarify requirements and provide continuous feedback in iterative system development. Focus groups can be utilized in formative and summative evaluation, in particular to provide input for the use of other evaluation methods and to complement the results obtained from these. Interviews can also be employed in formative and summative evaluation to obtain perspectives on evaluation targets from different stakeholders. Split screen video can be applied to obtain feedback for software development (in formative evaluation) and for piloting software to provide information for subsequent implementation as part of a course. Uses of supplemental observation include the evaluation of existing resources introduced into a new course and rapid feedback to system development. System log data can, for example, be utilized for usability evaluation of software and to supplement other evaluation methods.

The following four evaluation methods discussed in the method chapters are (mainly) quantitative. Confidence logs can be used to investigate, through self-assessment, how students' learning develops over time. Cost-effectiveness analysis can, for example, be employed to compare different candidate programs to supplement a course and to determine which program has the best average outcome per student relative to the

per student cost. Controlled experiments can be utilized to determine which factors of an educational innovation influence learning outcomes. Pre- and post-testing can be applied to establish the gain in terms of learning outcomes from the use of an educational innovation.

The following four evaluation methods included in the method chapters are of both a qualitative and a quantitative nature. Nominal group techniques can be used to identify and prioritize issues to be investigated by other methods. Questionnaires can be employed to obtain feedback on an educational innovation by obtaining views and/or factual information from people. Resource questionnaires can be applied to investigate the actual use of resources and their usefulness. Trials can be utilized for obtaining feedback on the use of educational innovations in order to make improvements during different development stages. The chapter containing a recipe for chocolate cake proved very useful to the reviewer.

The twelve chapters ('information pages') with practical suggestions and advice include the following topics: (1) the relation between educational innovations and the context in which these are used; (2) Likert scales (used in questionnaires); (3) learning styles; (4) the use of statistical methods; (5) selecting student samples; (6) working with evaluation participants; (7) guidelines for interviews; (8) the use of pre- and post-testing; (9) merits and demerits of questionnaires; (10) writing questions; (11) transcribing qualitative data; and (12) planning the use of educational media as part of a course.

The first of two chapters that make up section four discuss different types of evaluation outcome and their implications for learning and teaching practice. The second chapter presents an outline for reporting evaluations. Unfortunately, the nine chapters in section five, which provide examples of applying the evaluation methods, do not follow the format of the evaluation report outline. However, the examples still contain useful information on how to apply and combine the various methods for evaluating educational innovations in practice. These chapters would have been more useful if references to original reports on the evaluation studies had been included.

The references section includes general literature on evaluation, educational publications that include a discussion of evaluation methods, websites dealing with (educational) evaluation and

further reading related to particular methods. In general, the book would have gained from 'beefing up' the references. In particular, there is an imbalance in the number of references relating to the different methods, and references to statistical methods, which can be invaluable in an evaluation, are disappointingly scarce.

Overall, I think this book offers a useful introduction to the topic of educational evaluation for teachers who themselves want to evaluate. Although the evaluation methods are described only briefly, they are mostly written in an understandable and readable fashion and case studies and references are included, which allow readers to obtain more detailed information for planning and conducting their own evaluations. This book should stimulate the appropriate use of evaluation methods by teachers to inform learning and teaching in both academic and non-academic contexts.

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David Boud and Grahame Feletti (eds.), *The Challenge of Problem-Based Learning*, London: Kogan Page, 2nd edn., 1998. ISBN: 0-7494-2560-1. Paperback, viii+344 pages, £19.99.

This book sets out to explore problem-based learning, its significance, how it can be used and its strengths and limitations. It is directed at those who are interested in the method for teaching and learning and who want to assess how it might address central issues in professional education. Problem-based learning is a way of constructing and teaching courses using problems as the stimulus and focus for student activity, in this way moving students towards the acquisition of knowledge and skills, through a staged sequence of problems presented in context, together with associated learning materials and support from tutors.

The rationale for the book is to discuss the strengths and limitations of problem-based learning, explore how can it be implemented and give examples in practice. The text is divided into six parts, each with a clearly defined purpose summarized in the section introduction.

Part 1 asks the question: 'What is problem-based learning?' The contributors of the chapters that make up this section consider what instructional methods constitute problem-based learning, and suggest that it is learning for capability in the form of competencies for the students' working life. It encourages open-minded reflective,

critical and active learning, which is more structured than discovery learning, and is the method of choice for effective adult learning. Chapter 2 includes useful tables of competencies and descriptions of some of the sessions the authors have used.

Part 2 is entitled 'getting started', and each chapter discusses a different stage of the development of problem-based learning and strategies for getting started. Three questions are answered here:

1. Is there a generally useful process for getting any innovation started?

2. How does a problem-based approach compare with other educational innovations?

3. What other dimensions seem to be important in getting started?

In considering problem-based learning there must be a clear purpose to its introduction, and support by senior academics is essential. Preparation of problem-based learning courses can be labour-intensive and adequate facilities must be available, if problem-based learning is to bring about a change from efficient teaching to effective learning. The chapters recount anecdotes on the difficulties of introducing problem-based learning, and some of the successful methods used, so the negative as well as the positive points are brought out in this part.

Part 3 deals with 'issues and questions', including an emphasis on the change of role from lecturer to facilitator necessitating appropriate training. Tutors need to be able to stimulate and guide the students' progress through questioning and feedback. It is suggested that problem-based learning is beneficial for adult and non-traditional learners. There is also concern that students do not develop adequate knowledge structures – they need plenty of time for reflection, but sometimes too many concepts and issues are presented. The examples use various combinations of lectures, tutorials, laboratory sessions and conferences to support the problem-based learning, much depending upon the particular cases being studied and the stage of learning reached. In Chapter 15 there is a useful flowchart for production of problem-based learning courses, with an emphasis on it being a different art from traditional course production.

Problem-based learning has been applied in medical fields for some time, but recently its use

in other subject areas has generated interest. Part 4 presents several variations in problem-based learning as it has been applied in different subjects, most of which are smaller in scale than the medical examples. The examples include mechanical engineering, social work, architecture and computing, where industrial partners might present the problems chosen for study or problems may arise from the previous experience of the course designers. The common feature is that the cases involve applying the topics studied to a real-world problem, where the human element needs to be taken into consideration.

Regardless of the teaching methods used, the students need to be assessed in order to give them a grade for the course. Problem-based learning is often group-based, with its own particular problems for assessment. Part 5 looks at student assessment, giving several views as to what and how learning should be assessed. This part also considers the difficult task of evaluating problem-based learning programmes, and suggests that much more work needs to be carried out on ways to evaluate such courses.

The final part of the book considers future trends in problem-based learning and its

relationship to other forms of experiential learning. There is a useful chapter on learning theory, and the last chapter gives a good summary of the potential benefits and difficulties in introducing problem-based learning.

Overall, most applications of problem-based learning have been in the medical field, but the examples show that it is applicable wherever a professional needs to be able to deal with people, which might cover almost any field. The book provides a comprehensive guide to problem-based learning. First published in 1991, some of the chapters in this second edition have been revised, though much of the learning theory included will not have changed. Nevertheless, the text remains an essential read for anyone considering introducing problem-based learning for courses, whether to cover the whole curriculum or just in part. A question for ALT members is to consider how technology can support problem-based learning, which is only hinted at in this book.

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