A Review of Technology, Open Learning and Distance Education

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Review

This second edition is an update of the 1995 edition of one of the few books in educational technology to take a sustained analytical approach to the comparative costs of technologies, and to set these against other important features of technologies for decision-makers. The fundamental principle has not changed: that educational technologies are not good or bad in themselves, but will be effective or not according to how well they are used. So the book is designed to offer advice and guidance to teachers, managers and other decision-makers, on the most important parameters for the effective use of technology in distance education.

The title has changed subtly from the first edition, with 'open learning' - an educational policy offering access to all - being replaced by 'e-learning' - a type of technology encompassing computers and telecommunications. The access issue is not lost, however, as it falls within the organising framework for the analysis – the 'ACTIONS' model.

'ACTIONS' is the acronym for the seven main criteria that Bates proposes for selecting a learning technology: access, cost, teaching and learning implications, interaction, organisational issues, novelty and speed. Chapters focusing on each type of technology – print, audio, video, web, and conferencing – discuss how the criteria can be used to decide on the appropriateness of the technology for distance education or mixed mode institutions (combining distance with on-campus methods).

At the heart of the book are new chapters on web-based learning and web-conferencing methods, which build on the experience of course developments in Canada's Open Learning Agency, and the University of British Columbia. The application of the seven criteria to these e-learning technologies also makes use of evidence from recent evaluation studies to build a picture of what can be achieved by the careful deployment of web-based methods. The cost analyses in these chapters are extensive and detailed, and show clearly the effects on cost per student of increasing student numbers, and the importance of being clear about the effects of fixed costs (such as development and maintenance of a website), in contrast with volume-related costs (such as tutors).

It must take considerable effort to assemble and check these detailed figures, and Bates is unusual in taking this aspect of technology selection very seriously. It is valuable to do that for illustrative purposes, but the real value is in the structure of the business models and costing models themselves, not the data. As Bates often argues in the 'organisational issues' sections, local conditions and assumptions affect the analysis. Similarly, the teaching and learning assumptions (such as the number of students in a tutorial group) will change the data. A course developer may take steps to reduce the need for a commensurate increase in tutors as student numbers increase by using the technology to make tutor input more efficient. They may provide the teacher with tools for developing 'frequently asked question' responses easily, or for facilitating student discussion groups to generate two key questions per group rather than several questions per individual. So it is not the data so much as the teaching assumptions, planning and management tools, learning support tools, capacity analyses, costing models, etc. that we really need.

The full ACTIONS model, if it were really used as a model for selecting technologies for a course, would set the teaching and learning decisions against the organisational planning, and the cost and access requirements, iterating around all these until the right combination of technologies becomes clear. It is true that, as teacher workloads increase, 'the teacher should start considering alternative approaches to course design...' (p134), but what should they be? How should a teacher use the ACTIONS model to sort out which alternative approaches will reduce class time without increasing costs in other ways?

There is much of value in these later chapters, capturing the extensive experience that Bates and others have amassed, but the more historical material in the chapters on print, video and audio has not been updated to reflect the changes going on in other institutions experimenting with e-learning. The costing...
Details of audio and video technologies have changed so much in recent years that cost studies from over twenty years ago are of little help now, even in general terms. References to developing countries do not necessarily make them more relevant, as later arrivals to an educational technology typically leap-frog the problems of early adopters. They still have to contend with access issues, but of a different type, with different cost structures. Most of the UKOU studies described in detail are very old – course mailings do not typically include two audio cassettes now, and academic days spent on print-based texts cannot be averaged as they now vary so much across the institution. The much more interesting recent advances and wide variety of course development models now used, whether at UKOU or UBC, or any number of other institutions, would be of far greater use to decision-makers. They create some interesting cost-benefit issues. For example, print now generates the almost cost-free by-product of e-books – what kind of additional benefit does this provide for students?

The ACTIONS model has been welcomed by decision-makers as an organising principle for selecting technologies for distance education. They will find it useful to have the model updated for the newer technologies of the web, not covered in the first edition.