

Reviews

BEREITER, C. (2002). *Education and mind in the knowledge age*. Mahwah, New Jersey: L. Erlbaum Associates (pp. xiii, 526).

I looked forward to reading this book as someone who has worked with Carl Bereiter (of the Ontario Institute for Studies in Education of the University of Toronto) through the now disbanded TeleLearning Network of Centres of Excellence (TL.NCE). Until recently, the network linked researchers in schools and universities across Canada as well as in learning organizations in other places. The network highlighted the collaborative power of information and communication technologies and the Internet. Bereiter was a senior researcher in TL.NCE and brought to its symposia a scholarly and erudite perspective that questioned ways we think about knowledge: its organization, presentation, and meaning.

Bereiter is well known for his work in cognition and educational psychology. In this book he presents a “new theory of mind” or a new way of thinking about knowledge and the mind. He begins with a challenge:

Here we are in the Information Age, relying on a theory of mind that is older than the wheel. Every other folk theory—folk physics, folk biology, folk economics—has had to yield to more powerful theories, better equipped to address the problems of an adventurous civilization. . . . Something called “cognitive science” arose in the

1950s and developed rapidly. Its most conspicuous manifestations have been in artificial intelligence and robotics, but it has had a significant and sometimes revolutionary effect on all the behavioural sciences. Although it may be true that most of the world’s business is still conducted according to folk theories of mind, this may be only a matter of cultural lag, which will be overcome as cognitive science takes hold. (p. xx)

Bereiter argues that in today’s knowledge age, education’s conceptual tools are inadequate for the issues and challenges that are faced. Two things are required: to get away from the idea of the mind as a container and to understand the role of individual minds in societal knowledge production. Bereiter proposes in this book an alternative model of the brain and of knowledge, a model in which the brain does not actually contain knowledge. The need, it is argued, is to understand how a brain can sustain knowledgeable and intelligent behaviour. Such a model needs to be developed in order to have a theory of mind that can be used in the knowledge age. Bereiter draws on current ways of thinking about knowledge and the mind, including information processing, cognitive psychology, situated cognition, constructivism, social constructivism, and connectionism, in a search for a way of thinking that is appropriate for the challenges faced by education in the knowledge age.

In the preface Bereiter notes the TL.NCE was a federally supported program to advance the development and use of learning technologies, but through a project within it on Cognitive/Epistemological Models for Knowledge. Building funds were in fact devoted to the "most fundamental issues of what such an enterprise is about." Knowledge is the pivotal idea in this book and the author contrasts the stuffing of mental filing cabinets with the development of a richer conception of what it is to be knowledgeable. This book is a major contribution to the development of thinking about knowledge and the mind in the context of an age in which information is increasingly accessible and, in many ways, a basis for social and economic organization. Bereiter raises fundamental questions about knowledge, the mind, knowledgeability, and the brain.

The second part of the book is devoted to "Education and Knowledge Work," where issues surrounding educational planning and the teaching profession are discussed. *Education and Mind in the Knowledge Age* contains a chapter called "Can Education Become a Modern Profession?" Bereiter points out that there is a failure to connect research and invention, or education's inability to function as a knowledge-creating institution. The failure, he argues, is not the fault of teachers, administrators, researchers, or politicians. It is systemic. Two cultures exist within education: a traditional craft culture and a research culture. While there is interaction between the two cultures, each is stultified by the division. Bereiter argues for a hybrid culture within which craft and research cultures can together solve common problems. He notes, "A problem that seems to have

potential for cultural fusion is teaching for understanding."

This is a lengthy and complex book that sets out fresh ideas about how we think about schools, education, educational reform, the teaching profession, the relationship between theory and practice, and, within all this, the place of information technologies in teaching and learning. It is written by a respected scholar with international standing who has developed a theory of how classrooms can be changed. Bereiter draws on a considerable body of classroom research in which he and his colleagues have been involved, as well as a considerable body of cognitive theory.

Education and Mind in the Knowledge Age invites us to reconsider what we mean by knowledge and the mind today. Bereiter writes with grace and simplicity. Complex ideas are made accessible and most readers will recognize situations outlined by the author in their own professional and personal lives. Bereiter writes about some of the most fundamental concerns of education (knowledge and mind), yet the book will meet most educators' demand for "relevance." This is one of the most insightful and timely books on education I have read. It deserves to be read and discussed widely.

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HOWARD, C., BOETTCER, J. V., JUSTICE, L., SCHENK, K., ROGERS, P., & BERG, G. (Eds.) (2005). *Encyclopedia of distance learning, vols. 1-4*. Hershey, Pennsylvania: Idea Group Reference (pp. 2500).

In a foreword to this collection, Seymour Papert invites readers "who consult this encyclopedia in a sober spirit" to share with him "a moment of being drunk with amazement at its table of contents." The table of contents is fifteen pages long, but once the reader understands its alphabetical structure, articles in the four volumes that follow are easy to access. What Papert is no doubt referring to is the sheer volume as well as the range of papers in this collection about a relatively new field of education. This is probably the most extensive collection of papers ever to be published in the field of distance learning, and, at almost US\$1,000, the most expensive. As such it is more likely this collection will be purchased by libraries than individuals.

Considering the international nature of the contributions to these volumes, they are likely to be widely consulted. Hundreds of international contributors to the *Encyclopedia of Distance Learning* have provided an extensive coverage of topics in the field of distance learning, with an emphasis on major areas where online learning and technology have an impact on education: K-12 education, higher education, continuing education, and professional and technical training. Many of the contributions describe how institutions have reshaped themselves to take advantage of developments in information technologies to encourage increased interaction between students, teachers, institutions, and societies.

An encyclopedia is defined by the *Cambridge Encyclopedia of Language* (1997) as "a book or set of books containing many articles arranged in alphabetical order, which deal either with the whole of human knowledge or with a particular aspect of it." Between 1751 and 1765 Denis Diderot edited and partly wrote 17 volumes of the *Encyclopédie* (which in time grew to a total of 35 volumes) in an attempt to bring together a systematic outline of civilization's knowledge, thereby promoting a new ideology of open dissemination of knowledge. The editors of the *Encyclopedia of Distance Learning* argue that Diderot's mission "parallels the contemporary challenge," in that ways to increase the dissemination of our collective knowledge of the world are still being sought. The question this set of books seeks to answer is, "How can the knowledge of civilization be spread throughout the world with the use of the personal computer?" (vol. 1, xxxvii). This is a big question and the editors acknowledge, "Writing an encyclopedia on any subject is an extraordinary conceit, particularly on a subject as new and amorphous as computer-based learning on an international scale."

A note from one of the editors introduces the acronym "TILDE" (technology, instruction, learning, design, and evaluation), around which items were selected for inclusion in the encyclopedia. Each of these categories encompasses a range of media applications and aspects of teaching, learning, and program development. The editors note that while these could be discussed as separate entities, "The reality of online distance learning has merged all aspects of teaching (professor and instructor, support services, interactivity, design, evaluation, and technology) and learning

(usability, access, interactivity, design, evaluation, technology)," arguing, "On-line distance learning is a manifestation of a true reform/shift in education since societies began educating the masses and not just the elite" (vol. 1, xxxii).

Each of the editors has his or her own "Editor's Notes" in volume one, which are useful in providing access to how they each perceive distance learning. Patricia Rogers, in her editorial introduction, argues, "The whole history of distance learning is about access to education." If this is the case, much of what is contained in these volumes is significant as there is a good deal of attention to pedagogy and to the changes that e-learning has brought to how we think about teaching and learning in schools and in higher education. While not everyone is convinced that e-learning has a place in educational institutions (Zemsky & Massy, 2004), many contributors provide insights into changes that are taking place around the world. As Norris (2005, pp. 687–688) notes in the second volume of this collection:

When it comes to online learning we have set our sights too low, by far. We have largely digitized our existing approaches to learning—paving the cow paths, as it were. Most practices have focused on existing learning relationships and experiences, rather than on new experiences and value propositions that could be created for students, faculty, staff and other stakeholders. Many institutions have failed to see e-learning infrastructures as part of emerging institutional and system-wide infrastructures that fuse academic and administrative processes,

experiences, and value propositions. And many institutions have so far failed to create enterprise-wide strategies for leveraging these resources in new ways.

One of the most thoughtful and insightful contributions in this set is by Patricia Rogers, who discusses "teacher-designers." She observes that the promise of various technologies to "revolutionize" education has never really met this expectation. She argues:

As one who researches and practices online distance learning, I believe the growth in instructional management systems (IMS), new interactive objects and shared objects, the push for seamless integration of systems and coding standards, has more to do with recognizing and supporting teaching and learning than it does in teacher-proofing instruction. That is, the teacher-designer (Rogers, 2002) and the learners are the focus of the new technologies, rather than a program-controlled delivery system. . . . It all boils down to learner needs, sound teaching, and appropriate instructional design, working with the characteristics of the variety of multiple media available to online learners to create an accessible and interactive environment for learning. (vol. 1, xxxiii)

Correspondence-based distance learning, common during the twentieth century, has been transformed by the advent of the Internet and e-learning in the twenty-first century. Today, according to the editors, "It is not a matter of whether or not all educators should take advantage of distance learning, but how

soon and in what way. It is no longer a question of whether or not distance learning will become one of the dominant forms of educational offerings across the world, but how soon and to what extent" (vol. 1, xiv).

As an encyclopedia, this collection will be consulted in different ways. It provides information on geographical regions, pedagogy, technology, management, and global issues. The reader who considers the range, complexity, and innovation reported in these collected papers may reflect on what it all means. It is clear that e-learning has become a powerful, global educational phenomenon that is reshaping both the delivery of education as well as the nature of teaching and learning. As Papert says in the foreword, it is not really appropriate now to talk about learning online, learning with technology, or learning with computers, just as we do not talk about learning with paper. The Internet and computers are part of the mainstream of how we organize education so that "learners from any place in the world can now connect with, and interact with, anyone, anywhere at any time" (vol. 1, xiv). Many educators are still adapting to this reality in terms of organization, teaching, learning, and policy.

This comprehensive collection of papers on distance education from around the world is a recent addition to the Idea Group's growing reference series on information science research. The aim of the *Encyclopedia of Distance Learning*, according to its editors, is to address the needs of a broad audience of educators, trainers, administrators, librarians, human resource professionals, and instructional designers involved in all aspects of online learning. These four volumes will, I predict, become a

standard reference at a time of increased convergence of traditional and Internet-based teaching and learning. Collectively, they provide an extensive map of the field in 2005 and a snapshot of its increasingly complex parts.

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LAI, KWOK-WING (Ed.) (2001). *E-learning: Teaching and professional development with the Internet*. Dunedin, New Zealand: University of Otago Press (pp. 206).

Classroom and school applications of the Internet and information and communication technologies (ICT) to assist teaching and learning are now a major consideration in the professional development of teachers. For many teachers the place of ICT in classrooms is not clear and ways in which they can enhance teaching and learning are not widely understood. How teachers and their schools are to make the

transformation from traditional classrooms to Internet and ICT-enhanced learning spaces is a challenge. Many need encouragement to even consider the role of ICT and the Internet in their classrooms and, as the editor of this book notes, they need time in which to learn how to use what for many are still new technologies. The transition is not always easy, particularly for busy teachers who are not naturally drawn to new technologies.

In this book Kwok-Wing Lai has brought together a range of papers written by school and university teachers in New Zealand. The ten chapters, all written by people in or associated with the School of Education of the University of Otago, are organized in three sections: the use of the Internet and ICT for the professional development of teachers; resources available on the Internet for teaching and professional development; and ethical, social, and other issues around Internet use in classrooms. The various Otago authors are well-placed to observe the need for professional development in ICT for New Zealand teachers. Lai notes that this book was, in itself, a professional development exercise for each of the contributors. The outcome will be useful for the teaching profession in this country.

In his opening chapter Lai notes, "Research has documented positive outcomes of ICT use in a variety of learning situations" (p. 9) and "It has been clearly documented in the literature that it is teachers' attitudes towards technology, their beliefs in teaching and learning, as well as their styles of teaching that affect how students use technology and what sort of learning experience they will have" (p. 10). For me, one of the most important

observations in this volume is on page 38: "We believe that the greatest potential of the Web is its ability to support structured collaboration and conversation among a community of learners."

Structured collaboration is a very important dimension in the work of many small schools in New Zealand that are linked to one another through such networks as Canta-tech and Otago-net. Within these electronic school district intranets, based on the Internet, teaching and learning can be shared and thereby enhanced. This is now an important dimension of the educational experience of rural students in this country. At a micro or classroom level, structured interaction is also important. Structured interaction that involves collaborative learning assisted by one or more teachers has the potential to greatly enrich the learning experiences of students. Structured interaction identifies one of the fundamental reasons for enhancing teaching and learning with the Web and with various other technologies. It is the potential for collaboration in both teaching and learning that computers in classrooms provide that is one of the most important reasons for their introduction to classrooms. Nevertheless, a decision to engage in structured interaction, whether at the school-to-school level or within classrooms, requires rethinking both teacher and student roles and the ways learning is to be organized and supported.

Lai and his coauthors have covered many issues that will be of concern to teachers contemplating the introduction of ICT in classrooms. There is a chapter on legal, ethical, and social issues surrounding "the wired school" and another on dealing with inappropriate material on

the Internet along with various strategies that teachers and parents can use. Lai himself is the author of the first two chapters which focus on the matter of ICT and the professional development of teachers. Together with his colleague and prominent online teacher Ann Trewern, he proceeds in the third chapter to outline a case for online learning as an alternative way of providing professional development for teachers. Chapters on the development and evaluation of websites and on resources for teachers on the World Wide Web round out this useful volume.

This book is about ICT in the professional development of teachers and will be useful for many members of the profession as well as for teacher educators. The introduction of ICT in classrooms challenges these traditional learning spaces and Lai and his colleagues provide many insights into the implications of how teaching and learning are shaped by it. The book will be readily understood by teachers who are new to technological considerations in teaching and learning. It is written for teachers rather than for information technologists and, unlike many others in this field, it is written by New Zealanders who draw on examples and case studies from this country. On another level this book will find a place in the professional and the continuing education of teachers. It draws on international scholarship in the field of e-learning, integrating it with local material. This volume deserves a place in every New Zealand school, particularly those that have yet to develop programs for supporting teaching and learning using ICT.

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VON PRÜMMER, C. (2000). *Women and distance education: Challenges and opportunities*. London: RoutledgeFalmer (pp. xx, 220).

Christine von Prümmer has focussed on the potential of distance education to provide equal opportunities for women. In providing this focus, based on research undertaken at the German Fern Universität (FeU), an institution that provides a case study for this book, she has introduced me, and I suspect other readers, to the sociology of women in distance learning. Issues of social class, mobility, minority women and distance learning, communication and the use of emerging learning technologies are all discussed. The author provides a considerable body of gender-based pedagogical insights into learning at a distance, supported by international research in which the UK's Open University (OU) features prominently. Anyone developing or teaching a course at a distance will find this research data informative. Prümmer has provided a tour de force of the impact of distance learning on women and, in doing so, opened up an important, but not widely discussed, area of the sociology of education and educational policy.

This book is significant for me in two ways: sociological and pedagogical. On a sociological level, Prümmer develops and intertwines the themes of equity and opportunity in this analysis of women in distance education. The traditional rigidities and social class basis of the German education system are outlined to demonstrate problems of social mobility—issues that will be familiar to researchers in the UK and in many Commonwealth countries. Fortunately, a glossary of German educational terms is provided. In bringing this relationship

into sharp relief, the author has focussed on a subject that has perhaps been overlooked by educational researchers because it is so obvious. *Women and Distance Education* draws attention to the relationship between distance learning and women students, at a time when distance learning/e-learning/tele-learning are becoming part of the educational mainstream through the integration of online and on-site instruction in schools, universities, and vocational training institutions.

On a pedagogical level, Prümmer draws attention to communication and learning styles in distance education and, in particular, the preferences of women students. Tables quantifying preferences by gender in terms of modes of communication show some interesting differences that could, usefully, be noted by distance education course developers.

This book is, however, primarily a sociology of education. A good deal of attention is given to problems in learning at a distance that face working-class and minority group women. Issues of access and control permeate *Women and Distance Education* in terms of the frequency of contact they have, as students, with distance learning universities (particularly the FeU and OU). A chapter is devoted to distance education and the social mobility of women students and their "occupational goals," their subject choices and their social class backgrounds. A good deal of material is presented here and this has the potential to stimulate comparative studies in other parts of the world. The role of distance learning in social mobility is an area in which more research could be encouraged.

This book will, obviously, find a place in the literature of feminism and education and in the broader field of the sociology of education. As a distance educator, it has brought to my attention several previously overlooked sociological dimensions of teaching and learning at a distance and provided insight into gender differences regarding preferences in communication.

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