This issue of DEOSNEWS comprises two full-length book reviews published in recent issues of The American Journal of Distance Education. 'Why the Information Highway? Lessons from Open & Distance Learning', is a resource of practical applications from the field of distance education that can be used to help interpret and exploit the challenges and opportunities offered by new communications and information technologies. The review is written by Tony Bates of the University of British Columbia. The second book, 'The Virtual Classroom: Learning without Limits via Computer Networks', discusses a teaching and learning environment mediated by computer conferencing. 'The Virtual Classroom' is reviewed by Zane Berge of the University of Maryland.

**Why the Information Highway? Lessons from Open and Distance Learning.** Judy Roberts and Erin Keough, eds. Toronto, Ontario: Trifolium Books, 1995, 276 pp. Reviewed by Tony Bates Director of Distance Education and Technology Continuing Studies University of British Columbia  

"Why the Information Highway?" is a useful and timely addition to the growing literature on Canadian distance education, complementing earlier collections of papers such as those of Mugridge and Kaufman (1986) and Sweet (1989). In his preface to this book, Sir John Daniel, Vice-Chancellor of the British Open University, comments: "In the mid-1980s the term 'distance education' was practically unheard of in the United States.... This has now changed.... distance education is suddenly at the centre of public discourse about the electronic future. Canadian distance education is particularly rich in lessons and experience that can help us assess the likely fate of new mutations. The Canadian experience will be very relevant to institutions around the world that are assessing the implications of the information superhighway for their institutions." The editors have assembled a collection of thirteen chapters from experienced Canadian distance educators on different aspects of open and distance learning. Part 1 is concerned with emerging issues in open and distance learning. Margaret Haughey of the University of Alberta provides a thoughtful discussion of the meaning of distance in education. Lucille Pacey of the Open Learning Agency and Wayne Penney, a management consultant (both from British Columbia), challenge distance educators to think strategically by developing models of teaching and learning that meet the emerging needs of learners in the 21st century. Part 2 is a collection of case studies, each of which describes a specific context and identifies issues arising from these applications. Anna Stahmer, co-publisher of _The Training Technology Monitor_, describes five case studies of open and distance learning in the training sector; Norman McKinnon, a private consultant from Ontario, describes three case studies of open and distance learning in the K-12 sector; Athabasca University's Barbara Spronk provides seven case studies on the application of open and distance learning for aboriginal education; Jane Brindley, former Director of Student Services at Athabasca University, makes an impassioned argument for high-quality student support services for distance learners; Laurentian University president Ross Paul takes a hard look at the reality, as distinct from the myths and "hype," of technology applications in distance education; and Therese Lamy (private consultant), Pierre Pelletier (Director of Continuing Education at the University of Ottawa), Denise Pacquette-Frenette and Daniel Laroque (private consultants), Noel Thomas (president of an Ottawa-based company that provides on-line educational services), and Don McDonell (Director of Distance Education at the University of Ottawa) provide case studies and perspectives of francophone applications of distance education. Part 3, concerned with analysis, includes stimulating chapters on research and evaluation (Judith Tobin, TVOntario), internationalization (Ian Mugridge, Commonwealth of Learning), and government policies regarding distance education (Erin Keough, Director of the Open Learning and Information Network of
Newfoundland and Labrador and Judy Roberts, an Ontario-based private consultant). Several of the contributors emphasize the point that there is now a great deal of experience in teaching distance learners, and that many of the lessons derived from this experience will apply to new applications of the information highway. In particular, teaching needs to be learner-centered and characterized by good instructional design, appropriate choice and use of technologies, and, above all, strong student support services including counseling, group work, interaction between teacher and student, peer-group interaction, and links with local communities. ‘Why the Information Highway?’ is comprehensively Canadian in terms of geography, culture, and experience. However, the book does not include contributions from some of those Canadians—such as Linda Harasim and Gerry Sinclair from Simon Fraser University and Terry Anderson from the University of Alberta—who have pioneered the use of the Internet for teaching or from those using videoconferencing at Calgary, Queens, Guelph, Waterloo, and MacMaster universities. These new "players" reflect a range of differing philosophies and contexts for technology-based distance learning. Their potential contributions are missed, especially in the context of the inherent conservatism of Canadian distance education and the need for it to adapt to a rapidly changing technological and social environment, which is noted by several of the contributors. Pacey and Penney for example, question whether Canadian distance educators have changed their thinking to take account of the changing world around them. Tobin also notes that, despite nearly twenty years of research in distance education, the research is still fragmented and repetitive, failing to address the wider issues of what learners need and how best to meet those needs in a world where distance education and campus-based teaching are rapidly converging through the use of technology. The absence of perspectives on these issues highlights my main disappointment with this book. With a few exceptions, the authors do not address the central issue of how the information highway will change the nature of both distance teaching and campus-based teaching. As a result, issues specific to the application of technologies such as the World Wide Web, computer conferencing, and videoconferencing are not discussed in any depth. The "missing" contributors named earlier are experimenting with these new delivery forms in new contexts and are coming up with solutions that extend both the campus-based and distance education paradigms. Thus, while the book will be useful for faculty members who are interested in using multimedia and the information highway for their teaching, it will not provide answers to some of the critical issues that they are having to address: the difference between on-campus and off-campus use of technologies, faculty development, and technology infrastructure support, for example. Despite these limitations, ‘Why the Information Highway?’ can provide educators with much needed guidance about many of the critical aspects of teaching distance learners, whether over the Information Highway or in other ways. References Mugridge, I., and D. Kaufman, eds. 1986. Distance Education in Canada. London: Croom Helm. Sweet, R., ed. 1989. Post-Secondary Distance Education in Canada. Athabasca: Athabasca University/Canadian Society for Studies in Education. The Virtual Classroom: Learning without Limits via Computer Networks. Starr Roxanne Hiltz. Norwood, NJ: Ablex, 1994, 406 pp. Reviewed by Zane Berge Director, Training Systems ISD Graduate Programs University of Maryland Baltimore County One of the first "names" in the field of computer-mediated communication (CMC) of whom I became aware was Starr Roxanne Hiltz, who has been researching and writing on this topic for twenty years (see Hiltz and Turoff 1978). It is with this long-time knowledge of the field that Hiltz has crafted a book to summarize her work. In _The Virtual Classroom_, Hiltz describes a "virtual classroom" as a teaching and learning environment within, and mediated by, a computer system. The Virtual Classroom (TM) computer-conferencing program
originated at the New Jersey Institute of Technology; it "brings the university into the homes and work places of students through the use of computers" (p. xvii). One goal of this book is to make Hiltz's many years of research and technical reports understandable to several target audiences, especially to teachers and students who might use CMC in their courses. Additionally, Hiltz hopes to reach scholars and the general public interested in technology, society, and "new communication technologies and in issues of evaluation research related to computer, communications, and pedagogical innovations" (p. xviii). When the original research reported in this book was conducted, justification had to be made for the use of CMC for teaching and learning. The comparison with the "traditional classroom," however, does a disservice to this powerful environment. The traditional classroom, in most cases, is not the shining standard to which we should hold all learning environments, and I am somewhat concerned by the overarching comparisons made. It is difficult to describe in text the flavor of vanilla ice cream, and equally difficult to explain the "flavor" of a learning environment, especially to someone who has never experienced any virtual classroom. To her credit, Hiltz clearly states that while a computer-mediated learning environment can support some activities that are difficult or impossible in face-to-face environments, both face-to-face and CMC have strengths and shortcomings. Clearly, unless we are concerned only with issues of access to high-quality education, a challenge to educators is to find the "mixed mode environment"—using all tools at our disposal—to deliver what we know at any time is the highest quality education. Chapter 1 states two basic research questions guiding the Virtual Classroom project: *Is the Virtual Classroom a viable option for educational delivery? *What variables are associated with especially good and especially poor outcomes in this new teaching and learning environment? As mentioned above, I would suggest that we now have moved significantly beyond the first question, thanks in large part to the already published research on this project. However, the second question is the more important one. Hiltz does an excellent job presenting the case for using the virtual classroom to provide improved access through flexibility of place, flexibility of time, and absence of travel requirements. She also recognizes the limitations of CMC in providing access: limited course offerings, equipment requirements, and skills requirements. Hiltz summarizes the more important features of CMC by contrasting them with the traditional classroom, an approach which, as I mentioned earlier, has its limitations. Some important philosophical foundations are articulated in Chapter 2. After providing an appropriately concise summary of the "no significant difference" outcome in media comparison studies, Hiltz reviews (in a somewhat abbreviated fashion) the literature relating to active learning, collaborative learning, and selected aspects of CMC. Hiltz does a good job of describing the features of the virtual classroom software, and these descriptions are generalizable across many conferencing systems. She then outlines eleven hypotheses that she and her colleagues have been studying over the years. The first hypothesis deals with the comparative effectiveness of virtual classrooms versus traditional classrooms. In general, I think the field is well past having to justify CMC as a viable channel for learning to take place. With this exception, the hypotheses seem valuable: they explore a causal model for the virtual classroom and begin to explain under what conditions and to whom on-line learning is most useful. Chapter 5 covers "basics" and has dozens of useful practice tips, obviously gleaned from years of experience. Chapter 6 addresses the moderation of computer conferences, and Chapter 7 involves collaborative learning. Chapter 8 describes some of the problems faced in implementing the on-line classroom. Topics such as recruiting sufficient numbers of students for experimental on-line sections, faculty opposition, inadequate access to equipment, and deliberate misbehavior by some students are among the many issues discussed. This section of the book is rich in practical advice, exhibits, and lists, making it valuable reading for any
on-line teacher, whether veteran or novice. Chapters 9 through 14 describe the quasi-experimental
design and results of full-scale field trials conducted on a prototype of the system in 1986-87. While
a researcher wishing to replicate or extend the author's work may find them useful in their entirety, the
summaries are well done and probably stand alone for practitioners and scholars not actively engaged
in research. Taken together, these chapters are useful for all readers in understanding what happened
in the early Virtual Classrooms. Topics covered include results based on sample transcripts and
interactions, variations in student ability, access problems, students perceptions, motivation, and
in the virtual classroom and her view of the future of CMC in elementary to postgraduate-level
education. While I agree with most of what she says, I have some reservations about the extent to
which students can choose to learn whenever and wherever they wish, especially in K-12 contexts.
Hiltz states that the work described in this book focuses on university-level learning, but that it can
and is being applied at the K-12 level. She goes on to describe a project to provide "freedom for the
[K-12] learner" (p. 256). Given the severe constraints and limitations on the use and employment of
effective educational processes that the author lists, the idea is to implement a program "whereby each
student can progress through each course according to his or her level of ability and motivation.
Learning can occur around the clock and throughout the year" (p. 257). However, factors outside of
learning and teaching will reinforce the status quo and mitigate against the type of radical changes
that a focus on pedagogical factors alone would seem to call us to. As the author suggests "the most
important changes over the next decade or two will not be in technological advances, but in
institutional change" (p. 259). Yet it is the changes to the roles and functions of students and teachers
highlighted in summaries of the "faculty perspectives" and the "student perspectives" that are more
likely to immediately affect on-line learning. Because the theoretical perspective in _The Virtual
Classroom_ is weaker than the practical guidance offered, _The Virtual Classroom_ cannot be said to
be_the_one book about CMC that readers should have. (A better all-purpose choice would be either
_Learning Networks_ [Harasim et al. 1995], of which Hiltz is a co-author, or _Alone but Together_
[Eastmond 1995]). However, _The Virtual Classroom_ is a valuable book for teachers using CMC and
for researchers and scholars working in this field. The author's long experience with computer
conferences adds great credibility to her conclusions. Overall it is clearly written and contains
valuable references in the field prior to the copyright date. References Eastmond, D. V. 1995. Alone

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