

et l'Ecole traditionnelle et, d'autre part, l'approche des relations humaines et l'Ecole nouvelle. Outre qu'elle nous permet de réviser ou de préciser certaines notions déjà connues, cette étude nous porte à réfléchir sur la nature, les objectifs et les modes de fonctionnement des institutions scolaires comme organisations; elle nous permet également de mieux voir la distance qui sépare l'administration scolaire et l'éducation. C'est là un exercice pour le moins enrichissant.

Soulignons encore que tout cela est dit dans une langue simple et claire, sans affectation ni recherche de style ou de vocabulaire qui feraient plus "universitaires". Au sujet du style, il faut regretter, toutefois, l'usage excessif du "nous": la recherche est habituellement plus impersonnelle.

La bibliographie, abondante et variée, fournit une riche documentation sur tous les thèmes traités; l'auteur y puise fréquemment et il porte parfois des jugements globaux intéressants sur les ouvrages cités.

Dans l'ensemble, cette thèse, puisque c'est bien de cela qu'il s'agit, aura permis de jeter un éclairage nouveau sur le concept de la cité éducative en cherchant à le situer "dans l'ensemble des approches organisationnelles" (p. 5) et ce, selon une approche originale et audacieuse.

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J.S. Daniel, M. Stroud and J.R. Thompson (eds). *Learning at a Distance: A World Perspective*. Athabasca University/International Council for Correspondence Education, Edmonton, 1982.

This is a difficult book to review being the conference book for the International Council of Correspondence Education World Conference held in Vancouver, British Columbia in June 1982. The book comprises 118 papers; the products of 129 contributors. These are drawn from an extra-ordinarily wide range of countries; every continent is represented. Only the soviet bloc is absent – a fact the editors note with regret in the preface. The editors have organized the papers into seven sections dealing with International Trends, Learning at a Distance and National Development, Recent Research and Developments in the process of learning at a Distance, Student Support and Regional Services, Policy Making and Management, The Contribution of Media and Technology and a Catch-All category that investigates the diverse approaches adopted to present the wide range of skills and disciplines taught at a distance. Each section is introduced by the editors who isolate common themes within the section and note points of connection with papers in other sections. Given the disparate nature of the materials, they should be commended for a job well done; brief as they are the introductions are a useful point of entry for the reader who will likely not wish to read the entire book, but pick and choose articles on topics of particular interest.

The book does several things rather well:

It will update even the most well informed distance education practitioner on the range of distance education activities taking place worldwide,  
it provides numerous case examples of distance education practice,  
it identifies and analyses many of the problems facing distance education institutions, and  
it stimulates reflection on the nature and practice of Distance Education.

Given these strengths, the book will make an ideal reader for graduate level courses in distance or adult education. More up to date than is possible with a structured text, it provides a rich source of possible seminar and thesis topics. If some of the challenges issued in the papers do in fact lead to serious research into the nature and practice of distance education, the book will have served a very useful purpose.

I look forward to seeing some of the results of this research being reported in the conference book for the next world conference to be held in Melbourne, Australia in 1985.

I recommend the volume for the purposes noted above. It must be noted, however, that the book doesn't provide a coherent theory grounded introduction to the field of distance education. For this the reader will need to go elsewhere. This is no reflection on the editors, for given the nature of the material with which they had to work, such a volume was not a possibility. Given this fact I make no attempt to assess the theoretical stance or thesis of the volume. It has not one but many; too many to discuss in a short review. Rather I attempt to clarify some overall impressions on the state of the art in distance education gained from a reading of these papers.

Perhaps the most immediate impression gained is that Distance Education is, in the words of Keegan, buoyant (p. 41). The number of institutions worldwide which operate distance education programs has grown dramatically over the last ten years. Along with this growth in numbers of institutions and in student enrollments has come acceptance. Few now doubt the validity of distance education. A great deal of this recent growth has taken place in the developing world where governments are looking to distance education to provide a flexible and cost effective alternative to traditional institutions. As is the case with so much in distance education, they must act on faith for there is no firm evidence that distance education institutions are in fact more cost effective than are traditional campus based institutions. True the British Open University produces graduates at a significantly lower cost per graduate than do other British Universities but as in all things one example does not allow for valid generalization. The studies on the economics of distance education reported here (papers by Orvel and Jamison, Gupton and by Rumble) and elsewhere do not come close to satisfying this reviewer that the assumption of greater cost effectiveness is necessarily correct. This is an area in which research is urgently required if governments are to be in

possession of the facts needed to make wise use of very limited development resources.

A second impression and one alluded to earlier is that to date very little true research has been conducted into distance education. This fact is discussed by Coldeway who notes that "Since the careful manipulation of variables and the clear analysis of well gathered data are still rare, true research constitutes only a small part of the impressive literature of distance education" (p. 29). He notes that most writings fall into one of three categories – they are position papers reflecting the views of their authors, they are descriptions of practice at a given institution or they are reports of general research findings using variables so loosely defined that replication is impossible. If we are to take the papers reported in this volume as any indication, this is still the case.

Only two of the papers report on true research studies: – the rest fall into the categories noted by Coldeway. Given the scale of the distance education enterprise worldwide this is an unhappy state of affairs. Let us hope that by 1985 in Melbourne the balance will have tilted somewhat more favorably in the direction of true research.

The generation of theory and the conduct of research are intimately related. Given the paucity of research into distance education it is not surprising that judging from the papers presented in this volume theoretical formulations in the field are poorly developed. Keegan argues that a characteristic of distance education programs is "the elements of a more industrialized form of education in which activities like job scheduling, warehousing, postal and media dispatch are characteristic functions" (p. 41), and that "The comparative and theoretical investigations in the 1960's and 1970's led to the postulation of two forms of education, "Conventional face-to-face education" and "distance education" (p. 42). These two ideas were first posited by Peters in a series of papers and reports published in the 1960's and 1970's (Peters 1965, 1973) and appear to be gaining considerable acceptance in the field. As Keegan notes "There (are) signs of a nascent discipline of distance education and of efforts to establish the techniques and procedures that constitute the body of knowledge known as distance education" (p. 43). This activity is at least partially in response to calls from scholars such as Peters for a new conceptual framework for distance education. Judging from this volume much of the literature assumes that Peters position is a correct one.

As Keegan notes elsewhere (Keegan 1980) the acceptance of the idea that distance education is qualitatively different from 'normal' education has profound implications for all practitioners in the field. That this is so, however, should not be accepted without considerably better evidence than has been offered to date. As is usually the case in distance education, the evidence is anecdotal or descriptive and heavily laced with personal opinion. Plausible as the argument is it is no more plausible than the counter argument that distance education is essentially similar to 'normal' education and hence best regarded as a variant thereof. After all, *all* students read, relate ideas and evidence, practice manipulating ideas and concepts, restructure the ideas they've previously learned, etc. The fact that in a

face to face situation students attend lectures and seminars as opposed to reading books, listening to tapes, etc. *may* have a profound effect on learning but this is not obviously the case. What is needed are a series of genuine research studies into the ways in which distance education students learn. Little is known of the impact on learning of mediating the relationship between teacher and student. As Baath (1979) has shown it is possible to conceptualize distance education in terms of the major teaching models developed for face to face instruction. Until considerable research has been done the question of whether there are two distinct types of education must remain an open one.

The same must be said of the idea that distance education is an industrial process. While it is true that most distance education institutions presently possess some of the characteristics of industrial organizations it is, I believe, important that they become *less* rather than *more* industrial. As Crawford and Crawford note in one of the most perceptive articles in the book "Contemporary educational institutions and practices have developed to serve the needs to Tofflers' "Second Wave" industrial citizens" (p. 182). If distance education is to fulfil its promise then distance education institutions must become "Third Wave" institutions capable of meeting the much more varied educational demands of the emerging information society.

To do this both curricular substance and delivery methods must change to meet the needs of the third wave. Organizational forms that allow for quick responses to new problems, flexible curricula that may well mix academic and vocational content, less emphasis on 'front-end' credentialled programs, and delivery methods that allow for study to be independent of time and space will all be necessary. As Toffler (1982) says "More learning will occur outside, rather than inside, the classroom. . . .the years of compulsory schooling will grow shorter not longer. . . . Education will become more interpersonal and interwoven with work, and more spread out over a life time (p. 384). If in twenty years research evidence shows that Peters was right and that distance education is in fact an industrial process, then I fear it will be an industry no longer meeting society's needs. As such it will go the way of hand weaving and cabinet making.

### To Summarize:

The volume provides a useful snapshot of the state of the art in distance education, and can be recommended as a good source of ideas for research and discussion. Its drawbacks are those of the field. I recommend it as essential reading to all adult and distance education practitioners and students.

- Baath *Correspondence Education in the light of a number of contemporary teaching models* LiberHermods. Malmö. (1979)
- Keegan, D. On defining distance education *Distance Education* Vol. 1, No. 1 p. 13-26. (1980)
- Peters, O. *Der Fernunterricht. Meterialien zur Diskussion einer neuen Unterrichtsform.* Weinheim: Beltz. (1965)
- Peters, O. *Die Didaktische Struktur des Fernunterrichts. Untersuchungen zu einer industrialisierten Form des Lehrens und Lernens* Weinheim: Beltz. (1973)

John Olson (Ed.). *Innovation in the Science Curriculum*. Croom Helm Ltd. London, England, 1982, 182 pp.

Everyday the scientists of the world are thinking new thoughts, experimenting new experiments and theorizing new theories. The body of knowledge increases in size, and changes in focus. Scientists have problems keeping up with their own field. University professors have to scramble to keep their courses up-to-date.

What then do we expect our school teachers to do? We have a general consensus that we cannot let our schools lag far behind the times as they have done for many years. But we realize also that our teachers are not trained in modern science, nor yet in anything close to it.

School science has to be changed. But how? Who can decide what should be taught in the schools? And having decided, how are our teachers going to be convinced that change is not only worth-while, but more important, possible? John Olson, in "Innovation in the Science Curriculum" discusses one aspect of this question: how curriculum change is perceived by teachers.

The focus of this book is on the teacher, and its about time! Olson points out that new curricula are not planned by teachers. The people who do the planning are not in close contact with what teachers do or could do in present-day school-rooms with present day equipment. New curricula are presented in idealized form without sufficient teaching instructions. They do not work, because in the hands of the teacher, they become new window-dressing on an old display.

I believe that this account is correct. However this book does not add much further to the discussion. It is a collection of only slightly related contributions. While they are all concerned somewhat with describing "what really goes on in the schools", it is not clear what justifies the choice of these essays rather than any other random set.

Rob Walker shows us how hard it is to find out what really happens. He described his experiences in moving – under the auspices of the United States National Science Foundation – to a small town in Alabama. His anecdotal account shows us clearly how hard it is for an outsider to get an idea of what happens in routine practice in an average science class.

Walker says nothing about the results of his study. His point is how hard it is to get meaningful results. It is therefore disconcerting to find that the next chapter of the book, by E.L. Smith and N.B. Sendelbach, is a detailed account of another case study with no attention to methodology at all. This chapter describes in detail exactly what a single 6th grade teacher does in planning and teaching classes of a segment of an American biology curriculum. The account is interesting in itself, but uninterpretable. Why this teacher? is she competent, incompetent or average? is her practice typical or atypical? Does she do the same things when watched as when not watched?

The 3rd essay, by S. Brown and D. McIntyre, is a more political analysis – describing the formation of a Working Party to produce a Curriculum Paper in Scotland, and the reaction of the generally unconsulted teachers to it. It is a clear picture of the education establishment decreeing and the teachers receiving

the word. This experience is probably generalizable world-wide.

In his introduction, and in the final chapter, John Olson has stated the themes he feels these essays illustrate. Innovations have been planned by people who do not have a sense of what a real teacher does do and can do in a real classroom with real students. If teaching materials have explanatory material for teachers at all, they are not sufficiently clear – and they are not organized with a view to what a busy teacher needs to pick up in 20 minute snatches of quiet.

I believe that teachers are not enough consulted, and that curriculum innovations are often not adapted sufficiently to real life. But having said that, then what? Prof. Olson, in sympathizing with down-trodden teachers, comes very close to an appalling position – namely that teachers should teach what they know how to teach in the way they know how to teach. They know what works – let them get on with the job.

I totally reject this position. We all know that what is taught in our schools is not science. Science is not a received truth. Science – or any one of its disciplines – is not a subject whose content is to be decided by any department of education or by any group of public school teachers. Biology, for instance, is an accumulation of styles of thought, methods of experimentation, agreed upon facts – all this distilled into hypotheses and generalizations by a group of practicing biologists largely but not entirely based in the universities. The definition of what constitutes biology is in the hands of these biologists, and possibly a group of sufficiently informed commentators. And today's definition, however good, will be out of date in 5 or 10 years.

And when we reach agreement on what biology is today, this will still not tell us which part of it we want to teach our public school students. This depends on our ideas of what information is useful in everyday life, and what part of the biological style is considered to represent good intellectual training. It also depends upon a political decision as to how much money we are willing to spend to keep the school science curriculum in contact with science as it is usually practiced.

The choices of styles of thinking and material to be taught are not the province of the school teacher. The teachers in the schools have the same problems as those in the university – you can't teach this year's class from last year's notes. It's worse for the school teachers because what's taught in the schools is so much further from contact with today's scientific reality than what's taught in the university – but the universities are not so close that they couldn't be improved!

It seems to me that this means we must put an enormous amount of effort in the continuing education of our teachers. To suppose that one can get a bachelor's degree in 1975, and continue to teach science for 40 years without further education is ludicrous.

But the answer is not that our teachers should tell us what and how they want to teach. It is that we should keep them in contact with what is going on in science. I think there should be a system of sabbaticals for high-school teachers, say 1 term every 4 years spent at the university. In the other 3 years, there should be courses for teachers, with attendance being part of the job requirements.

It will also help if high-school classes are brought to the university and top

industrial labs for sessions with practicing scientists. University professors should be invited to the local high-schools to “tell it like it is”. And enriched programmes should be available for our especially interested and talented students.

Once we educate our teachers in this way, we may have some hope of innovations to our curriculum actually arriving in our class-rooms. As Mr. Holt says, this will involve elaborate consultation with teachers as to how to get ideas across, and continuing assessment of the curriculum to see if it really does work in the class-room. It will also involve a considerable investment in lab equipment, computers, and other educational technology. If it is too expensive to set up certain facilities in every school, we may have to arrange centralized facilities which each class visits.

In short, I agree with Mr. Holt that we must see how teachers cope. But the answer to not coping is not to alter the style of the innovations, it is to alter the style of the teacher. As teachers, we serve science and knowledge. No majority vote, and no fiat of the education minister will alter the content of science. We must convey science as it is and as it evolves. It’s a hard job. We do it because we think its important – and also because it’s fun.

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Jean Wright. *Learning to Learn in Higher Education*. Croom Helm London & Canberra, England, 1982. 199 pp.

Although Jean Wright quotes Thomas Kuhn’s *Nature of Scientific Revolution* in hopes of a similar paradigmatic educational revolution, her book *Learning to Learn in Higher Education* will not effect such a revolution. Obviously dedicated and sincere in her commitment to learner-centred education, Jean Wright does not, in my opinion, do service to the dynamics of “learning to learn” if, indeed, it is the basis of a new educational paradigm. She does, however, present a comprehensive, if meandering, review on the renewal of interest in the problems individuals face in learning. As Wright points out:

“Educationalists, as a whole, are disenchanted with psychologists and feel that most so-called research on learning is unrelated to teachers’ or students’ problems. . . Laurillard (1979) believes that learning should be understood in its educational context and focuses on what students actually do when they learn” (p. 54). The book concentrates heavily on a humanist approach to such problems. As a counsellor, Ms. Wright’s experience has taught her both the complexity and individuality of study problems. A graph on p. 135 hints at the variety of approaches which might be suggested to a student having problems with essay writing.

**Case A.** A married, mature student aged 45 – a first-year Arts student. She lives in a student hall of residence during the week and returns