possible of the materials students will have to work with when engaging in self-study prior to class; be 'user-friendly'; be chosen to reflect a variety of learning objectives; be chosen to reflect a variety of voices; use visual aids and signposts; and engage students in specific activities and dialogue which anchor topics within students' own personal experience, involve them in different types of activities, give them opportunities to respond and maximise opportunities for self-assessment and other forms of feedback. To this reviewer's mind this section contains the heart of the book. The exposition of these principles is clear and concise and speaks directly to law teachers with a self-evident understanding of the nature of their task. Pertinent examples are given of the principles in operation. Tables are extensively used to capture the points being made and the steps to be followed.

The final part of the book is devoted to the provision of examples of printed materials which are intended to illustrate the principles and themes identified by the author, as well as to provide an exemplar of the ways in which law teachers can prepare their own teaching materials. The specific example that is worked through step by step is the preparation of materials for a contracts course. The author sets out a typical scenario for the class, provides an overview of the materials and class activities to be employed and identifies the tasks to be performed in situating the topic (step one), learning the law (step two), developing the principles through use and application and checking on learning (step three), and law reform, socio-legal research and economic analysis (step four).

The objective of the second book, *Designing print materials for flexible teaching and learning in law*, is essentially different, but nonetheless complementary to the first. As the authors, Richard Johnstone and Gordon Joughin, contend, it is a guide and workbook which, although well informed by educational theory and research, is essentially a 'guide to action' for those tasks that need to be performed by law teachers in order to produce effective teaching materials. They also maintain that, by adopting the systematic approach advocated in the book, law teachers will be able to proceed confidently, address all the important issues involved in developing materials and produce effective materials that will be satisfying to them and their students.

They divide the task of designing teaching materials into five stages: identifying key ideas about teaching and learning; preparing a materials blueprint; developing a sample topic or prototype; developing the remaining topics; and evaluating and improving the output. The authors neatly elaborate upon each of these stages by putting forward ideas and suggestions for teachers to use in the design of their own materials. Practical examples and checklists are provided in tabular form. There is plenty of white space to enable the readers to fill in their own answers when settling, for example, the aims and objectives for the subject or topic in question. Examples of specific learning activities, revision questions and self-assessment exercises are also provided.

These two books are a very valuable addition to the scant literature upon the development of instructional materials for the teaching of law and indeed may be said to break new ground. Hand in hand, they concisely explain what educational theory and research have to contribute and then translate the theory into the sort of practical guidance which can be easily applied by the busy law teacher. Those who are seeking out ways of enhance the quality of the teaching materials they provide to their students will find both books, preferably studied together to gain a full appreciation of how the theory should steer the practice, an invaluable resource. Furthermore, it can be easily recognised that, although the two books are directed toward the development of printed teaching materials, the principles they put forward are largely applicable to the design of computer-based instructional material as well.

Editor

TECHNOLOGY

Gazing into the future through a VDU: communications, information technology and law teaching
P Alldridge & A Mumford
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A 19th-century legal academic deposited in a law school in the last quarter of the 20th would have found the working methods of his successors in the 1970s and even the 1980s surprisingly familiar. He would, however, require significant explanation of the changes effected over the last 10 years. While the theoretical terminology considered by some of his latter-day colleagues might be difficult for him to understand, the questions addressed by the most technologically advanced of his colleagues would provide him with little trouble.

To date, the advent of the Communications and Information Technology (C&IT) revolution has sig-

nificantly changed the mechanisms by which academics communicate with each other and with students, the way in which they handle materials, and the experience of students. It has not yet, however, significantly changed the nature of the law school enterprise. It must be acknowledged that computers have failed to deliver the kinds of changes to the law curriculum which were predicted by their most enthusiastic advocates. The virtual law school is some way from being developed.

The most significant changes in law teaching over the next 10 years will not arise in consequence of the advent of, for example, critical legal studies, but from the changes which technology has brought, and of the fact that socio-legal studies has not engaged sufficiently with those developments.

The 'killer ap' in law teaching has yet to be found. Nonetheless, many indisputable gains have been made. First, electronic datasets grant a legal scholar mediated or unmediated access to vast amounts of information. Secondly, the growth in popularity of electronic mail among students presents a paradigm of student-initiated learning. After word processing, the first unequivocal success of the C&IT revolution in law schools was the use of electronic mail, which has radically altered the nature of the academic community.

Thirdly, in the area of teaching and learning software, the IOLIS disk, published by the Law Courseware Consortium, has from 1995 onwards been in use in universities and in other further education establishments. Fourthly, with respect to distance learning, one communications value of e-mail and the Web is that, so long as most communication is conducted in electronic form, it does not matter where in the world the students are.

In a study carried out across disciplines for the Dearing committee, it was found that where C&IT had successfully been applied to assist teaching and learning, there was a predominance of subjects where routine or mechanical skills play an important part and where the knowledge component can be precisely specified and there is a well-defined professional base. On the other hand, it was found that C&IT has not been successful where the subjects are creative or where the skills/knowledge are less easily defined or specified. In order to determine whether law is a subject in which C&IT can play a larger role or not, it is necessary to decide into which category law falls. The idea of law as being part of the first group is well established, because the traditional doctrinal 'black-letter' approach requires the student to identify and apply rules to facts. Law as a more discursive discipline encouraging divergent thinking still has a tenuous foothold.

Why is this view of law one which sits well with the movement for computers and law? Conceiving law rules in the form of 'if p then q' is something which is enormously constraining. If you are going to use computer in legal contexts, the pressure which computers generate is towards a rule-bound framework, because it is what they do best. There does seem to be a link, if not a logical one then a practical one, between technological innovation and jurisprudential reaction.

An alternative vision of law is of 'law as information'. The essence of this position is that there is nothing particularly to distinguish law from other forms of information and that lawyers, while they do not know so much more law than other people, know better where to find it. This view threatens to blow the gaff on a well-kept secret, which is that, in terms of the intellectual operations which are demanded of its students, law is not a particularly difficult academic subject.

The economics of the introduction of C&IT into law schools have now become relatively clear. In the introductory phase, it was imagined by some that there would be easy short-term gains in efficiency and that it would pay for itself. It rapidly became clear that this was a hopelessly optimistic and unrealistic view to take in the context of law teaching and learning, even where no proper quantification was made by the enthusiasts of the commitment of time. In universities, the changes which were able to be made were only in administration.

Students have been arriving at institutions of higher learning with increased C&IT skills. In a time of shrinking provision, C&IT may be a way to preserve the quality of teaching and learning. It may also, however, be regarded as a threat to the way in which teaching and learning was previously conducted. Hence, predictions as to the value of C&IT in law schools in the 21st century fall broadly into two camps. The optimists assert that C&IT will produce better educational outcomes and a richer working life for academics, freed from the drudgery of repetitive tutorials and better able to concentrate on research and teaching at a higher level. The pessimists regard the advent of C&IT as the ultimate victory of a mechanism for replacing academic staff with machines, leaving only a few jobs for academics as the writers of software.