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Information Technology in The Legal Curriculum - Reaction and Realities

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1. Introduction

Delegates at this conference, in particular, will be well aware of the [Dearing, QAA, Jackson/Bileta, Follett, J.I.S.C., A.C.L.E.C \(1\)](#) etc. pronouncements about the role that information technology can play in education in particular the implication that electronic delivery results in more effective learning. Certainly most Universities have assumed that the way forward in Higher Education is through greater use of CAL and have produced/ are producing Information Technology strategies based on HEFCE/QAA guidelines which are predicated on greater use of IT and CAL in the classroom.

It is, of course, easy to be carried away by such assumptions. Those now addressing you are probably more guilty than most in somewhat blindly jumping on both the computer based learning and computer aided instruction bandwagons over the past few years. With tremendous but, perhaps, naïve enthusiasm we have developed self contained and independent (i.e. intended as complete substitutes for face to face tuition) CBL learning programs available via multimedia CD Rom (medical law and negligence) and the Internet (employment law).

Furthermore we have exposed our campus-based students to CAI by delivering lectures using electronic media namely hypertext-based floppy disks and/or power point. It is only now, after two years of feedback from our guinea pigs, that we have started to pause and consider whether it is right to assume that computer assisted learning is better than conventional methods.

We remain convinced that CAL has a significant role to play at all stages of legal education; in particular it offers major advances on the quality of legal education offered to non-campus based students; large increases in the numbers of which are predicted in the next millenium. (2) However this paper, by reference to both our own and other previously published empirical research findings, addresses the questions: how do students respond to CAL, what can it achieve and how can it be used to best effect?

2. Wolverhampton's use of electronic media

We have produced two independent multimedia learning programs (medical law and negligence on CD Rom; employment Law on the Internet) intended as complete substitutes for face to face tuition. Each program containing (as applicable) text, full judgments and synopses of (and commentaries upon) approximately 200 reported cases, academic articles video "Talking Head" outline lectures, video re-enactments of decided cases, human anatomy (including 6 video lectures of approximately 3 minutes duration) and interactive studyplans with direct access via the internet/e-mail to tutors. (3)

As well as developing these computer based learning programs we have also explored ways in which electronic material could be used as a complement to the traditional face to face lecture. We hoped that students would benefit from seeing on screen, for example, the full text of a particular statutory provision rather than having to grapple with a spoken summary - that electronic reproduction of the basics would enable a more Socratic approach or, at least, allow the audience to listen and understand rather than continuously and unthinkingly write. We also considered that the non-linear advantages of on screen hypertext presentation would more readily illustrate to the students the synthesis of ideas so crucial to academic development.

It was clearly important to find out in a coherent and empirical way how the students would respond to "on screen" lectures. However, based on the use made by many students of hard copy handouts we suspected a mixed reaction at best. We allude here, of course, to the fact that despite having in front of them a detailed account of the material to be covered in the lecture most of the audience felt compelled to write down virtually every word of the lecture. "Otherwise we do not take it in as well" is the common explanation for this phenomenon. As will be seen our suspicions were confirmed. Even though floppy disks containing the "on screen" materials were given to the students for later "own time" viewing many complained that they could not write down what was on screen and listen at the same time; let alone write down both!

This is a challenge for all "on screen" lecturers. Giving information whether orally, on overheads, whiteboards or electronically leads to a tendency, particularly amongst law students, to transcribe rather than listen. How can we overcome this "lecture mentality"? It is unrealistic to simply demand that the students listen rather than write. After all we want them to retain the discussion and how can they do this unless they have a tag upon which to hang our academic discourses? We believe that the future when students will commonly bring their laptops into lectures (as, we understand, commonly occurs now in the USA) will provide the answer. The lecturer hands out a floppy containing his on screen lecture before the class commences and students can easily and readily add comment etc and retain the ability to listen. This, of course, would also overcome the commonly experienced difficulty of inadequate lighting in the lecture room making it difficult if not impossible for the audience to adequately view the information on screen.

The Electronically Delivered Modules

Save for the first year (and first semester) Foundations of International Law students were taught using a study plan method. Students were given HTML floppy disks (and, in Medical Law, the CD Rom) that contained four study plans and course materials (lecture notes, articles, statutes, regulations, case notes, etc) and, for updating purposes, the school's home page on the Internet where further materials were posted. In International Law tutors gave as a complement to the on screen materials a number of what may be described as traditional "chalk and talk" lectures. In all the other modules the tutor input was purely discursive. The precise nature of the electronic complements were as follows

1. Housing Law (Second year undergraduates) HTML based materials on floppy disk and on the Internet.
2. Foundations of International Law (First year undergraduates) A combination of PowerPoint and HTML based floppy disks containing lecture notes and texts of treaties, case notes, etc
3. Medical Law (Second Year undergraduates) A combination of CD Rom materials, PowerPoint and HTML floppy disks
4. International Protection of Human Rights. (postgraduates) Materials on floppy disk and on the Internet

3. Our Empirical Research

We collected information about student reaction by way unsolicited observations contained in Module Evaluation Questionnaires given to all students and a specific Information Technology Questionnaire survey of students on all above modules (see appendix). 100 questionnaires were issued randomly amongst both part time and full time students. 42 were returned.

Gender and Age Profile of Sample

- 28 (67%) of the respondents, were female, 13 (31%) male and 1 (2%) did not indicate gender.
- 23 (55%) respondents were between 18 and 24 years of age, 13 (31%) between 25 and 39 and 6 (14%) declared themselves to be over 40.

Access to a Computer

21 (50%) of the respondents had access to a computer at their family home. 7 (17%) had access to a computer at their University address. 8 (19%) had access both at home and at University and 6 (14%) had no access to a computer at home or at their University address.

Type of Hardware

31 respondents answered this question. 28 (90%) had access to a desktop PC, 3 (10%) had access to a laptop computer. All respondents used a Windows based operating system (either Windows 3.1 or Windows 95).

Time spent accessing computer

36 respondents answered this question. 14 (39%) spent between 1 and 4 hours per week on their computer. 11 (31%) spent between 5 and 9 hours, 3 (8%) spent between 10 and 14 hours, 2 (6%) spent 15 to 19 hours, 1 (3%) spent 20 to 24 hours and 3 (8%) spent 25 to 30 hours on their computers. A further 3 (8%) spent no time at all.

4. Our Findings

Student expectation of lectures:

We asked all our respondents a question about their expectations of lectures and lecturers. There were 38 responses.

16 (42%) said that they expected the lecturer to provide them with a complete set of lecture notes to assist them with their studies. 20 (53%) said that they expected the lecturer to provide them with a framework for their studies and 2 (5%) had no expectations of lecturers and made their own notes from personal study.

We further asked whether the use of electronic presentation techniques during the lectures made for, better or worse structure, better or worse understanding of the subject, better or worse knowledge of the subject and better or worse opportunity to take notes.

There were 36 responses:

23 (64%) answered "better" to these questions and 13 (36%) answered "worse". The same 23 answered that the approach made the lectures "more enjoyable" rather than "less enjoyable".

These findings were largely replicated in the Module Evaluation responses. For example, 29% of the 76 respondents to the Module Evaluation Questionnaire (MEQ) for the module on Medical law (180 registered students) felt that the use of computers during the lectures was the least satisfactory part of the module whereas 7% felt it was the most satisfactory aspect, the rest made no comment about this aspect of the module.

18% of the 71 respondents to the Foundations of International Law (120 students) MEQ felt that computer based lectures were the worst thing about the module whereas 14% thought they were the best thing. The rest did not comment about this. On the other hand 78% agreed or totally agreed that the materials were clearly presented.

In Housing Law (50 students) 89% of the 36 respondents agreed or totally agreed that the materials were clearly presented. 19% of the respondents thought that the use of the floppy disk based materials and lectures was the best thing about the module whereas 3% thought it was the worst. The rest did not comment about this.

A common theme amongst the minority of students who took the opportunity to complete the "Any other comments" section of the questionnaire was that they preferred "traditional" or "proper" lectures which gave them opportunities to take comprehensive lecture notes.

Learning from Screen

We asked both the CD Rom users and the floppy disk users how much time they spent per week using the materials on-screen.

There were 24 responses to the question:

- 18 (75%) said they spent between 1 and 4 hours, 3 (12.5%) said they spent 5 to 9 hours and a further 3 (12.5%) said they spent 10 to 15 hours.
- There were 36 responses to the question: "What is the average length of time that you feel able to look at the screen at any one sitting?"
- 1 (3%) said, less than 15 minutes, 9 (25%) said 15 to 30 minutes, 14 (39%) said 30 to 45 minutes, 6 (17%) said 45 to 60 minutes, 5 (14%) said 60 to 120 minutes and 1 (3%) said more than 2 hours.

Printing out Materials

We asked both CD and floppy disk users questions about their approach to learning from screen and the extent to which they printed out materials.

37 respondents answered these questions:

23 (62%) said that they made notes from files called up on screen and only printed out the more important files such as worksheets. 8 (22%) made notes from screen but printed out substantial amounts of the materials. 3 (8%) Printed out most of the materials and made notes from the printouts. A further 3 (8%) declared that they printed out absolutely everything!

We asked CD Rom users specifically how much of the materials contained on the disk they printed out each week. 13 respondents answered this question. 4 (31%) printed out between 1 and 4 pages each week. 8 (62%) printed out between 5 and 10 pages and 1 (8%) admitted to printing out 30 pages per week!

Using the CD Rom

18 respondents used the CD Rom. · 12 answered questions about their experiences of working with the CD. 9 (75%) of these respondents felt that having access to the CD made them more motivated to learn. 2 (17%) felt that the CD made no difference to their motivation and 1 (8%) felt that the CD represented a disincentive to learning. · 13 respondents answered questions comparing the use of the CD with other learning resources. 8 (62%) had no problems in using the CD in their learning. 2 (15%) found the CD a little more troublesome

than other learning resources. 1 (8%) found the CD a lot more troublesome and a further 1 (8%) had considerable problems using the CD.

Using the floppy disks

27 respondents used the floppy disks:

24 answered questions about their experiences of working with the floppy disks. 11 (46%) of these respondents felt that having access to the floppy disks made them more motivated to learn. 9 (38%) felt that the floppy disks made no difference to their motivation and 4 (17%) felt that the floppy disks represented a disincentive to learning.

25 respondents answered questions comparing the use of the floppy disks with other learning resources. 15 (60%) had no problems in using the floppy disks in their learning. 5 (20%) found the floppy disks a little more troublesome than other learning resources. 4 (16%) found the floppy disks a lot more troublesome and a further 1 (4%) had considerable problems using the floppy disks.

As noted above, the responses from the MEQ indicated that 89% of the respondents in Housing Law agreed or totally agreed that the materials were clearly presented and 78% of respondents in Foundations of International Law agreed or totally agreed that the materials were clearly presented.

Future Modules

We asked all respondents whether they would be attracted to register for modules that were delivered electronically in the future. There were 39 responses to this question.

24 (62%) of these respondents said they would be attracted to a module that was delivered electronically. 13 (33%) said that they would hesitate before taking a module that was delivered electronically and 2 (5%) said that they would never again take a module that was delivered electronically.

What do we make of these findings?

The successful delivery of CAL and CAI packages crucially depends on the availability of and access to computer hardware. Our findings in respect of this seem to indicate that around 65% of our students have ready access to computer equipment either at home or at their University address. This confirms our less scientific findings from "straw polls" of our incoming first year students.

Whilst 58% of the respondents indicated that they spent more than 5 hours per week on their computers an important finding relates to "screen viewing stamina". It is true that the majority felt able to spend more than 30 minutes at a time in front of the screen *but* 67% of respondents felt *unable* to spend more than 45 minutes in front of the screen. In any class of students there will be a number who find it almost impossible to view the computer screen for any significant period of time. How do we cater for those who are particularly sensitive to the flickering of the screen? Alas we have no answer at this stage - all we can hope for is that technology will eventually overcome the problem.

One of the concerns that we had when we began to develop our computer-based materials was that the students would simply print out all the files on the disks. It seems that our worst fears have not been realised and that the majority of users make their notes from the materials called up on screen and only print out the important files such as worksheets.

The results of our module evaluation revealed a significant minority of students who had difficulty in coming to terms with Computer Aided Instruction. However, the findings from this sample of students appear to show

that students are, on the whole, content with CAI techniques in the classroom. A clear majority of respondents found the use of computer based delivery techniques in lectures to be better in providing structure, understanding and knowledge than traditional approaches and that CAI made the lectures more enjoyable

A worrying finding, however, related to expectations of lectures. 42% of our sample expected lecturers to provide them with a complete set of lecture notes. Certainly a vocal minority of respondents to the module evaluation questionnaires indicated that they preferred a "traditional" approach which allowed them to make comprehensive notes. In our experience (and contrary to the findings of Haddon et al (supra) it is the weaker students that cling to this conventional "lecture mentality".

With respect to the materials provided on CD Rom and floppy disk, the majority of respondents had no difficulty in coping with the materials and significant numbers felt that the use of computer based materials increased their motivation to learn. The Information Technology Questionnaire indicated that the CD Rom appeared to be more popular in this regard than the floppy disks. However the module evaluation questionnaires revealed satisfaction with the floppy disks in Housing Law.

We feel that these preliminary findings permit us to conclude that, for the majority of our students, the use of computer based techniques both in the classroom as a lecturing aid and as an aid to learning is a positive experience. A majority of students exposed to these techniques declared that they would opt to take modules in which CAI/CAL methods were employed in the future.

It would be wrong of us, however, not to make note of the significant minority of students revealed both through the module evaluation process and through our questionnaire for whom computer based methods of teaching and delivery of materials presented difficulties. Some of these difficulties clearly resulted from unfamiliarity with computers and the software used. But the finding, noted above, that a large number of students expect to be provided with a complete set of lecture notes by the lecturer may also have something to do with this. Some students are resistant to any move away from a traditional approach. This resistance needs to be overcome before CAL and CAI can be fully integrated into the curriculum.

We are not yet in a position to comment on the impact of these techniques on student performance. The next stage in our evaluation process will be to compare results in modules where CAI/CAL techniques are used and modules where a more traditional approach is taken.

Does CAL facilitate "deep" or "surface" learning? Our belief is that these packages enable the student to go as deep as they wish into the subject area because all the relevant study material is provided in a convenient and accessible package. Whether the student *in fact* engages in *deep learning* is much more debatable. The software so far developed (in particular the limitations of self-assessment programs) is not sophisticated enough to test the depth of learning of any particular student. The development of artificially intelligent systems, which are capable of adapting to the learning styles of individual students, may well change this.

5 Other Studies

In other disciplines some empirical studies are glowing in the praise that CBL can bring to the learning experience. In "Can learning via multimedia benefit weaker students" *Active Learning* (1995) No 3 22 Haddon et al compared the learning experiences of two sets of eight second year chemistry students, one taught traditionally the other by using only a multimedia package and found that although examination performance was not markedly different there was a significant correlation between student ability and teaching method – the lower the students ability the greater the multimedia method improved his performance. (4)

From their experiences of teaching business studies a much more circumspect view is put forward by Davies & Crowther ("The benefits of using multimedia in higher education: myths and realities" *Active Learning* (1995) No 3, 3) in which the authors severely question whether multimedia facilitates active, experiential or student centred learning.) The article addresses all the assumed benefits of CAL and offers the following valuable and thought provoking advice for all of those wishing to develop CAL packages:

"CAL and multimedia packages are not necessarily more stimulating methods of learning. Indeed the so-called page turning CAL and multimedia package which are no more than text books plus flashing lights can be particularly tedious and dull...Just as students may enjoy but learn little from a highly entertaining lecture, students may enjoy but learn little from a highly entertaining multimedia

package...Only if the courseware is intellectually stimulating will this provide the positive motivation to learn....."

"Advocates...claim that the technology offers flexibility in terms of what is studied, when it is studied, the pace at which it is studied, the order in which it is studied and so on. Also the interactive capabilities mean that the courseware can adapt to the specific abilities of the students. Not all students will have the confidence, ability and desire to take decisions concerning the importance of a topic, the depth of understanding required and the length of time to spend on the material.. they may have a number of queries and problems which need to be resolved. There is a danger that students become overwhelmed by the materials and ultimately feel lost or confused."

Widdison and Pritchard (["An Experiment with Electronic Law Tutorials 1995 Law Technology Journal Vol. 4 No 1](#)) presented findings on law student reaction to electronic tutorials. The authors concluded that "overall ... our experiment with electronic tutorials was a qualified success" and that their approach had a "useful role to play in small group law teaching albeit as a partial replacement for, or supplement to, traditional face-to-face teaching methods rather than a complete substitute." (5)

Experiences in the USA are conveniently summarised by Teich in his comprehensive review of the American research into the effectiveness of CAL ("[How effective is Computer Assisted Instruction? An evaluation for legal educators](#)" Teich 41 *Journal of Legal Education* 489 (1991)). He identified 6 propositions that seemed to be supported by the research he reviewed:

1. CAI may improve the performance of students on course examinations.
2. In its usual implementation, CAI reduces the time students need to master course material.
3. CAI is a method of instruction that is reasonably liked by students.
4. There is some evidence that CAI is more effective when it is used in conjunction with conventional instruction than when it is used as a substitute for such instruction.
5. The standard modes of CAI seem to be equally effective at improving learning.
6. CAI appears to be more effective for courses in the soft disciplines than in hard disciplines.(6)

Hugh Collins in his extremely useful review ("[The Place of Computers in Legal Education](#)" 1994 *Law Technology Journal* Vol. 3 No 3) observes that CAL cannot:

"... emulate the immediacy, excitement, and fun of a live performance in lectures or classes ...". nor "respond to the students' questions, unless they are for bare information." But that they "can link together in one environment the acquisition of knowledge of legal principles, the development of analytical skills in the manipulation of that knowledge, and the opportunity to pursue structured research into the law."

His overall conclusion was that in some instances CAL provides a better learning environment than traditional methods and that familiarity with the use of data retrieval and hypertext systems for examining legal information is an appropriate skill to be acquired in the course of legal education. (7)

Conclusions

Our experiences combined with that of others reviewed in this paper lead us to conclude as follows:

- (i) electronic delivery is most (perhaps only) effective when used as a complement to rather than a replacement of human contact and conventional methods of teaching. (8)
- (ii) do not rely too heavily on electronic delivery in the first year of study – this is not because of techno-phobia (far from it with the incoming computer games reared generation) but rather that law students need to learn how to study law. Conventional methods in the first year can teach this allowing an increasing level of student-centred electronic delivery in subsequent study years
- (iii) computers cannot recreate the teacher student learning experience of campus based students; electronic media programs should, therefore, be seen as tools for learning in common with more conventional tools such as hard copy books and articles. The challenge is to accept information technology as a completely different

learning method rather than use it as a different way of traditional learning. However such challenge must await the development of computers with artificial intelligence. (9)

(iv) use electronic media to deliver the surface learning – the acquisition of basic knowledge leaving to more conventional delivery the acquisition of the higher cognitive skills of analysis, understanding and application. Whilst electronic delivery provides an excellent structure for student centred learning (offering significant advantages over more traditional learning resources in terms of presentation of and accessibility to large volumes of learning materials) and may encourage the student to delve and to acquire a deep knowledge we do not accept that deep knowledge equates to deep learning. (10)

(v) avoid the temptation to overwhelm the user with information particularly on screen; always ensure an easily readable structure guiding the user carefully and assuredly through each learning level (vi). We consider that CAL presently rather better suits Pask's serialistic rather than his more enquiring holistic learners. (11)

Notes

(1) The [Joint Information Systems Committee of the Joint Funding Councils in its "Guidelines for Developing an Information Strategy" \(December 1995\)](#) - can be found at: <http://www.niss.ac.uk/education/>) put this into context by saying that: "... the higher education environment has undergone a fundamental change in the last few years; ... the technology revolution has produced many new opportunities for higher education, few of which have yet been fully grasped.

The environment changes are well known:

"... the expansion from an elite towards a mass system has led not only to increased competition for numbers but also to a much more heterogeneous mix of undergraduates; the shift in emphasis from teaching to learning implying a fundamental difference in approach ... "

The [Follett Report \(Report of the Working Group on Access to Networked Information Resources\)](#) which examined the need to develop electronic information networks in HE appeared to have been based on the assumption that: "... the development of global information networks provides enormous opportunities to the HE community for the enhancement of teaching, learning and research". (at para 2). [Report of the BILETA Inquiry into the Provision of Information Technology in UK Law Schools \(1991\) \(The Jackson Report\)](#) and the Second Report (1996), the [ACLEC Report 1996 and The National Report on Higher Education 1997 \(The Dearing Report\)](#)

(2) Dearing (para 8:20/21) " Technological development provides the potential for enhancing the quality of learning for students in an era of attenuated staff to student ratios...[T]hrough C & IT, it is possible to offer forms of contact and access to some highly effective learning materials that were previously unavailable for many students." See also [Migdal & Cartwright "Pure Electronic Delivery of Law Modules - Dream or Reality? " 1997 JILT vol. 2](#)

(3) Migdal & Cartwright "Pure Electronic Delivery of Law Modules - Dream or Reality? " 1997 JILT vol. 2 the most significant findings of our evaluation were that: a) the vast majority of students using the CD did not see it as their only source of information but as an extremely useful additional resource. b) there was still resistance to materials in electronic form. Students seemed to need and want hard copies of the information. It surprised us that some students took the CD and then tried to make hard copies of the entire contents! c) perhaps predictably that, however well designed the study materials are, students still place a very high value on personal contact with tutors and other students.

(4) The authors conclude: "Multimedia students were more efficient, they took on average less time to complete a session but covered on average more material within each session (through repetition of information).....Multimedia students were positive about using multimedia and liked being in control of their learning.Lower ability students using the multimedia improved more than was expected and this improvement was indirectly proportional to student ability.....There was full attendance among the multimedia students....All multimedia students saw a future for multimedia in education to a greater or lesser extent.....What was clear from the experiment was the potential for multimedia to improve the quality and or efficiency of student learning. However there was no doubt from the students that such a method suffered from the lack of any student teacher interaction and should not be used without human support...Ultimately

multimedia could replace lectures altogether if it was accompanied by extensive tutorial support.”

(5) The individual responses of students in the survey that they conducted had uncanny resonance with the responses from our students.

(6) Law is regarded for these purposes as “soft”!

(7) Collins further observes “...[a]ssistance can be provided by the computer by reference and ready access to useful legal materials, including the work of academic interpreters of the law ... The computer could also prompt consideration of issues and suggest the crucial elements which might make up a successful answer.” “A lecture, for example, may be a more stimulating way to convey information, but because the computer demands the interaction of the student, encourages keeping of notes, and permits the student to browse through primary sources, it provides the option of a different environment of conveying that information, or slightly different information, which will also in its own way help to impress knowledge, provoke inquiry, and promote a deeper understanding of the legal materials on the student.”

(8) [Paliwala Preserving Educational Values 1995 Journal of Law and Technology](#) “IT developers are responsible for ensuring that their applications will enhance existing educational values. They need to be sensitive to the needs of lecturers, students and the whole community and in particular to avoid demeaning education by converting technology based education into a species of rote learning delivered from a box. Teaching institutions and lecturers bear the responsibility for using IT in a creative way, using it to enhance their own best practice. It is easy to fall into the trap of treating IT applications as toys or gimmicks or to use them unthinkingly as substitutes for traditional forms of learning..... We need to ask...how CAL as both a new form of publishing and of learning can best fit into existing educational framework...The same considerations apply to other new forms of IT in legal education. Thus with reference to electronic libraries the question is not whether they should replace paper ones but what is the best relationship between paper and electronic forms. Similarly with the virtual classroom...the question is not whether personal contact tutorials are superior but what is the best mix of the virtual and personal contact approaches...” and Dearing (para 8:21) “It is clear to us, however, that personal contact...gives a vitality, originality and excitement that cannot be paralleled by machine based learning, however excellent.”

(9) Work has been progressing during this decade on increasing the interaction between the computer and the student. For example the University of Tuibingen in conjunction with the IBM Heidelberg Scientific Centre has worked on developing an intelligent computer system that will respond to individual student users, monitor individual performance and responding in a manner appropriate to an individual’s particular level of progress and ability. On the limitations of CAL see, generally, [Allen & Robinson “The Future of Computer Assisted Learning in Law” Journal of Law and Information Science \(1992\) Vol. 3 274](#). Most work on artificial intelligence seems to be aimed at assisting the legal professions. For a general review of progress in this area see Michael Aikenhead, “Legal knowledge based systems: some observations on the future”. [1995] 2 Web JCLI.

(10) Note, for example, “A liberal education will have as an aim that students should not merely know or know how to but understand why things are as they are and how they could be different’ and it is ‘about a ‘deep’ approach to a subject, in which students try to relate ideas in one subject to those in others, to understand what they read, questioning material, making links, pursuing lines of inquiry out of interest.” ([Oliver, D \(1994\) ‘Teaching and Learning Law: Pressures on the Liberal Law Degree’ in Birks ed: Reviewing Legal Education, \(Oxford\) at p 78.](#)) the ACLEC report para 1.15: “A third area of deficiency in the current system of legal education is in relation to legal research skills. This entails more than a simple ability to ‘find the law’, whether it is statute or case-based. It requires that all intending lawyers be trained to take a problem, often presented in non-legal terms, and through a process of investigation to provide a range of legal solutions, each accompanied by an analysis of its benefits and risks to the particular client.” and [Davies & Crowther \(ibid and referring to Bloom’s six educational objectives of a course; namely that it should equip students:](#)

- (i) to recall and recognise specified information,
- (ii) comprehend and digest the information,
- (iii) apply what they have learned,
- (iv) analyse the subject with an understanding of the component parts and their interrelationships, (v) synthesise the subject, taking an overview and
- (vi) evaluate their knowledge understanding and competence critically - Taxonomy of Educational Objectives: Cognitive Domain Longmans 1956) “CAL has generally focused on the first three of the above objectives.....This approach condemns the student often to a superficial understanding of the subject but does little to foster a deep understanding of a subject.....In built student assessment facility has serious limitations

from a learning effectiveness perspective as such packages can only test objectively - they are only suited to yes/no or right wrong questions For a contrary view see "[Hypertext within legal education](#)" Jones & Scully 1996 JILT vol. 2.

(11) Pask G: Perspectives on Individual Differences, Learning Styles and Learning Strategies 1988 Plenum Press.
