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Multimedia: Enhancing Student Learning

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‘The concept of learning is often, for me and many other educators, too focused on mechanical formalities, on systems of accreditation and assessment, rather than the poetics of learning and creativity.’^[1]

Abstract

How can C&IT be used in order to enhance legal skills learning? What can we learn from the literature on instructional technology and education which would help us to design effective teaching materials for students? These are two key questions which will be addressed in this session. Participants will be shown a case study, namely the design of a set of multimedia resources and its use with 30 tutors and 180 students on the Diploma in Legal Practice. The resources were designed and created over a 10-month period, and were used on a two-week Foundation Course in Legal Skills within the Diploma.

The resources were available to students and tutors from an intranet and also on CD, and were embedded within the workshops of the Foundation Course. Detailed feedback on the Foundation Course and resources were obtained from students. This will be shown in the session, and used to draw general conclusions about design of legal skills multimedia resources, their use with students, and how aspects of the research on instructional technology can be used to predict the success of resource-based learning initiatives.

General contexts of change

Put simply, there is an electronic medium of learning that we can use now, that was not available to earlier generations of teachers and students. This medium is not merely print or video in another form. Its form is different, and as literary critics know very well, form changes function, alters our reading and use of content. How are we to set about using it? How can it enhance our students' learning? This paper will explore some of the issues relevant to these questions.

The most influential recent report on HE in the UK, the Dearing Report, recognised the importance of such opportunities; and cited as reasons for using electronic media the prevalence of the internet beyond university, the digital revolution, lifelong learning, deep learning and the work revolution.^[2] The work revolution is something of a surprise, if we are thinking of multimedia in law. Lawyers rarely use images: they deal in texts. But images have powerful mnemonic values, something that medieval writers, working within a largely mnemonic legal culture, appreciated very well. Such images can be used in legal education to influence performance and give models of good practice within which students can begin the professional task of finding their own individual style and voice.

Dearing's comments about the digital revolution have been borne out by subsequent events, in education, commerce and government. The infrastructure of finance, law and administration is increasingly digital, and consequently our relationship with information and knowledge is under constant negotiation, as representations of information take new forms. In legal education the commonest application used by students and staff is still the word processor. But the opportunities of multimedia allow us to explore areas of legal knowledge, skills and practice that were hitherto difficult to represent to students. The flexibility of the medium is its great advantage, something that other media does not possess at present. We can appreciate this if we take an example from another discipline, namely the pioneering use of early films by Carl Rogers of his counselling sessions with clients. There, the only control over the film a viewer has is to stop it. Video, of course, has been available for some time, and are controlled by the usual video functions. But video is primarily image-based. To produce video with embedded commentary is difficult and expensive, and the final product is much more constrained in its use in the classroom.

Compare this with the manipulation that can be exercised in a multimedia environment. There, the images can be digitised and text overlays added or juxtaposed to them; a full and exact text of the spoken words can be displayed, running alongside the images, and a commentary can be run simultaneously, too. Note taking and other learning support applications can be added to toolbars. The result of this type of medium is much more connection between texts and images, and user manipulation of and interaction with the visual images. Viewers thus enter a learning space that is rich with tools to help them dialogue with the materials of their discipline.

Nor is the effect of such technologies limited to the classroom. Part of Dearing's vision is a 'learning society', one where university is perceived not as a diploma mill but as an apprenticeship for lifelong learning. The internet is a remarkably adaptable medium to this end. New methods of course design are being used widely to exploit it, and recently we have seen the rise of innovative collaborations amongst universities such as those of Unext (Cardean University-http://www.cardean.com/cgi-bin/cardean1/view/public_home.jsp), Scottish Knowledge (http://www.scottish-knowledge.com/about_us.htm) and the proposed UK e-University (http://www.hefce.ac.uk/Pubs/hefce/2000/00_43.htm). The range of technologies we can use to exploit it is rich and changing ever faster, with the advent of wireless technology, PDAs and the possible convergence in the near future of computerised paper environments. Web applications themselves are increasingly blurring the distinctions between hypermedia, multimedia and the Web. It is all the more important, therefore, to discover and consolidate what we know works best for legal learning, to learn from others' use of Web applications, to consider which pedagogical design is most effective for which teaching and learning situation.

Local drivers for change

There were three factors:

Glasgow Graduate School of Law

Recently the law schools of Glasgow and Strathclyde Universities formed a joint graduate school, the Glasgow Graduate School of Law (GGSL). The new school is housed in purpose-built accommodation on the John Anderson campus of Strathclyde University, with networked AV and IT facilities.

One of the programmes held within the GGSL is the Diploma in Legal Practice. This is a 27-week vocational course for students who have a LLB, and who wish to practise as solicitors or advocates in Scotland. It is similarly in a number of respects to the LPC in England & Wales, but with a number of important differences in its infrastructure. First, the regulatory relationship between the Law Society of Scotland and the Diploma providers is much looser than it is in England & Wales. This results in a more flexible curriculum structure. Second, the Diploma is taught almost wholly by practitioner-tutors. In the GGSL for example we have over 120 tutors who teach on nine courses. Our tutors bring the immediacy of practice to the seminar room; but they also require staff development in skills-based and IT-based legal education.

New professional education regime

This year saw the introduction of a new professional training regime for students and trainees, and a new curriculum for the Diploma, with major implications for the ways in which the Diploma is taught and learned. In place of a Diploma and a two-year traineeship, the Law Society now stipulates a slightly shorter Diploma, one much more skills-based than previously. After approximately a year's training in an office, trainees must now attend a three-week Professional Competence Course. After another year, the trainees are required to sit a Test of Professional Competence, on successful completion of which they gain entry to the profession.

The Diploma is thus now what might be regarded as a foundation for the traineeship period. In a sense that is what it always was; but it was also always seen as too academic, and a course that was overloaded with procedural and substantive law at the expense of legal skills. The new Diploma is not wholly skills-based, of course. It is an integration of knowledge, both prior and that learned on the course itself, and legal professional skills.

To signal clearly to students the importance of skills-based education in the Diploma, we planned in the GGSL a Foundation Course in Professional Legal Skills. There, we focus on interviewing, negotiation, legal writing and drafting and advocacy. The core theme of the two-week course is effective communications; and one of the aims of the course is to move away from the academic legal skills of Ordinary and Honours degrees, and orient students towards recognising and acquiring the practical skills they need to survive and thrive as trainees. We did so by introducing cycles within each of the skills areas that followed the cognitive model of *tell-show-do*. In other words, we told students about the skills in lecture-demonstrations, we showed them how the skills could be performed, and then we asked them to perform the skills in workshops, with tutors as facilitators and commentators upon performance, and using peer feedback and self-assessment as learning tools.

Innovation in skills and IT

The GGSL has excellent facilities, built with a view to accommodating the new professional training regime initiated by the Law Society. But the key question remained: how are we to use C&IT best in order to facilitate skills-based professional legal education? There are a number of models of good practice in such developments as multimedia in other jurisdictions, of course; but nothing in this area has been attempted in Scotland before, or in Scots Law. In this sense our multimedia initiative is a first in our jurisdiction in Scotland; but it is a first in other ways, too, that I shall outline in the next section.

The curriculum of the Law Society itself was a driver. While textual materials are provided by the Law Society, there are relatively few performative skills scenarios contained in them, and no skills-based multimedia resources. In addition, there is no curriculum-wide plan for skills within and between the subjects - this is left very much to individual Diploma providers to plan for themselves. The result, as LPC providers would agree, is a remarkable freedom to create of the curriculum what one wants; but there is also the necessity for deep curriculum planning, which is not present in the LPC because of the control exercised by the Law Society of England and Wales in this regard.

Theory, what theory?

Multimedia design theory

The beguiling and powerful beauty of multimedia, its images, video, texts, sound all unfolding at the touch of buttons, can blind us to a very stark truth. If one does not consider how it is to be used in context by students, then it will be ineffective as a teaching and learning tool. Use in context is paramount, and in considering this problem, the research that has been carried out, both in theory and on implementations, is essential reading for multimedia developers in legal education.

It may come as no surprise that there is little research on multimedia in legal education.^[3]

[3] [http://www.bileta.ac.uk/cal/cal.html#bibliograph\[y\]](http://www.bileta.ac.uk/cal/cal.html#bibliograph[y])

There are a number of articles that describe multimedia projects, and to a greater or lesser extent report user feedback. Not all, though, describe the conceptual basis for the initiative, or use the considerable body of educational research on multimedia and the web.

In the past and when constructing other applications, I have relied on my reading of constructivist and phenomenographical theorists. Such research into educational design has emphasised the importance of situated learning, of what some theorists have called 'authentic tasks'.^[4]

However it was necessary for the design of the multimedia materials to complement the design of the Foundation Course within which it would be used. As related above, the course employs a strongly cognitive structure. It sets out to develop students' performance in skills-based activities, using their knowledge of the general principles of Scots law, and supplemented by role-play scenarios, simulation papers, and the like. The multimedia materials would need to have a similar aim; and indeed our primary aim was to fill the gap in provision of *tell-show-do*. In advocacy skills, for example, some students did not know how to address a sheriff ('your lord', 'my lord', 'your honour?'), or how to splice the formal language of court address into their individual pleas, motions and such like.

Reflective learning theory

However it soon became apparent that cognitive strategies would not be sufficient. Instructionist strategies *ie* top-down models of legal education, in which we show students examples and expect them to copy (or worse still tell them nothing about the expectations we have of their use of the materials) simply distorts the nature and complexity of professional practice, and how professionals actually learn. How they do so has been the subject of considerable research and commentary, by figures such as Chris Argyris, Donald Schön, Michael Eraut, the Dreyfus brothers, and many others.

Dreyfus and Dreyfus, for example, characterise professional learning as the ability to make decisions and perceive patterns within routinised tasks. In so doing, they account for the disparate ways that professionals solve problems. Drawing analogies from the psychological literature on the practices of novices and experts, they argue that there are times when professional work is composed of recognisable routine, and requires little attention of an expert. However if there are events which do not fit the normal gestalt, then this will give rise to extraordinary attention on the part of the practitioner. The ability to discern which situation requires an ordinary or an extraordinary response is the hallmark of an expert:

[a]n expert generally knows what to do based on mature and practised understanding ... the expert business manager, surgeon, nurse, lawyer, or teacher is totally engaged in skilful performance. *When things are proceeding normally, experts don't solve problems and don't make decisions; they do what normally works.*^[5]

Other educationalists such as David Kolb focus on different aspects of experiential learning.^[6] Following the much earlier work of John Dewey, his models of experiential learning describe the way that professionals develop knowledge through iterative processes and loops.^[7] Perhaps the most influential theorist in the field of experiential learning, though, has been Donald Schön. According to Schön the 'technical rationality' model of professional education involves first the teaching of a knowledge that derives largely from academic disciplines. The second stage entails the application of this knowledge base to practice. According to him this damaging split into theory and practice is based on a particular model of what constitutes rationality, knowledge and professional practice, one that is of little use to practitioners practising in the real world.

In its place Schön draws up an alternative model, one of 'knowing-in-action'. By this Schön means that professionals solve problems by constructing a repertoire of precedents, images and remembered actions. Problems are not solved by using rules, but are framed or constructed according to the repertoire. Professionals try out solutions for fit, re-frame, feed back to themselves, try out other solutions. The result is what Schön calls 'reflection-in-action'. According to him, this is what produces the doctor's 'feel' for a specific diagnosis, or a lawyer's 'feel' for a case.^[8]

It is a process which according to Schön can be learned and coached, but not taught. This approach is relevant for the whole professional legal education regime in Scotland, including the Diploma, and its initiating course in the GGSL, the Foundation Course. On the Foundation Course we are attempting to spark the process of such reflective learning for students who are working within what is for them a new domain, namely professional practice. If this is to succeed, the model of academic learning, of top-down teaching and learning, simply cannot be used here, for this learning is inherently experiential. And if the multimedia resources were to work as models for student learning, they would need to coach students, and point students beyond this to the development of their own professional artistry in the context of their lives: their goals, wishes, feelings, apparent strengths and weaknesses, as well as their achieved intellectual knowledge.

This will be clearer if we take one example from the materials - legal writing. It has been for long a complaint of solicitors in Scotland that their trainees arrive unable to write a simple letter to a client. This is often seen as a paradox by solicitors, in that their trainees, as students, could write 2,000 word essays and 10,000 word dissertations. Trainees themselves have long realised this of course, and have said that it is one of the more frustrating aspects of the first few months of being a trainee. [9] The problem lies, as the solicitors indicate, in the forms of communication taught to students, and the way in which these are taught. But if we are to put this in context, it will be clear that this is the second time in less than five years that students have encountered such a watershed. When they first arrived at university, many of them (particularly in Scotland, where pupils at school do not have the option to study Law) need to learn a new language, that of academic discourse. Pierre Bourdieu characterised the process well in a passage that I would like to quote in full:

Many university students are unable to cope with the technical and scholastic demands made on their use of language as students. They cannot define the terms which they hear in lectures or which they themselves use. They are remarkably tolerant of words lifted from the language of ideas but applied inappropriately or irrelevantly, and they accept sloppiness and incorrectness with resigned indifference. The lexis and syntax of examination scripts and essays written during the year offer a still more unchallengeable test of linguistic misunderstanding. Constrained to write in a badly understood and poorly mastered language, many students are condemned to using a *rhetoric of despair* whose logic lies in the reassurance that it offers. Through a kind of incantatory or sacrificial rite, they try to call up and reinstate the tropes, schemas or words which to them distinguish professorial language. Irrationally and irrelevantly, with an obstinacy that we might too easily mistake for servility, they seek to reproduce this discourse in a way which recalls the simplifications, corruptions and logical re-workings that linguists encounter in 'creolized' languages. [10]

Bourdieu's view of how students learn academic discourse has many parallels with the ways in which Diploma students and trainees learn the discourse of professional practice. Where students may become 'servile' in the face of a highly complex discourse and adopt a 'rhetoric of despair', however, trainees may adopt the mask of legal expertise: their inflated language, lengthy syntax, manipulations of legal jargon, distant tone and ponderous phraseology bespeak uncertainty about their tone of voice and how to use the language of legal and business communication. It is, indeed, a form of 'creolized' discourse.

However, if we are to help students to become fluent in legal writing, we need to give them more than models of good practice. These are merely the equivalent of nineteenth century copperplate manuals, copied mechanically until they could be reproduced perfectly; or the classes in English pronunciation given to the eager Edinburgh bourgeoisie by the playwright Sheridan, in which he taught them how to rid themselves of their barbarous Scotch accents. We need to show the reasons why the model *is* good practice, and we also need to give students the tools by which they can become more fluent in the discourse, and better able to find their own voice within the boundaries set out by the markers of good practice.

How we do that is deeply problematic, as the considerable research into writing and composition has

shown.^[11] This is not the place to go into this in detail, but it is clear from the literature that if students are to learn discourse in writing, they need models that are process-driven as well as product-oriented; they need a working knowledge of the discourse markers and practice and feedback on the development of their own literacy within the discourse; and they need to develop their own voice within that discourse.

In the legal writing unit of the multimedia resources, therefore, we started with five pointers to good practice, and then a model of a poor letter. We do not signal the quality of the letter, however, but leave it open to the reader to decide. The letter is then produced on screen again, this time with commentary on its faults as a piece of business communication. Students are then asked to click on a button that opens in MS Word the original letter, which they can edit. Next, they can view a version of the original redrafted to create an improved letter. They are then asked to compare their version of the original letter with the 'improved letter' in the resources, and to bring that comparison - and their letter - to the following workshop.

In many respects this might seem to be a typical series of legal writing workshop activities. However it is significant in a number of ways:

- * It begins with an example of poor practice and moves through the drafting process to a better model
- * It ends not with a final product, but with texts that can be compared in the social context of the workshop. Collaborative learning is paramount
- * Drafting and a sense of audience are elements that are constantly shown to be related.
- * This activity's outcomes are used again in the Diploma subjects where legal writing is the focus of teaching, learning and assessment. The materials are thus embedded not only in the Foundation Course but in the Diploma generally.

Above all, the activities serve the function of the effective communications theme: that communication is essential to good lawyering, and that the form, with its formal devices and its tropes, deeply affects the substance of the communication. Indeed, as Nietzsche has it,

Tropes are not something which can be added or subtracted from language at will, they are its truest nature. There is no such thing as a proper meaning that can be communicated only in certain particular cases.^[12]

But if we have set out what we hoped were interesting and relevant activities for students here, we are still not fulfilling one of the main aims of the research into professional composition. We still need to give them better tools with which they can begin to explore the process of letter drafting. This tool will be different from a word processor. Word constantly produces text on screen that has the illusion of being a finished letter, and therefore can draw users away from drafting. For next year's multimedia resources we are building a drafting tool which will help students to understand the micro-processes of letter-drafting. For next year, too, we aim to tie this extended activity and its tool into more Diploma subjects. In this way, we hope to mesh the electronic medium with the curriculum design of the whole course. Theory - curriculum theory, HCI, online pedagogy, composition - thus is essential to the original as well as the ongoing design processes in the multimedia resources.

Educational Theory

In a sense, any learning intervention involves thinking about how to affect learning. This must involve some thinking about how we go about our teaching, and how we teach our subject; and in

this, educational research can be enormously useful. This point is probably still not well enough appreciated by higher education. Laurillard put it in words that many have echoed:

The system must change. ... Teachers need to know more than just their subject. They need to know the ways it can come to be understood, the ways it can be misunderstood, what counts as understanding: they need to know how individuals experience the subject. But they are neither required nor enabled to know these things. Moreover, our system of mass lectures and examinations ensures they will never find them out.[13]

Other theory, though, has been influential to the idea of the resources. I have long admired the remarkable work of Lawrence Stenhouse, a Scottish educationalist whose writings on curriculum design have been more on secondary than on higher education, but whose work still holds much for us to learn from. His long-term project in the 1970s that embodied many of his key ideas, *The Humanities Curriculum Project*, was an inspiration (albeit in a very different, pre-electronic environment) in resource-based learning for the present multimedia resources.

Legal theory...?

'This is IT, but not as I have known it' one student commented in the feedback. Students were surprised by what could be achieved using multimedia techniques. They were also surprised by the new domain of learning. Previously, they had been taught by what are predominantly top-down, models of legal education, in which process is remarkably invisible, and the only visible theory is that of law and legal analysis.[14] The field of skills learning, though, was presented as being primarily experiential. This meant that students were faced with new learning experiences which it is worth exploring below, because of what this requires us to do in the future.

Within law's discipline the Law Society's skill sets occupy an uneasy position, and this is true for much legal skills learning. It does not constitute a body of knowledge *per se* which has clear discipline boundaries. It exists as a set of practices, the contours of which are defined by professional codes, but the detailed process of which has only recently been mapped out -- Binder & Price, Shurman, Sherr, Maughan & Webb are examples of the authors that come to mind. Legal education generally is, indeed, a good example of an emergent *topos* within a discipline. And it exists uneasily within the larger boundaries because it is, of its very nature, inter-disciplinary and does not draw directly from the canonical texts of mainstream of legal analysis. Its research commentaries, while they have their hierarchies and methods, draw little from mainstream legal research paradigms. The above texts do draw upon research, but not what is apparently legal research. If students feel that they do not really 'study' client interviewing, for example, at least part of the reason (apart from the learning methods employed) is the absence of primary or meta-narratives such as those they find in Delict or Criminal Law. We need to construct such narratives for students, if only to show that there is a developing research base that supports the activities they undertake. In this sense, there is also 'legal' theory that can be brought to bear on multimedia teaching and learning.

Multimedia resources: what are they?

The resources are divided into five units, corresponding to the skill sets the Law Society of Scotland wish us to focus on, namely legal writing, drafting, interviewing, negotiation and advocacy. (There is a sixth skill that the Law Society stipulate, legal research, but we decided that this would be best dealt with elsewhere in the Diploma curriculum.) Some units contain still photographs and text only - legal writing and drafting. The others contain stills, text, sound and video clips. Each unit has a set of learning points which focus the student on the skills that will be central to the unit. These points are first raised in the lecture/demonstration that students attend prior to working on the unit. They are then fed into the workshops that students attend following their work on the activities in the CD.

Students can of course work on the unit at any time. The resources have been designed to be sited on the intranet in the GGSL. Each computer in the two suites have headphones so that students can listen to the video without disturbing others. In addition, every student was given the resources on a CD during the Foundation Course, and can therefore work on them at home, if they have a computer of their own. The CD required a reasonable specification, screen resolution at 1024 x 768, Internet Explorer 5.0 and QuickTime 4.0.

Multimedia resources development

Phase 1

The development of the resources was carried out over eight months part-time. The materials were assembled by AV Media Services in the University of Strathclyde, using Flash and QuickTime, and I worked closely with them throughout each stage of development.

In the initial stages, an overarching narrative was sketched out. The units would feed into one another as much as possible, as well as the Diploma, it was decided. This proved more difficult than it seemed. There are four Visiting Professors in the GGSL and all of them contributed something to the resources. [15] This meant that there were five authors contributing materials, including myself in charge of designing the shape of each unit and the overall design of the resources. I also wrote didactic text, connecting texts, and most of the learning points for the units. The collection of text for all this, together with the creation of themed case studies, took up considerable time. The texts for legal writing and drafting were written at this stage but not the video scripts, which were left to the next stage.

The themes, though problematic, were important so as to give students the sense of a developing case. In one of them, an amateur woman golfer is about to turn professional, and is seeking sponsorship deals with manufacturers. She is interviewed in the interviewing skills unit; the negotiation unit centres on a negotiation between her solicitor and a golfwear manufacturer, and the advocacy unit deals with a motion for interim interdict when it comes to the attention of the manufacturers that while under contract she is wearing a rival manufacturer's golf shoes.

This initial planning took up around two months, at around 8-10 hours per week for me. There was in addition the time spans of the other writers involved.

Phase 2

This phase began with the production of drafts of text to appear on the screen. The basic display design which appears in the background of every unit was difficult to design. We wanted background colours and images that would be interesting without attracting too much attention; and one which would lighten the screen without straining users' eyes (some multimedia materials we had seen had a dark background, giving rather an ominous, gloomy feel to the resources). This went through seven iterations before we were happy with its appearance.

At this stage we were ready to go into video production with AV Media Services film & sound crew. We used locations on-campus - either the GGSL moot rooms or offices, or a mock-office in the AV Media department.

Our authors were asked to write outline scripts only. Because they would be appearing and carrying out activities that they were practised at, it was considered inappropriate to have detailed scripts. To a considerable extent, therefore, the video clips are composed of improvisation around a basic structure. In a sense the real script was the set of learning points for the unit. If the video clip did not conform to that, we had to shoot the scenario again or, in the case of one scenario, rewrite it and re-

shoot. Watching the scenario unfold in improvisations made for interesting viewing as the filming was actually done: would the scenario work? Would the Visiting Professors keep to the structure of the script? In the end the result was a set of very fluent, very immediate clips. It is emphatically not acting, nor is it real life. It is perhaps best described as 'enactment' of professional roles. This works very well for the purposes of skills-based demonstration, for there is a sense of 'flow' and absorption in the part that, in a production of the size of our very modest budget, could only come from professionals themselves.

The decision to work like this also meant that the video-editing process could not be planned out in advance, but had to be left until post-production, when the 20 minutes or so of video in each scenario was divided up, and commentary structured around the clips. At this stage, the video was edited, chunked and tagged, and an exact transcript was taken of the speakers' words.

All this took me four months part-time, at around six hours per week. At this stage, apart from preparation and performance in the videos, the key input belonged to AV Media Services. Their programmer was at certain periods working full-time on the programming of the materials, while the film & sound crew were involved in four video shoots.

Phase 3

This stage was largely concerned with redrafting and production. As the units neared individual completion I found it necessary to draft and redraft the text - which fortunately proved easy to change in the Flash program. In particular I found it difficult to achieve smooth integration between units, and between windows and activities within units. Where and when to site explanatory text on a window, and achieving an intuitive link between video clip and accompanying text was especially problematic. In addition, the same neutral tone of voice was required for the whole set of resources. Once I was reasonably satisfied with this, the resources were proof-read. This process took three weeks, at around six hours per week. The AV programmer was of course working with me on this.

At this point we were over-running our time schedule considerably. We ought to have finished by the start of September 2000, but we were only ready to start production of the CDs the week before the Foundation Course began. As a result we could distribute the CDs only after the third day of the course. Students, of course, could view the materials from the intranet; but it would have been preferable to have the CDs ready for the start of the course. 220 CDs were burned in all, for students and tutors; CD labels and box covers were designed (by our Computer Officer, Scott Walker), then produced and copied. This took an administrative assistant one week full-time.

Total time

This is difficult to estimate in total. My own total time involvement was around 200 hours. However this does not give a realistic estimate of the total time spent on the project by all involved. In addition there were four half-days with the three-man film & sound crew, post-production editing, the work of a software programmer, an AV co-ordinator, writing and performance by four Visiting Professors, and time spent on the project by our Computer Officer and administrative assistant. All this would amount to at least another 100 hours, bring the figure to approximately 300 hours. By comparison, we estimated that students' length of use of the resources varied from 2-4 hours during the Foundation Course. Some of them used it afterwards, but this was difficult to quantify. The ratio of 1:100 hours is sometimes cited as a rule of thumb in multimedia development: in our case it was about right.

It is significant that we completed the project with almost no formative feedback from students. This was a dangerous decision to take. I took it on several counts. First, we knew from feedback given to us by students what was needed as regards resource materials. Secondly, we felt that lab-centred testing was not appropriate to materials that were to be tied in so closely to a newly-designed

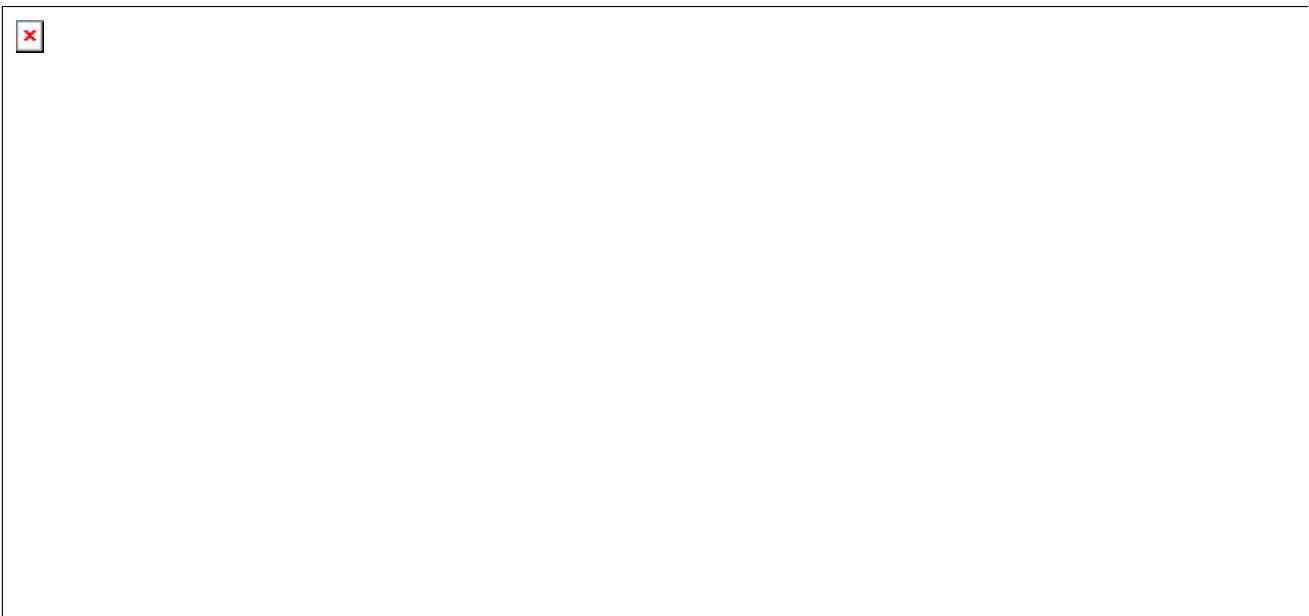
Foundation Course. In retrospect there was at least one issue that might have been picked up by lab testing, and we shall carry this out in future with students.

Feedback

At the end of the Foundation Course we obtained considerable feedback from students on many aspects of the course, including the multimedia resources. The section on the resources presented students with a number of statements about ease of use, content, and the like and asked students to respond to these on a six-point Likert scale. Students were then asked to give comment on any aspect of the multimedia resources.

Quantitative feedback

The resources were easy to use.



It is clear that students found the resources very easy to use.

The resources were well integrated with the Foundation Course workshops



Once again, there was almost universal agreement that we had achieved this aim.

The resources were well integrated with the Foundation Course lectures



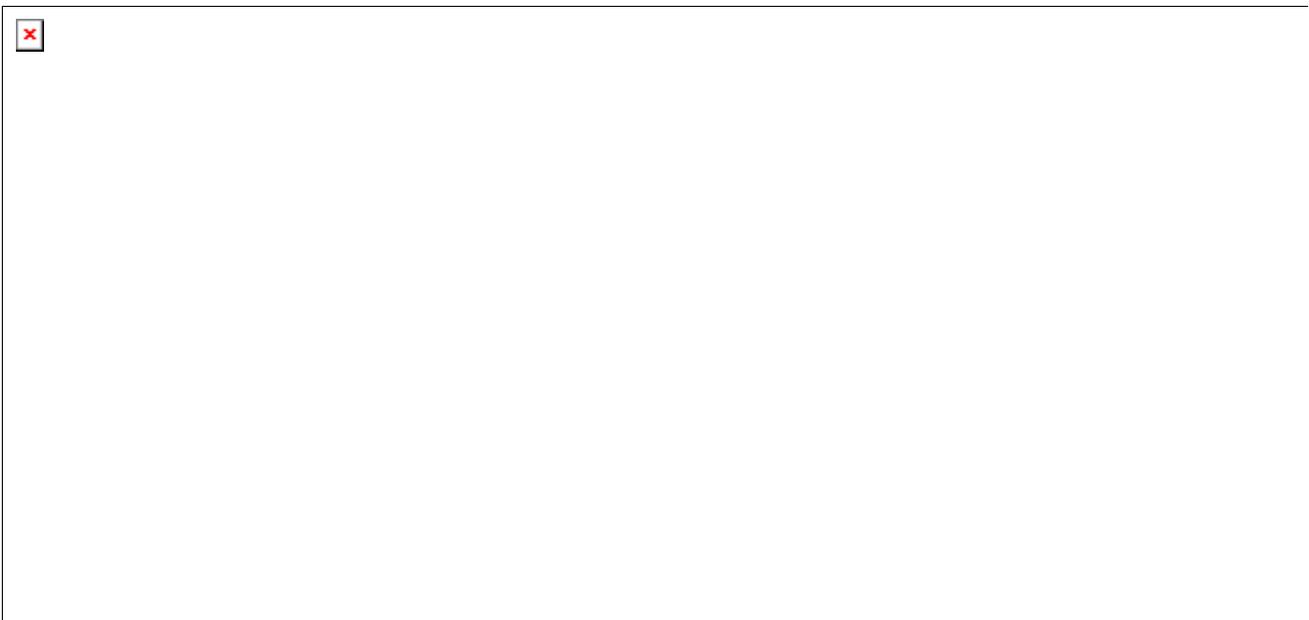
Again, there was general agreement.



The resources were helpful in modelling the legal skills for me.

This was perhaps the most important question for us, for it went to the core aim of the whole initiative. If students felt that the materials had had no impact in this regard, then our time and cost would have been wasted. Fortunately, with only 9 dissenters out of 180, the students very much agreed that the materials had been helpful in modelling the skills for them.

I then asked them to give us feedback on the quality of the resources as regards their ability to help students to learn specific skills. The results are below:



Legal writing



Legal drafting



Interviewing

Negotiation

[Click here for Picture](#)

[Click here for Picture](#)

Advocacy

All the scores are highly positive. The great majority of students were clearly very satisfied with the results. The best score for content was achieved by the Advocacy materials. This is probably due in part to the fact that the advocacy workshop was requiring students to perform something that they had not done before (prepare and present a motion for interim interdict), and therefore they felt that they needed the resources more than in the other workshops. The weaker scores appeared in the

more text-based units. We are working on this for next year, by revising the drafting unit, and by adding the drafting engine to the legal writing unit, as described above.

Qualitative feedback

Students raised a number of issues in the free text feedback. We knew that there were difficulties with printing out certain Flash pages: the printers treated them as graphics files, and when more than one such print job went to the print queue, the printers crashed under the size of the job. Students also commented that there were problems at times in getting access to computers to view the resources between lecture/demonstrations and workshops. We did inform students that there was free access to the resources, and that they could view them at any time. However students were hard-pressed for extra time during the Foundation Course. Some students commented that it would have been better to have had the CD at the start of the course, which of course we agree with; though they did have access to the resources through the intranet.

In spite of this, the great majority of the comments were positive and enthusiastic about the resources, echoing the results of the quantitative feedback:

- * I found this to be a really useful tool, the role-plays were realistic and very interesting and informative.
- * Multimedia resource very useful to demonstrate how skills are applied on practical basis - more useful than lectures in some instances.
- * The multimedia materials are very helpful. Getting the CD ROM in advance would perhaps be helpful.
- * The multimedia resources were, perhaps, the most effective in helping me understand the issues. The element of personal involvement increased my interest.
- * The multimedia resources were effective in helping us prepare for the workshops. They were useful practically although sometimes slightly repetitive.
- * Excellent, very good ideas.
- * It was extremely useful to see how it should all be done before doing it yourself. I definitely gained more out of it by doing it like that - I knew I was on the right track.
- * The multimedia was helpful and it was good to have time to work at our own pace.
- * Very useful.
- * Really good tool - will obviously be useful during year ahead and for home reference.
- * Excellent - very 21st century.
- * At times there was far too great a demand to make use of the computers which was not being met.
- * Very surprised at the prior planning and effort that must have gone into creating this systems. Should be rightly proud of it. Very impressed.
- * Apart from a few blips - the multimedia was a good touch (especially for the Advocacy workshop).

- * Advocacy - was really helpful especially for the legal language to use.
- * Not enough computers to go round for students to work in pairs. Disc not ready for a few days.

Did the multimedia resources increase student learning? This is a complex question, but a vital one. Tutors and students believed that it did improve learning, and the evaluation of the resources by students would certainly seem to support this. [16]

Integration of materials: curriculum strategy

I have described above how the materials were integrated in the *tell-show-do* model of the Foundation Course. In the wider context of the Diploma the resources were used to some extent. We were unsure how they might be received this year, and therefore were wary of using them to any great extent in other Diploma subjects. We therefore used them very much as supplementary resources, rather than embedding them within the core teaching and learning activities of the Diploma subjects and projects. Thus, the performative skills were the focus of Skills Days: an Interview Day, and a Negotiation and Mediation Day. Prior to working on these, students were asked to review the resources. Tutors in subjects where writing skills and drafting were predominant were asked to link to the learning outcomes of the units in their subjects.

Students were also reminded to use the resources in the online projects that were part of some subjects' learning and assessment. For these projects the 180 students were divided into 'firms' of three or four students during the Foundation Course, and each firm was given an customised Outlook environment which was their 'virtual office'. There, they had access to project FAQs, discussion forums, email inbox, intranet and internet access, firm document directories, Diploma calendar with task management tools, and other online tools. There was also a virtual community, comprising a fictional town called Ardcalloch, with associated web sites, a directory, history, and a zoomable map. Students used this environment in three projects: a personal injury negotiation, winding up a deceased client's intestate estate in Private Client, and a legal research competition. To what extent students did actually use the resources is debatable. It is unlikely that they were used to any great extent after the Foundation Course. However now that we know that they are successful in increasing student learning, we shall be embedding the resources much more within the Diploma curriculum in succeeding years.

Multimedia resources size: comparisons with the virtual community

The virtual community and online working environment are major projects in themselves, described elsewhere. It may be instructive to compare the relative size of the different sets of resources at the time of writing:

Multimedia resources:

Multimedia resources

- * CD/intranet resources 360 mb

Ardcalloch:

- * MS Exchange server emails: 871 mb
- * firm & tutor inboxes: 780 mb

- * document files, graphics, scripts (over 7,000): 2 gb
- * email addresses (Ardcalloch institutions, firms, tutors): 156

Future developments

For next year, we are already planning to do the following:

- * Embed a drafting engine in the legal writing unit
- * Revise the legal drafting unit
- * Review printing procedures for the resources
- * Review time allocation in the Foundation Course to view the resources
- * Create links to materials on the web that show the relevance of experiential learning to students on the Diploma
- * Use the existing resources directly in some Diploma courses
- * Expand the number and variety of scenarios to other Diploma courses, eg Criminal and Civil Advocacy & Pleadings
- * Use the resources within the online projects
- * In the medium- to long-term future, create interactive 'video projects' as a mode of learning, where students create their own multimedia resources, commenting on video that they take of themselves.

Lessons learned

Although I have been involved in the production of materials for C&IT since the late eighties, this was the first multimedia project I had carried out in the role of what might be termed production manager, as well as author. The lessons I learned from the experience could be expressed as a set of basic do's and don'ts:

Don't:

- * use IT unless there is a perceived need for it
- * develop develop multimedia resources as an isolated strategy
- * define benefits in terms of costs alone
- * design without planning implementation
- * plan without student & staff training
- * underestimate time, cost, energy, re-drafting

Do:

- * keep the development plan as flexible as possible
 - * keep at the core of your plan how students will use the resources, and think about this rigorously at stage one
 - * centre IT learning around social learning and collaborative activities
 - * integrate learning technology as low as possible in teaching & learning interventions
 - * try to anticipate the operational (day to day) as well as the policy and strategic needs within the project
 - * make the resources part of the culture of your teaching and learning environment
 - * use the resources as an agent of change as well as part of the change strategy
 - * share vision & objectives - with everyone who'll listen, but especially students.
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[1] Linden West, *Beyond Fragments. Adults, Motivation and Higher Education: A Biographical Analysis*, Taylor & Francis, London, 1996), pp.211-12

[2] <http://www.leeds.ac.uk/educol/ncihe/>

[3] For general bibliographies, see <http://www.unc.edu/cit/guides/irg-11.htm> [. For some references to legal multimedia, see <http://www.unc.edu/cit/guides/irg-12.html>

[4] See for example '(Re)-telling Stories: Narrative Theory and the Practice of Client Counselling', *The Law Teacher*, vol 30, no. 3, 1996, 295-314; Karen Barton, Patricia McKellar, Paul Maharg, 'Situated Learning and the Management of Learning: A Case Study', *The Law Teacher*, 2000, 34, 2, 141-163; Paul Maharg, '"Context Cues Cognition": Writing, Rhetoric and Legal Argumentation', *Learning to Argue in Higher Education*, eds Richard Andrews & Sally Mitchell, Heinemann/Boynton Cook, New York, 2000. For information on constructivism, see David Jonassen, 'Designing Constructivist Learning Environments', <http://www.ed.psu.edu/insys/who/jonassen/cle/> [.See also Wiburg, K. (1995). An Historical Perspective on Instructional Design: Is it Time to Exchange Skinner's Teaching Machine for Dewey's Toolbox? Online source: <http://www-cscl95.indiana.edu/cscl95/wiburg.html>

[5] Dreyfus, & S.E. Dreyfus, *Mind over Machine: The Power of Human Intuition and Expertise in the Era of the Computer*. Basil Blackwell, Oxford, 1986, pp.30-1, their emphases. See also S. Dreyfus, 'Formal Models vs Human Situational Understanding', International Institute for Applied Systems Analysis, Schloss Laxenburg, Austria, 1981. For an analysis of different stages of expertise (which we used on the Foundation Course), see 'From Socrates to Expert Systems: The Limits and Dangers of Calculative Rationality', Hubert L. Dreyfus Stuart E. Dreyfus, http://socrates.berkeley.edu/~hdreyfus/html/paper_socrates.html

[6] David Kolb, *Experiential Learning: Experience in the Source of Learning and Development*, Prentice Hall, Englewood Cliffs, NJ, 1984

[7] John Dewey, *How We Think*, D.C. Heath & Co, Boston, 1924

[8] Donald Schön, *The Reflective Practitioner: How Professionals Think in Action*, Basic Books, New York, 1983, p.23

[9] For example in contributions by trainees to the *Report to the Council of the Law Society on the Professional Competence Course*, Paul Maharg, Keith Barker, Carol Tavares-Chen, (unpublished report, 2001)

[10] Pierre Bourdieu, Jean-Claude Passeron and Monique de Saint Martin, *Academic Discourse: Linguistic Misunderstanding and Professorial Power*, trans. by Richard Teese, Polity Press, London, 1994; (first published as *Rapport Pédagogique et Communication*, Mouton et Cie, The Hague, 1965), p.4.

[11] The literature is huge. For a summary of some of the salient aspects for students learning academic legal discourse, see Paul Maharg, "Context Cues Cognition", cited above.

[12] F. Nietzsche, quoted in Paul de Mann, *Allegories of Reading*, pp.105-6; Peter Goodrich, *Legal Discourse: Studies in Linguistics, Rhetoric and Legal Analysis* Macmillan, London, 1987, p.110

[13] Diana Laurillard, *Rethinking University Teaching: A Framework for the Effective Use of Educational Technology*, London: Routledge, 1993, pp.3-4. See also John Bowden: '[w]hat is required is for teachers themselves to undergo a learning process -- to change their conceptions of teaching'. 'Achieving change in teaching practices' in Paul Ramsden, ed., *Improving Learning: New Perspectives*, London: Kogan Page, 1988, p.259

[14] In this respect it is remarkable how lawyers in other periods could subsume the developments in other, adjacent disciplines in order to maintain the integrity and expand the rule of law's discipline. Ian Maclean has pointed out how this occurred in the Renaissance, when lawyers 'had to react to developments in grammar, dialectic and rhetoric' (*Interpretation and Meaning in the Renaissance: The Case of Law*, Cambridge University Press, 1992, p.64); and Peter Goodrich has pointed out the interest shown in England in legal educational methods around the same period. Until the last few decades, however, there has been comparatively little theory-building in legal education in the modern period in the UK.

[15] Michael Jones QC, John Sturrock QC, Charles Hennessy and Scott Slorach

[16] There is plenty of research in other disciplines that prove the effectiveness of computer-based learning. See in particular Fletcher's work, examples of which can be found at Fletcher, J.D. *Does this stuff work? Some Findings from Applications of technology to Education and training*. Proceedings of Conference on Teacher Education and the Use of Technology Based Learning Systems. Warrenton VA: Society for Applied Learning. http://www.judy-brown.com/Docs/DoDEA_Summary.doc

Fletcher, J.D. *The case for technology based instruction: Some research findings*. http://www.judy-brown.com/Docs/SALT_Sum.doc

Fletcher, J.D. *What have we learned about computer based instruction in military training?* http://www.judy-brown.com/Docs/CBI_Sum.doc