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The Delict Game

Professor John Blackie
University of Strathclyde
Glasgow
Dr Paul Maharg
Glasgow Caledonian University

Abstract

The Delict Game is the prototype of a TLTP computer-based learning program which takes a new approach to the teaching and learning of the law of Delict (Tort). The program eschews the 'electronic book' approach to learning, and employs a dialogic model of legal argumentation, using the computer as a communicational medium within which learning takes place via different forms of discourse. Students are divided into pursuers (plaintiffs), defenders (defendants) and judges. Using Web software and materials based at the Clyde Virtual University, they communicate with each other over matters such as strategic negotiation, client care, legal argumentation and much else. Like electronic games and chess programs, The Delict Game has several levels of difficulty. These are based not only on scenario difficulty but other factors too, such as expectations of legal skills (particularly problem-recognition and argumentation) and knowledge of the law and legal process, and the number of personnel involved. Thus, the program can be used at three levels by first year students, second or third year students, or Diploma in Legal Practice students.

The Delict Game takes a constructivist approach to learning legal skills and knowledge. Students require to construct many aspects of the problem within a delictual framework. They work with different voices which tell stories about the problem; but the problem is never given to them in one master narrative with sealed borders. They require to interpret these narratives so as to create a version or an interpretation of the delictual problem, using legal principles, legislation, case-law and other relevant documents. In working closely with different narratives and requiring to understand the principles by making many passes through them, we expect that students' recognition of the possible forms of delictual argumentation and the principles applicable to them will be enhanced.

To facilitate this form of learning. *The Delict Game* uses a number of novel features, including a town map, an electronic version of a Small Claims Court, and student judges who will adjudicate on the arguments presented to them.

Introduction

The *Delict Game* is a program designed to enable students to learn particular aspects of the law of delict (tort), and to do so by practising a number of skills. The program takes the form of a negotiation between two groups of students, one group acting on behalf of pursuer (plaintiff) and the other acting for the defender (defendant). The groups communicate with each other using email and a HyperNews discussion forum. Students access documents relevant to the scenario, and use these in the negotiation. A third group of students may act as judges or arbiters, and assess the quality of the case presented by the legal agents for both sides. The progam is sited on the Clyde Virtual University at Strathclyde University, and from there can be accessed by both staff and students.

Structure of courseware modules

Apart from the information on the front-end window, there is little introductory legal material. Instead, a problem-based learning approach is taken to the subject, one in which the problem is foregrounded, problem-recognition and problem-solving techniques are emphasised, and responsibility for research work is placed on

students.1 Eventually, two case studies will be used: one in the area of products liability, and the other in the domain of common law negligence. Each case study is presented to the user in three passworded levels (see below). This is designed to give staff maximum flexibility in use. Thus before they introduce the case to students, staff require to decide which level of the case is appropriate for the students to work upon. Within each level there are support materials appropriate to the level of difficulty within the problem, and the year level of the student group.

Once the case has been accessed by students, the following materials are available on the Web site:

- The rules of the game
- Statement of the skills (but not the knowledge) the students will use in the courseware
- Relevant and irrelevant case law
- Relevant and irrelevant legislation
- Small Claims court procedure
- Further relevant and irrelevant pieces of evidential information related to the case study · information point, from which users can obtain further information, eg medical reports. This will be an email box at Strathclyde University, which will be checked at least once a day (eg by postgraduate student), and who will answer only those queries sent out by students as formal letters by sending back a copy of the information. This information will be held in a databank on CVU.
- The real time score of each side (optional) ·
- Concept mapper, to be used by students in the preparation of flow-charts and decision-making. 2
- Links to other materials & documents on the Web
- Town map

Most of these materials are presented to the user in the form of buttons in a frame panel to the left of the main window. Some materials will be capable of being iconised on the task bar at the foot of the window: case law, legislation, and court procedure. The materials are presented without direct links to the case study, so as to simulate in miniature the ill-structured domain of legal research, and to focus student attention on the problem-forming and problem-recognition parts of the case study.

The town map requires particular comment. Attached to this button is a map of a fictional town in Scotland. Students will be able to get information by clicking on various points on the map, some of which will be relevant, some not. We intend to have a global map of the town, and a more detailed map of the area in which the incident took place.

Should the negotiation between groups go beyond pre-litigation argument and negotiation, and into litigation, the final aspect of the courseware becomes apparent to students. One of the buttons on frame panel gives access to a flow chart showing the (altered) time limits and court procedure of the Small Claims Court. This button is passworded: it may be that staff do not want students to go down this route, and can thus limit the courseware to pre-litigation negotiations.

Aims and Objectives

As it stands, The Delict Game generally aims to enable students to

- analyse and apply the law relating to product liability
- practise a range of communication and negotiation skill

The objectives of the program have been defined according to the structure of the legal sub-discipline of Delict, and the position that Delict commonly occupies in the curriculum. As regards the first point, our concept of a game structure arose first from the ideas of one of us (Blackie) with respect to the particular type of game structure of delict. We explore that in detail further below in our consideration of the theoretical bases. In essence, however, it is that on any fact scenario where a part or parts of this area of law have to be used, if there is to be any real development of skills and understanding by a student, this understanding will have to involve analysis of the facts in the light of the law and dispute, using as tools the "cards" that the facts "deal" each party. Success (which can be relative) then depends on the way in which these cards are played.

As regards the second point, it became clear to us that as an undergraduate course, Delict did not have a fixed position in law school curricula, but appeared at several points in an LLB or BA curriculum; and that this

position would determine to some extent the expectations that both staff and students would have of the program. Clearly, staff would expect post-LLB students to have a more advanced knowledge of legal argumentation and procedure than first or second year undergraduates. Accordingly, our program has been designed to be used at three different levels of difficulty. Level one is directed at first year, possibly first term or semester, students whose knowledge of Delict and of law generally is as yet undeveloped. At this level, students are presented with a simple scenario which has relatively few legal cruces, and in which the main points at issue are clarified for students. Level 2 is pitched at second year students whose knowledge of the law is more extensive, and whose powers of analysis are more developed. Consequently, the scenario becomes more complex, the integration of legal and factual issues is more difficult to resolve, and the level of skills which students practise is higher than that of level one. Level three presents students with a much more sophisticated scenario in which they are required to deal with a wider range of legal and factual issues, and to take account of negotiation factors with the option of court action. This level has been written with Diploma students in mind; but it could as easily be used with Honours students who may be taking an Honours option in Consumer Law or Delict.

As a result of the three levels, the program's objectives may be stated as follows:

Levels	Knowledge	Skills
One	application of relevant sections of CPA '87 to scenario application of basic rules of statutory interpretation basic legal research techniques regarding case law, statutes	problem-recognition and solving by integrating texts and notes group-working, including communication, multi-tasking and time management use of email as communication medium integration of fact and law in writing reading case law and legislation
Two	application of CPA '87 & directiveapplication of more complex statutory interpretation rules legal research techniques regarding case law, statutes, regulations	problem-recognition and solving by integrating texts and notes group-working, including communication, multi-tasking and time management use of email as communication medium integration of fact and law in writinreading case law and legislation
Three	application of CPA '87 & directiveapplication of more complex statutory interpretation rules legal research techniques regarding case law, statutes, regulationsconsideration of evidential matters, eg burdens of proof, gathering of evidence decisions regarding forms of negotiation and court action	problem-recognition and solving by integrating texts and notes group-working, including communication, multi-tasking and time management use of email as communication mediumintegration of fact and law in writing consideration of negotiation strategies, and integration of above skills with this strategy reading case law and legislation

It is rather artificial to separate knowledge and skills in this table; but we do so for two reasons. First, we want to highlight not the area of substantive knowledge but the skills involved when students interact with the courseware and with each other (though whether the students agree with us that they do practise these skills when using the courseware is something we shall find out when we obtain user feedback). This is valuable to staff, as a description of the skills that the courseware may promote (this will be elaborated in a staff handbook), and valuable to students in so far as it provides them with an 'advance organiser' of the areas of knowledge they will encounter, and skills they may practise. Secondly, and on a more general educational point, the taxonomies of aims and objectives express the wishes of the curriculum and courseware designer, but they say little about the actual experience of learning and of using software. This point is important enough to warrant discussion in the next section; but in these two points -- the integration of knowledge and skills in the courseware, and our attempts to deal with the radical uncertainty of the learning process -- lie much of the innovation of the courseware.

Forms of student learning in the courseware

As we stated, the functionality of the prototype is a product of the designers' anticipation of how students would be expected to use the courseware by Delict lecturers and tutors. Our ideas on this were formed from our experience of using similar tools, and our reading of HCI literature on simulations, situated learning, constructivist learning, office projects and the like.

However our expectations of student use may well not match up with how students actually use the courseware. Student expectations are, as the research proves, based on a complex and ever-changing web of experiences, including:

- knowledge of the substantive domain and adjacent sub-disciplines within the discipline
- expectations of staff vis-a-vis students within the local institution as regards forms of learning and assessment to be undertaken by students
- the demands made upon them by the local curriculum and syllabi in terms of assignments, seminar activities, etc
- what one might term the 'delivery forms' for knowledge in departments and how these are deployed -- lectures, tutorials, workshops, CBL, etc. 3
- students' experience of assessment regimes in the institution, and the actual assessment that students require to undertake (very often a different experience to that which staff think students might be having)

All this requires to be taken into account as much as possible when the courseware is being designed. Indeed , it is an important element of the constructivist design of the courseware that students' previous knowledge is taken into account, as well as the demands of tasks and other course components. 4 Clearly, though, the designers cannot take into account all the many and complex variables involved in this web of expectations. Instead of trying to accommodate all possible expectations, one way of coping with diversity is to design the courseware for the maximum possible flexibility of use. We have therefore designed the courseware for browsing, revision, group-work, and individual work; for three levels of complexity in the substantive domain; and for three levels of skills complexity. The courseware can be used for formative as well as summative assessment, or non-assessed assignment work, eg tutorial problem-solving.

In our handbook to staff we shall emphasise this flexibility, and give suggestions on how the courseware might be used to support student learning in the classroom or computer lab. These suggestions will include the following:

- Use the Clyde Virtual University (CVU) HyperNews site in the Virtual Café as a conversation forum, thus giving students a place in which to talk about the program between different groups, as well as giving them a record of the discussion. There could be different discussion lists for pursuers and defenders, in which students could discuss problems related to being either a pursuer or defender and a whole-class list for topics which concerned the class as a whole. 5
- The courseware is not limited to use by year group and institution. Students from different institutions could participate, with cross-institutional groups set up on the CVU server. Discussion lists could be set up for these also, and maybe one for staff taking part in the program.
- Based on our experience of setting up email negotiation projects, we would estimate that much of the administration of the courseware activities would be carried out by staff before student use of the program. Nevertheless there is probably a need to have a presence on the discussion lists, though with a light hand. This flexible presence is more in the nature of light monitoring than a director's role.
- The program can be used for serial learning. That is to say: students could complete their level one scenario, and could then proceed to do level two at some point later in their Delict module, or as part of another module. Level two has significantly increased difficulties, and is a more complex environment for problem-solving. In this way, they may begin to perceive the rate of their own learning within a subject: something that is seldom achieved until a student comes to cram for an exam (at which point it is sometimes too late to embed the complex patterns of problem-recognition and -solving that are being assessed in examination…). 6 This is in effect another form of 'reusable dialogue' in learning.
- The use of 'vicarious learning' in tutorials based on use of the program. 7 That is to say, student discussion of their own learning: what was difficult, what was easy, and why; debriefing of the various roles. This enables close monitoring of student use of the program, as well as giving students the opportunity to raise points they may not want to raise in the discussion list.

Theoretical bases to The Delict Game

There are two principal theoretical grounds to our approach in The Delict Game, namely legal and educational. The legal grounds arise from the nature of the sub-discipline itself. All teaching and learning requires those involved to consider the fundamental structure of nature of the complex of rules that forms the topic in question. Many scholars working in the field of information technology as it relates to the performance of a variety of tasks involving law, and more specifically scholars working with artificial intelligence in this connection, have considered and built out from the work of contemporary philosophers of law in the area of legal reasoning. 8 This has important implications for the design and implementation of computer assisted learning that have not yet been fully grasped. The underlying general approach to the question of legal reasoning that lies behind the conception of, and so the design and implementation of, The Delict Game is a standpoint that the complex of rules that form "areas" of law vary by recognisable types from one part of the law to another. Accordingly there is no one model of legal reasoning that is appropriately used as the background structure to all computer assisted learning for law.

Amongst the models that underpin certain areas is that of a particular type of game. It is crucial to be clear what type of game one is talking of in these areas. The basic analogy for delict is, we consider, the card game. Broadly, card games involve as their starting point having a "hand", which may be relatively weak or relatively strong. (In some card games that changes in the course of the game). Success or failure varies not, however, solely according to that basic factor, but also, and in complex ways, with the way in which that "hand" is "played" as the game progresses. This in turn is affected both by the relative strengths of the "hands" of the other players in the game, and the way in which they "play" those hands in the course of the game. While all disputes between parties may from one point of view be described as a game, it is only some types of dispute/some areas of law in which the game is correctly perceived as having this particular sort of nature. 9

This insight with respect to at least one aspect of delict was by at least one writer prominent in the context of teaching and learning tort as long as some twenty five years ago, ie long before the idea of computer assisted learning was even dreamt of by law teachers. A note in this influential casebook on tort in the editions in the 1970s may be taken as encapsulating the point. 10 The specific application there was to the question as to whether a local authority, acting under statutory powers for approving and/or inspecting buildings in the construction had any duty of care at all to people who then came to buy or otherwise occupying such buildings where they were led through negligent inspection by that authority to enter into what turned out to be a bad bargain because the building had been built defectively. The author noted that (despite the view of the English Court of Appeal at the time, 11 and later, for a while also the House of Lords) 12 that the answer should be "no", because tort does not work like a hurdle race. In hurdle races the winner is the person who gets over all the hurdles to the end. Losers in that sort of thing fail at hurdles. In tort law the winner comes through quite a different sort of competition - a card game. Specifically taking the point of whether a duty of care was capable or not of arising, then given there was negligence, there are various conceptual cards. These include, in that specific context, for example, a 'relative strength of the causal link between the defendant and the plaintiff's loss card'. Another of the cards is 'the nature of the plaintiff's loss' card. A further one is 'the juristic nature of the defendant' (and there are others). The loser does not fail because he or she fails to get over a hurdle. Cards are not hurdles. It is the mix of them in their strengths and the way they are played in combination that gives the end result win or lose. 13

The Delict Game will widen out as we develop it to include amongst other features of this area of law, such duty of care questions. However, what we have developed so far is against the statutory law of liability for losses caused by defective products. The "cards" are different but the idea of the card game (and the particular sort of card game) is the same. Here the cards are such as 'is the thing a product?' card, a 'what is meant by "defect" card' a 'defences' card, and so on. 14

If we turn now to the educational basis, it became evident from our own experience as much as the research literature that any practical implementations required to be developed from proven theoretical bases. 15 Our educational basis was explicit from the outset of the project. We based our ideas regarding the nature of the courseware structure on a dialogic model, one derived from constructivist and situated learning, and the vicarious learning which derives from observing dialogues as well as participating in them. 16

The group work which will take place in The Delict Game is therefore integral to the software. There are many reasons why this should be so. At a fairly deep level of theory, it could be said, as constructivists do, that learning rarely happens in the individual alone, but in the interaction between individual and previous learning and environment. Jean Lave, for example, has, in her studies of Liberian tailor apprenticeships and other works, drawn upon the phenomenological concept that human thinking and action in the world are so inextricably bound up with each other that what we understand by the concept 'mind' can only be understood within the context of social organisation. 17 But cognition is not only situated in contexts: it is also distributed around us in the form of real objects and teleological concepts with which we understand the world and its

real and conceptual structures. Indeed, some cognitive psychologists have advocated that most productive learning happens when the 'material distribution of intelligence' within any context supports learning. 18

One of the many potential forms of distributed intelligence in higher education is the body of students within a course. Students are rarely given the opportunity to use themselves as resources in their own learning: the design process of curricula often involves 'individual, tool-free cognition'. 19 However, it is possible for students to work in groups, collaboratively, towards the goal of creating their own ideas as objects of enquiry. I use word 'object' here in the sense that Noel Entwistle and Ference Marton use it in their work on 'knowledge objects. 20 There, they use it to provide a way of 'describing aspects of memory processes and understanding which is not reductionist': '[t]he structure of a knowledge object is not a way of acting appropriately in a familiar situation, it is a way of making sense of personal experiences of learning and studying' (ibid.,p.176). This concept parallels different approaches to learning and the structure of knowledge. Berardi-Coletta et al, for instance, conducted studies on the role of metacognition in problem-solving, and concluded that 'process-oriented [ie metacognitive participants consistently form[ed] more sophisticated problem representations and develop[ed] more complex strategies. 21For them, the process of verbalisation in the problem-solvers did not result in better problem-solving so much as the metacognitive processing involved in the effort to produce explanations.

One way to enable students to structure metacognitive thought, to create knowledge objects, may be to use students' own distributed resources in groupwork. Working together, students can articulate to each other their understandings of legal argument and how to deploy these descriptions and logical procedures. This task-based orientation explains why the courseware looks curiously empty at first glance. There is no didactic text, no commentary, no explanatory or exegetical materials. Instead, there is a problem presented to students largely in the form of scattered evidence (depending on which level students enter at), with CBL tools, and a variety of texts, some of which are directly relevant to the problem, others less so. This differs significantly from the approach of much of the LCC. There, student learning is rather more programmed: hyperlinks are used to link pages in a linear fashion, or to allow users to explore different routes within courseware, and to take users through the pages and activities (often types of multi-choice questions upon small sections of text). As a result, the courseware lends itself to small-scale learning reinforcement typical of mastery learning models, and typical too of revision situations. In such forms of CBL it is easy to see how the tightly-structured materials contribute to the teaching and learning of the discipline, for often the development of textual materials and the types of activities attached to them are traditional and follow what are taken by the courseware authors within the LCC as widely-recognised cruces within the discipline. Whether or not this form of learning makes it easier for staff in other institutions to embed the courseware in their own local Delict courses is another matter, and one that will require substantial research.

The Delict Game takes a different approach to learning. The objectives are more open-ended, while still exhibiting strong purpose. Students require to set the boundaries to the problem they have been given, that is to say, they need to recognise the problem before they can know it. The paradox here is an ancient hermeneutic one, going back to Plato's Meno and the problem of memory and learning. All students need to come to terms with this difficulty, which is as much about the nature of language and description of the world as it is about substantive knowledge in any particular discipline. As Laurillard points out, words which to lecturers and professionals are resonant with meaning, denote very different things to students -- words such as 'volatile' in chemistry, 'work' in physics, 'reasonable care' in law. 22 Students need to sense when these words require careful definition, and how they might apply the definition to fact circumstances.

The emphasis on collaborative skills, stemming as it does from a constructivist approach to learning, makes overt not only the problem-based nature of legal analysis, but the difficulty of problem-construction or recognition within this analysis. These are aspects of legal learning which do not often surface in the more tightly-organised structures of substantive law present in other LCC materials, precisely because the problem is given to students as non-problematic, a given factum which, according to the implicit rules of the game, students learn not to question. In our version of constructivist learning, students require to construct many aspects of the problem within a delictual framework. They will work with different voices which tell stories about the problem; but the problem will never be given to them in one master narrative with sealed borders. They require to construct from these narratives a version or an interpretation of the delictual problem, using witness statements, principles of Delict, legislation, case-law and any other relevant documents. In working closely with different narratives and, in coming to understand the principles by making many passes through them, we expect that students' recognition of delictual narrative shapes and the principles applicable to them will be enhanced.

Relation to other coursework in local institutions

It is often said that one of the problems of courseware development is the variety of approaches to teaching

within a discipline. Because there is no national curriculum at university, it is not possible to predict where any particular subject will be situated in a curriculum, let alone what teaching and learning strategies will be employed within it. Yet this diversity can be a source of strength as well as a weakness for courseware designers. While it may be difficult to predict how courseware might be embedded within particular curricula and syllabi, nevertheless there are two advantages to variety. First, if courseware is to be used in such an environment it requires to be open and adaptive in the ways it can be used by staff, not prescriptive, monological and monolinear. Second, the variety of local uses can be tracked, and a database of good practice constructed which would further stimulate use of the courseware. We have taken account of both points in our approach to courseware design. While the first point is primarily a matter for development at the design stage, the second is clearly post factum, and will depend to a great extent on building a network of contacts within universities consisting of those lecturers and tutors who teach Delict, and who would want to use the program. 23

As far as use of The Delict Game is concerned, it is essential that staff embed and develop within their local Delict course the skills which students will work upon. In some respects the development of these skills is a greater priority of the courseware than the substantive area of knowledge. For this reason staff will be issued not only with a detailed guide to the content of the courseware and its aims and objectives, but also to the skills which students will practise in the courseware and its activities. We hope to present to staff, possibly also discuss with them, the formative evaluations of the courseware, and thus to begin to develop the database of good practice based upon their own ideas of using the program. 24

Future plans

At the moment, the software exists as a prototype. We intend to have the program ready for use in September 1998. Our next step towards that deadline will be to set up an evaluation to obtain formative feedback from a small group of users, including expert and naïve users (in terms of both law and IT), and including videotape protocols. This feedback will be largely qualitative, and no attempt will be made at this stage to collect statistically relevant data. We shall then to proceed to use the modified software with a larger group of students. As Jonassen has pointed out, and other studies have verified, it is not sufficient merely to provide users (and staff) with sophisticated tools and expect them to be used in curricula. 25 Once the software is ready for use, we shall introduce the software to staff and students at various centres, and supply user guides which detail not merely aims and objectives, but contain suggestions for use, contextual advice on how to embed the courseware, and much else.

End Notes

(1) For an overview of this approach to learning, see David A. Cruickshank, ‘Problem-based Learning in Legal Education’, in Teaching Lawyers’ Skills, edited by Julian Webb and Caroline Maughan London, Butterworths, 1996. Full-scale problem-based learning (PBL) does entail taking a curricular view of teaching and learning processes, and implementing changes at the curricular level. Our program’s aims are clearly not of this order, but it is still possible to embed PBL techniques in micro-tasks, using the Web.

(2) We would like to make use of the auto-monitoring tool developed by Ray MacAleese et al in the CLASS TLTP project. This tool, very similar to the basic idea of a concept mapper, enables students to ‘brain dump’ then develop ideas in either a Windows directory form or a free form graphic representation, and switch from one to the other. It is a very useful tool for developing directions in problem-recognition and solving, and could facilitate group decision-making (though it was never used in prototypes and trials for this latter purpose). We need to investigate whether or not it can be accessed via the Web. For discussion of many of the issues underlying concept mapping, see Will Reader and Nick Hammond, ‘Computer-based Tools to Support Learning from Hypertext: Concept Mapping Tools and Beyond’, at http://www.ioe.ac.uk/tescwwr/CAL.html. See also W. Schuler and J.B. Smith, ‘Author’s Argumentation Assistant (AAA): A Hypertext-based Authoring Tool for Argumentative Texts’, in A. Rizk, N. Streitz and J. André, editors, Hypertext: Concepts, Systems and Applications, Proceedings of the European Conference on Hypertext, INRIA, France, Cambridge University Press, 1990; N.A. Streitz and J. Hannemann, ‘Elaborating Arguments: Writing, Learning and Reasoning in a Hypertext Based Environment for Authoring’, in D.H. Jonassen and H. Mandl, editors, Designing Hypermedia for Learning, NATO ISI Series, Berlin, Springer-Verlag, 1990.

(3) With the proviso, of course, that the form of delivery crucially affects the quality of learning...

(4) A point made by Steve Draper in ‘Constructivism, Other Theories of the Teaching and Learning Process, and Their Relationships’, unpublished discussion paper for NATO Advanced Studies Institute, August, 1994, p. 5

(5) In effect, what this does is to set up the infrastructure for social learning to occur between students and between students and staff. Hatch and Gardner point out how fundamental these infrastructures are to almost all forms of social learning – in learning institutions, for instance, they can take the form of graduate seminars, or kindergarten children's negotiations at the sand-box. See T. Hatch and H. Gardner, 'Finding Cognition in the Classroom: An Expanded View of Human Intelligence', in G. Salomon, editor, Distributed Cognitions, New York, Cambridge University Press, 1993

(6) As educationalists, particularly those interested in the academic-professional interface, have pointed out, one of the major differences between activities carried out at university and at work is that at university, students move swiftly from one activity to the next without the opportunity of repeating tasks and procedures so as to reflect and learn from their experience. See M. Eraut, Developing Professional Knowledge and Competence, Falmer Press, London, 1994

(7) For information on this, see http://www.hcrc.ed.ac.uk/gal/vicar/. For a discussion of the learning management issues involved in implementing, embedding and administering CBL in this way, see TILT papers, eg at http://www.elec.gla.ac.uk/TILT/TILT.html, and in particular Steve Draper's paper entitled 'Adding (Negotiated) Learning Management to Models of Teaching and Learning' at http://www.psy.gla.ac.uk/~steve/TLP.management.html

(8) This has now been the case for more than a decade. See generally R E Susskind, Expert Systems in Law - A Jurisprudential Enquiry, Oxford, Oxford University Press, 1987

(9) Eg Thomson v Glasgow Corporation 1962 SC (HL) 36 per Lord Justice-Clerk Thomson (Inner House, Court of Session) at 52: "judges … like referees at a boxing match see that the rules are kept"

(10) J. A. Weir: A Casebook on Tort, 3rd edition, London, 1974. Sadly this note does not appear in later editions because the case that gave rise to it (see footnote 4, below) was itself eventually overturned (see footnote 5, below), thus vindicating two decades later the author's original insight.

(11) Dutton v Bognor Regis Urban DC [1972] 1 QB 373 (Court of Appeal).

(12) Anns v Merton London Borough Council [1978] AC 149, now overruled by Murphy v Brentwood BC [1991] AC 398.

(13) On the specific issue of the local authority's duty or non-duty (as was eventually confirmed by Murphy (above) the answer is the member of the public loses. The relative strength of the causal link is rather weak, since the strongest causal actor was the building. The nature of the loss is rather less deserving than some. It is being lead into a bad bargain (ie it is "pure economic"). The nature of the defendant has a "public law" background so their relationship is less proximate than if it was, say a commercial business.

(14) The metaphor can in fact be extended in some situation to the "suit of cards". More accurately, one might conceive of a defences "suit", within which generic group would arise, the defences relevant to the issue: e.g. here not only such things as "contributory negligence", time bar for claims and so on which appear throught the law of delict but also "state of the art defence" and so on.

(15) Kolb makes this point in his theory of experiential learning, as do J.D. Novak & B.D. Gowin, in their text Learning How to Learn, Cambridge, Cambridge University Press, 1984.

(16) The concept of dialogic learning employed here derives not only from L. Vygotsky, Thought and Language, A. Kozulin, editor, Cambridge, MASS., MIT Press, 1996, but from M.M. Bakhtin, The Dialogic Imagination, Austin, University of Texas, 1981, and Speech Genres and Other Late Essays, Austin, University of Texas, 1986; M. Scardamalia and C. Bereiter, 'Technologies for Knowledge-building Discourse', Communications of the ACM, vol 36, 5, 1993, 37-41; J.S. Brown, A. Collins, and P. Duguid, 'Situated Cognition and the Culture of Learning', Educational Researcher 1989, vol 18 no 1, 32-42; Jean McKendree, Keith Stenning, Terry Mayes et al, 'Why Observing a Dialogue May Benefit Learning: The Vicarious Learner', at http://www.cogsci.ed.ac.uk/hcrc/wgs/graphics/vicar/

(17) J. Lave, Cognition in Practice: Mind, Mathematics and Culture in Everyday Life, Cambridge, Cambridge University Press, 1988

(18) R. Pea, 'Practices of Distributed Intelligence and Designs for Education', in G. Salomon, editor, Distributed Cognitions, Cambridge, Cambridge University Press, 1993

(19) Ibid.

(20) N. Entwistle and F. Marton, 'Knowledge Objects: Understandings Constituted Through Intensive Academic Study', British Journal of Educational Psychology, 1994, vol 64, 161-178

(21) B. Berardi-Coletta, R. L. Dominowski et al, 'Metacognition and Problem-Solving: A Process-Oriented Approach', Journal of Experimental Psychology: Learning, Memory and Cognition, 1995, vol 21 No 1, 205-223, p.223

(22) D. Laurillard, Rethinking University Teaching: A Framework For the Effective Use of Educational Technology, London, Routledge, 1993

(23) There are several possible ways to draw up and disseminate the database. It may be that the Clyde Virtual University could set up a listserv for this objective, to be updated and maintained periodically. Or it may be that a body such as the Learning Technology Dissemination Initiative (LTDI) could become involved – see their home page at http://www.icbl.hw.ac.uk/ltdi/

(24) There are several models of successful implementation of this type of database – see for example the publications of the Assessment Strategies in Scottish Higher Education Project (ASSHE), including The ASSHE Inventory: Changing Assessment Practices in Scottish Higher Education, Dai Hounsell, Mary McCulloch, Mary Scott et al, Edinburgh, UCoSDA, 1996

(25) P.A.M Kommers, D.H. Jonassen & J.T. Mayes, editors, Cognitive Tools for Learning, Berlin, Springer-Verlag, 1991