Teaching with Hypertext in a Literary Context

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Abstract
The management of knowledge rather than the acquisition of knowledge is an unfamiliar idea in Higher Education but it is an idea that is becoming less foreign with developments in the administration of teaching and learning. For example, changes in how we describe the courses we teach so that aspects of the experience such as aims, objectives and learning outcomes are made transparent to students promote the concept of teaching, learning and assessment as bound up with the management of knowledge. Assessment must be tied to what we teach and how we teach it. The representation of the knowledge acquired in the course of learning must be appropriate and relevant. Increasingly teachers are being asked to reflect both upon the ways in which material is presented as knowledge and the ways in which that knowledge will be used by students in the preparation of their assessments. In this essay I explain how the course I teach entitled “Hypertext and Literary Study” uses advances in Information Technology to assist students first in the acquisition of key skills and then in the intellectual engagement with complex issues of [...]
Teaching with Hypertext in a Literary Context

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Introduction: Hypertext as a Knowledge Management System

The management of knowledge rather than the acquisition of knowledge is an unfamiliar idea in Higher Education but it is an idea that is becoming less foreign with developments in the administration of teaching and learning. For example, changes in how we describe the courses we teach so that aspects of the experience such as aims, objectives and learning outcomes are made transparent to students promote the concept of teaching, learning and assessment as bound up with the management of knowledge. Assessment must be tied to what we teach and how we teach it. The representation of the knowledge acquired in the course of learning must be appropriate and relevant. Increasingly teachers are being asked to reflect both upon the ways in which material is presented as knowledge and the ways in which that knowledge will be used by students in the preparation of their assessments. In this essay I want to look at how the course I teach entitled “Hypertext and Literary Study” uses advances in Information Technology to assist students first in the acquisition of key skills and then in the intellectual engagement with complex issues of knowledge management and representation.

Teaching with electronic media in the context of literature courses has one major drawback: no-one brings to your efforts that familiarity, that set of assumptions, which means that more conventional courses do not have to be explained from first principles. But this is undoubtedly the case when computers are used as an integral part of the learning strategy. It is not only that colleagues do not understand, or that they misunderstand, the thinking behind a particular course, it is that students lack a context in which to situate such courses and so, when electing to study optional courses, they may be reluctant to try something so unfamiliar and potentially risky. As a consequence, departments that are unwilling to place on the core curriculum courses that are based upon principles of transferable skills, IT literacy, and electronic representation, may find that students will not avail themselves of non-compulsory opportunities to broaden their learning pattern.

Students who want to pursue a low-risk strategy to obtain a good degree result are less likely to take an electronic-based course than their more intellectually adventurous colleagues. And all this is to set aside entirely the issue of gender and the gender-bias that would have computers gendered as masculine. In fact, in my courses on Hypertext, I have found no significant gender profile emerging among my students. Perhaps because it is a course led by a woman, I have taught a balance of male and female students in a number of hypertext-based courses that have formed part of various degree programmes: English, American Studies, and MA programmes. The intellectual background of each cohort has been subtly different but the gender profile has been the same. What has also remained the same across different student groups is a deep uncertainty, twinned with a deep curiosity to explore this unfamiliar intellectual terrain, concerning the demands that will be made upon them by a course
on hypertext and literary study. This uncertainty is shared by the majority of faculty colleagues who are unfamiliar with the practical details of teaching with computers. Some assume that students will be seated before a terminal and required to work through a pre-programmed software package; others envision that the primary work of the course will be done using conventional methods and that the results will be represented electronically - much as a paper-based essay might be word-processed.

Few realise that what is required is that students will, in effect, learn a programming language and use that to represent their understanding of literature. This is the point: computers in general and hypertext in particular offer alternative media for the representation of knowledge. In literary study, knowledge is conventionally represented by the essay, the report, and the oral presentation. Less frequently, the log-book or journal may be used to represent knowledge of literature. Hypertext offers an alternative that can further enrich not only students’ understanding of literature but also their own capacity to manipulate and express their ideas and knowledge in innovative and exciting ways. What follows is an account of my teaching of literature using hypertext as an alternative knowledge management system.

**The Course: Hypertext and Literary Study**

This course introduces students to hypertext as a knowledge management system - a way of representing academic knowledge that is quite different to conventional essay writing. There are no lectures and seminars as such; instead the course is taught in the computing laboratory with students working in groups to develop a hypertext database project. Students are required to work in groups to design and build a database that represents some aspect of literary study. This may be a single author study, an annotated short text, a literary history, a genre study, or a representation of some aspect of literary theory. The subject is determined by the group, as is the distribution of tasks, the scheduling of the project and the design of the overall database system. Students are assessed according to their individual contribution to this group work, though the group rationale is taken into account and the coherence of the larger project does represent an assessed element.

The course aims to explore alternative representations of literary understanding, to create an opportunity for students to enhance their transferable skills, and to develop IT skills within a subject-specific context. I think that the latter point is very important. The teaching of transferable skills, such as the use of complex computing applications, should not be “bolted on to” the curriculum, but should be integrated within the intellectual context of the subject that students have chosen to study. In this way, skills teaching derives significance, relevance, and importance from the major area of study. Granted, this does present a particular challenge for the teaching of literature, where the relevance of computing applications and IT skills may appear obscure. However, when one thinks of writing as an abstract activity, a means of representing and communicating knowledge, then the relevance of electronic media as alternative forms of knowledge representation becomes apparent.

Consequently, the two major objectives of this course are to enable students to represent their knowledge of literature in a non-traditional (electronic) format and think critically about the relationship between knowledge and its representation. In addition to this, the course aims to benefit students by offering the experience of working as part of a team, where the greater part of conventional literary study demands that students work in isolation, and thereby enable students to identify critical issues relating to effective group working practices. The transferable skills element is at the core of this course in terms of design and rationale. By the end of the course it is intended that students will have gained an enhanced awareness of the
following work-based skills and their significance: group working practices, project management, analytical skills, scheduling, knowledge representation, and have an enhanced appreciation of the relevance of IT to literary study. The intention is to teach and promote these skills by exposing students to them in a critical way and in large part this intention determines the structure of the syllabus and the teaching methodology as well as the format of the assessment.

The course introduces students to the process of electronic project development from the planning and prototyping stages through to completion. The Macintosh programme HyperCard is used initially to introduce students to the concept of hypertext and to develop a prototype of the project work that forms the principal unit of assessment. HyperCard was chosen because it offers a simple method of constructing hypertext “pages” using drag-and-drop icons and a menu-driven user interface. Within only a few weeks students with no previous experience of computing can be creating their complex own hypertext pages. Students are then introduced to the more powerful and sophisticated HTML (HyperText Markup Language) in which the Web page project is to be created from the HyperCard prototype. HyperCard automatically generates scripts in its own HyperTalk programming language and this automatic of the programming language means that students can move directly to the creation of hypertext pages without needing first to master a complex and foreign language. Students are encouraged, however, to familiarise themselves with the programming “scripts” that are created by HyperCard in response to the student’s manipulation of icons. In this way, students are gradually introduced to the basics of programming and are prepared for the greater demands of HTML. These days, software like Netscape Navigator makes the writing of HTML scripts relatively easy. A more fundamental difference between HyperCard pages and WorldWide Web pages is the WYSIWYG (WhatYouSeeIsWhatYouGet) nature of HyperCard. In HyperCard students move elements of the page around (graphics, text, link buttons, and so on) and can see on the screen precisely the effects of these changes. In HTML, the on-screen effect of formatting depends entirely upon which browser is used by the reader or end-user. So the page created by the student will look different on differently configured browsers. This has caused significant problems for those who create Web pages that are unreadable by monochrome displays (such as those built into early portable notebook computers). For these reasons, students move to HTML programming only after they have acquired confidence in the basics of creating their own hypertext. The weekly teaching programme for this course then looks like this:

WEEKLY TEACHING PROGRAMME:
Week 1: Introduction to the theoretical concept of hypertext; examples of hypertext applications relevant to literary study.
Week 2: Macintosh operating system
Week 3: Using HyperCard
Week 4: Prototyping in HyperCard
Weeks 5, 6, 7: Creating a prototype of the project in HyperCard.
Week 8: HTML (HyperText Markup Language) and Netscape.
Week 9: Creating Web pages.
Weeks 10, 11, 12: Creating the Web page project from your HyperCard prototype.
It is clear from this outline that the course involves an important shift in emphasis that has to be managed in practical terms but also in terms of the course aims and intellectual rationale. The transition from Macintosh-based HyperCard to HTML is managed through the practice of prototyping. This is a key skill both from a team working perspective and also from the point of view of practical project management. Students are encouraged to try out ideas, structures, designs and to run them in
conjunction with the input from other members of their team. They do this by creating prototypes and they track the progress of their prototype by careful version control of their work. This exercise thus introduces further refinement of the project management aspect of the course.

As a complement to the formal weekly teaching programme, students are expected to spend more time in the computing laboratory than the three hours that are time-tabled each week. From experience of teaching this course, I have found that it is only with practice that students develop the co-ordination and familiarity with the software (both HyperCard and HTML) necessary to the efficient completion of the project. This extra time also represents the time students are expected to meet with their team to exchange ideas, report on their progress, compare the work they have done to ensure that the team project remains consistent. This is very important because a real danger is presented by the student who becomes so enthusiastic about this new area of knowledge and this new set of skills that they leave the rest of the team behind. The result for the team work is a patchy project that lacks consistency and coherence. Of course similar consequences follow from the efforts of a student who has lost interest in the project or is unwilling to devote the necessary time to the work. In order that the work of the team is of high quality, and that the team works effectively, regular meetings outside the constraints of the time-tabled classes are essential.

These meetings, like all the time devoted to the course, are recorded in a log-book kept by each student. This log-book then comprises a minor element of the assessment for the course. The keeping of the log-book not only forms a record of the student’s progress but it formalises a requirement of the course: that students spend time thinking about their learning and writing in an unconstrained manner about the issues raised by this course. The log-book would record their thinking about such issues as the relevance of electronic forms of representation to literacy study; their evolving understanding of hypertext; and their developing IT literacy. This personal reflection upon the achievements made during, and as a consequence of having taken, this course is complemented by a more public representation of the students’ achievement. The intention is to post the finished Web pages to the University’s Web site so that this work can be placed in the public domain where others may benefit from the students’ efforts. I should say that at present this is only an intention because the University’s WorldWide Web site has recently undergone major restructuring. This is an important finishing touch for the course. Throughout, the emphasis has been upon the differences between conventional essay writing as a form of knowledge management and hypertext as an alternative way to represent knowledge, an alternative with its own advantages, capacities, and pitfalls. At the end of the course, this distinction is realised in the different destinations of these documents. Where paper essays must remain essentially personal, available only to a small readership, electronic documents and the knowledge they represent can become public, available to a global readership, with ease. In this way, the work of the student teams acquires a history that extends far beyond the limits of the one-semester course.

Trouble Shooting

Problems encountered in this kind of course are quite different to those faced by colleagues teaching a more conventional literature course and are worth rehearsing here. Some issues, such as the lack of appropriate expectations on the part of students and faculty, I mentioned above. But there are other issues as well. At the outset, some students wrongly believe that this course offers an easy option; I have heard rumours circulating within certain cohorts of students that “no work” is required for my course – by which they mean there is no weekly reading requirement. Some students find it
difficult to keep pace with a requirement that they read a text or author per week for each of the courses they are taking and consequently a course such as hypertext that requires extra computing laboratory work but no formal weekly reading burden is very attractive. Students such as these have a rude awakening once they start the hypertext course and discover that more and unfamiliar demands are made upon their time and intellect. For example, this course embeds a linear skills progression that creates prerequisites within the course. By this I mean that students must know the material taught in week one in order to progress to week two and they must have a working knowledge of hypertext (via their HyperCard work) before moving to the more complex task of writing HTML. Students who miss classes encounter great difficulty catching up the work they have missed. In conventional courses which deal with an author or text per week, missed classes can be compensated by reading the work outside class time, by borrowing lecture and seminar notes from other students, by avoiding the material missed when selecting assessment topics. But none of these remedies apply to a skills-based course that requires a hands-on teaching and learning methodology. The requirement that students attend regularly is becoming increasingly problematic at a time when students must undertake paid work in order to support themselves in their studies, and other external pressures are interfering with the individual’s ability to attend every class. It seems to me that there is little one can do in terms of course structure and organisation to deal with this problem. However, it is important that students are made aware of the differences between conventional literature courses and course such as this.

Related to the difficulties that arise when attendance is not regular is the problem that students encounter of working independently to learn hypertext applications. Working through the prepared exercises is straightforward until students make even the most trivial error (such as omitting one step in the work sheet) and then their lack of confidence and familiarity with the application means that they have difficulty identifying the mistake they have made and correcting it. This means that time spent working outside scheduled classroom time can be very fraught. Without an instructor to identify and correct mistakes students can become anxious, flustered, and less likely to recover in such a way that they can continue with their work. For this reason, it is important that the teamwork aspect of the project is introduced early so that students can spend time productively planning their project work outside class time when that extra time would be unproductively spent learning independently the hypertext software that will be used. As I noted above, it is imperative that students spend extra time learning how to perform the key operations needed to create hypertext: they must acquire quickly the knowledge and confidence to make links, handle graphics, set up text, and the like. Novices do, however, find it difficult initially to work independently to gain these skills.

In the final stages of the course there is another problem that arises in terms of the assessment of a hypertext course that does not apply to the same extent in conventional essay-based assessments. I refer to the issue of copyright. In the assessment of essays and examination scripts one is always alert to the possibility of plagiarism, made more difficult as students make use more routinely of the immense resources available via the Internet, but not the issue of copyright violation. When designing their Web pages, students are encouraged to note useful links to other sites, to observe good design practice (and bad) from which they can learn, and to note the substantive usefulness of the material posted on these sites. Issues of copyright arise when students want to use the material they find in this way. In particular, students want to make copies for their own use of images and graphics that are relevant to the students’ projects. The advice they are given is clear: do not copy or download any material that is not clearly marked as available freely for use in the public domain and when in doubt, email the web master or the owner of the web page to request
permission to use material from their site. The situation is complicated by the number of sites that do allow free use of their material (such as some of the more popular search engines) for the purposes of advertising and promotion of their site. This obscures the fact that material held on Web sites is subject to copyright restrictions and permission to use this material must be explicitly sought. And, of course, if permission is not sought or is denied then that material must not be used. Generally, students do not have to think through issues of intellectual ownership and copyright in the preparation of their assessed work but in a course such as this, and where the assessment itself is intended for eventual posting in the public domain (on the University’s Web site), these issues are of the greatest importance.

1Case Studies

Thus far I have been discussing generic issues and problems; now I would like to describe some examples of actual hypertext projects that students have completed. Projects are generally selected from the following approaches: projects based on the study of a single author or literary theorist (such as Shakespeare or Baudrillard), or a genre (such as the Gothic), or a literary period (such as the 1920s), or a literary movement (such as Romanticism), or a literary type (such as Black writing), or a theoretical school (such as Feminism). Students are given the option to pursue a more ambitious project such as the preparation of an electronic edition of a short literary text, but this option has not yet been taken up by any of the students I have taught.

The project work begins with the negotiation of topics and the formation of teams. I am rigorous about the self-determining nature of these working groups and while I will act as a mediator, communicating information about the topics under discussion and helping to ensure that all students know the interests of their colleagues, I will not create the groups or assign students to particular teams. Thus the responsibility for group formation and the future working of the group is placed firmly with students from the outset. There is usually a great deal of negotiation as members of peer groups adjust their ideas to accommodate the interests of friends with whom they want to work or as friends decide to work in different groups on quite diverse topics. The process is of course as much social as intellectual and this is important for the morale and effectiveness of the groups. Students are encouraged to work on a topic that engages their enthusiasm but at the same time is relatively familiar to them so that the new area they have to learn is not the subject matter but the representational form of the project. I believe that the focus of this course on knowledge management and representation is enhanced when students are representing their existing knowledge in a new form. This is often quite surprising to students – the discovery that what they already know about a favoured author does not get them very far when they come to design a Web site about that author. The emphasis away from discursive textual explanation and in favour of graphical information, audio-visual representations, and connectivity (meaning the links between sites and between Web pages) is often unexpected by students who have been thoroughly trained in the art of researching and writing literary essays at the expense of other means of representing their knowledge of authors and texts.

Once a group has been formed and a topic decided the next step is to divide the topic into meaningful, equal aspects and assign one aspect to each member of the group. My recommendation is that groups should have fewer than five members but more than two to facilitate this division of work. A pair cannot cover sufficient ground but a group with more than four team members raises issues of over-dividing the topic into aspects that are too closely constrained, and of co-ordination or communication problems. Three or four individuals working together can communicate effectively, co-ordinate meetings more easily, and palpably achieve a
great deal both individually and as a team. Some examples may clarify this: students working on a French Feminism project divided the subject not thematically or into issues, though these possibilities were discussed, but into a number of key theorists: Julia Kristeva, Luce Irigaray and Hélène Cixous. Each student then focussed on creating a representation of the work and achievement of one of these theorists, with in the context of the nature and development of French Feminist thought.

This required each student to be familiar with the complete writings of one theorist and to understand the key concepts of Feminism in general, French Feminism in particular, and the contribution of individual thinkers. What students are instructed to avoid is the writing of an essay in electronic format. There is a temptation to revert to familiar ways of organizing and presenting knowledge – which in literary studies is the essay. Students are told that they will be heavily penalised if they use hypertext as a sophisticated way of writing an essay rather than utilising the unique capabilities of electronic hypertextual representation. This means that students must resist the impulse to research their topic in depth and instead seek a diversity of types of information to present and exemplify their ideas. The ability to summarise rather than engage with complex intellectual issues is rewarded in this form of assessment. Students must use pictures, maps, diagrams, photographs and other forms of graphical representation rather than rely on their capacity to use only words. Sounds, animations, colours and patterns can be used in meaningful ways to present their knowledge effectively. Each student, then, must know more about their chosen theorist than their ideas and theoretical insights. Students must spend time gathering information that falls outside the usual research required to write an academic essay. One of the most important items of information students gather is a list of links to relevant Web sites. Initially, students are encouraged to keep a journal of their Web browsing in the log-book and to note the URL of any site they may wish to link into their Web pages. Connectivity is perhaps the single most powerful aspect of hypertext and the ability of students to make intelligent and informed connections among diverse data is very important to the success of their project.

Students are expected to make use of two types of hypertext link: links that are internal to the work of their group and links to sites that are external and located in the public domain. Those working on a project such as French Feminism or, to take another example, Structuralism, quickly find that their team members are making reference to a common pool of contextual knowledge – the work of Jacques Derrida, or Sigmund Freud, or Jacques Lacan, or Ferdinand de Saussure, for instance. So it becomes impossible for each student to work in an entirely autonomous fashion; the work of representing the intellectual context must be shared. This can be achieved either by distributing the task of presenting the work of these other theorists or by locating and creating links to Web sites that do this work of representation. The way in which these connections are made and used is a key aspect of the value students are adding to the information they compile and transform into knowledge.

Of course it is not only theoretical concepts and thinkers that comprise the contextual knowledge that must be incorporated into these projects. In the case of a single author study, biographical, cultural, historical and critical perspectives must be combined with the account of the author’s literary works. It is here that the organisation of the project becomes crucial to its effectiveness. A tree structure is relatively easy to navigate, moving from the level of greatest abstraction through a series of choices to increasing specificity and detail. From the point of view of the creator rather than the user, though, this organisational principle must inform the planning of the Web site from the very outset so that the creation of the HTML files will conform to the final structure and so that links can be traced clearly. The prototyping work that students complete in HyperCard, while they are acquiring familiarity with the idea of hypertext and before moving on to the more complicated
use of HTML, is very important because it is at that stage of the prototype that the logical and navigational structure of the Web site is decided.

One of the more ambitious projects in recent years was dedicated to the single text, *Gone With the Wind*. Students represented a diversity of approaches to this text, though most were concerned with establishing the cultural conditions of its production and reproduction rather than the novel’s reception. Students identified the following as key aspects of the novel’s cultural significance: the ante-bellum South, the history of the cotton industry, American slavery, the position of women in nineteenth-century America, and of course the Civil War. Others were concerned with the dimensions of the text itself that engage with these historical and cultural issues, while others looked at the physical and social geography of Margaret Mitchell’s landscapes and the production of David O. Selznick’s famous film of *Gone With the Wind*. There were more than four students working on this project – two groups of four students produced interconnecting projects that complemented and enriched each other. This was an unexpected development – that students might respond so positively to the notion of work that is both independent and team-based that they would take it a step further than I had intended. Unexpected though it was, I think that developments such as this demonstrate the value of courses such as this which allow students the scope to express themselves and their understanding of the work they are doing, and the literary material they are covering, in ways that are obviously relevant to their lives beyond the university and that they find stimulating and innovative.