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Storyspace: Using Hypertext in the Classroom

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The National University of Singapore created its University Scholars Programme to help produce graduates who are literate in a broad range of intellectual disciplines and particularly sensitive to the commonalities, differences, and connections among those disciplines. In small seminars, students learn how to read, write, and speak clearly, effectively, and critically. To achieve these objectives, I have used a hypertext writing tool called Storyspace; in this article, I assess the advantages of this tool in my work and outline the features that make it a valuable resource for teaching and learning.

Pedagogical Aims and Means

In January 2001, I developed a module for the University Scholars Programme called Thinking About Politics. I designed this module to introduce students, including a number of science majors, to the "state of the discipline." Building upon Dogan's (1998) characterization, I described the discipline of politics as the combination of the sub-disciplines of political philosophy, political science, and political theory. I also divided these sub-disciplines into such hybrid categories as political economy, political sociology, and political psychology. My intention was to give students a useful map of a discipline with shifting terrain and expanding frontiers. I also wanted to offer a structure for discussing connections among the diverse political theories, concepts, methodologies, and intuitions that produce vocabularies for thinking about current affairs. At the same time, however, I wanted to retain a sense of how unstable this structure really is, and how we eventually need to disrupt and question these categories to increase our understanding of the richness and complexity of the discipline. Hypertext is uniquely able to demonstrate these concepts.

George Landow, the pioneering dean of the Scholars Programme, was at that time teaching a module

called Telling Stories in Cyberspace that required students to present projects in hypertext environments. Storyspace was one of the hypertext writing tools that he introduced to his students for this purpose. I immediately began to consider using this tool to develop, organize, and integrate my course and teaching materials into an adaptable web of resources, because developers created Storyspace to manage even the most complex hypertexts with a strong focus on writing, rewriting, reorganization, and linking capabilities.

I was pleased to discover that learning to use Storyspace is a remarkably quick and almost effortless task. Its basic writing and mapping features allow the user to produce hypertext documents ranging from simply linear to associatively or logically complex creations. Such complexity may arise from any number of features that the software allows the writer to create: secondary narratives, annotations, pictures, and diagrams. In short, the visual ability to map out the links and writing spaces in Storyspace creates structure and order for even the most complicated hypertext documents.

In Memoriam Web, a hypertext creation based on Tennyson's poem and edited by George Landow and Jon Lanestedt, is an excellent example of a complex collection of Storyspace documents that provides contextual material, annotations, and commentary that illustrate the hypertextual character of this richly referential and allusive poem (Exhibit 1). The ability to add new writing spaces, links, and marginal notes gives these documents an "interactive" quality that opens up many possibilities (which I describe below) for using them as presentation tools. Teachers can use these documents as notebooks, workbooks, textbooks, or classroom presentation tools; and students can write their own responses and annotations. We can then use these as discussion tools to facilitate collaborative learning in and out of the classroom.

The Pedagogical Benefits of Using Storyspace: Links and Juxtaposition

Storyspace allows the user to make connections in two main ways: the use of hyperlinks or the strategic juxtaposition of textual spaces. When used in combination, these modes of connectivity make Storyspace a powerful medium for generating fluid but focused classroom discussion.

Because Storyspace allows the juxtaposition of several writing spaces on a single screen sequentially but in no fixed order, one might conclude that students would find the documents confusing and may even lose track of the relevance of points in the flow of discussion. Actually, the ability to plot the arguments

spatially enhances classroom discussions by allowing and encouraging numerous cognitive threads. For example, one could divide the screen into spaces or columns to create the following visual logic:

- The far left column lists the original topics or arguments (similar to a table of contents, discussion agenda, or line of reasoning).
- The center column, linked from one item in the original list, might list possible sub-arguments, counter-arguments, and further implications.
- The far right column might present examples such as textual excerpts, pictures, and diagrams.

In other words, we are able to discuss any point in detail while maintaining a visual path that situates it within the larger discussion.

I found this to be particularly effective for sessions in which we discussed several complex lines of reasoning that students needed to analyze in order to understand the larger concepts. We could weave in and out of discussions while constantly having an immediate visual reminder of the divergent paths we had taken as well as the way back to the "main road." For example, on one occasion students viewed an "official" multimedia account of Singapore's history, produced as a "National Education" resource by Singapore's Ministry of Information and the Arts. Class discussion of different interpretations of "history" was then facilitated online by a variation on the visual logic described above. The writing space named "Tutorial 1" lists the discussion agenda (Exhibit 2, Exhibit 3). In this frame, the blue words in item 5 of "Tutorial 1" link to the writing space named "Objectivity" (Exhibit 4) which contains further points for discussion and in which students can instantly add their input. I include Norman Markowitz's essay "Is History Really Bunk?" (2000) in the writing space on the bottom left corner of the screen (Exhibit 5). Students can quickly expand this writing space to fill the entire screen for close reading and analysis of this essay (Exhibit 6), which offers an account of why the American public appears to know very little about their own history. Students can in turn be asked to think about the similarities and differences with regard to Singapore's recent experiences (out of which emerged "National Education" as a means of making national history an important concern of the entire education system), and to make annotations in new writing spaces linked to the relevant words or phrases in the essay.

Storyspace helped to structure and expand our discussions by revealing parallels, contradictions, and

ironies that often challenged conventional wisdom about the subjects that we studied, encouraging students in this way to approach ideas in a more thorough, critical, and self-reflective manner. The simplest example of this was a discussion we had about the relationships among capitalism, patriarchal orientations, and contemporary notions of physical beauty. I filled a writing space with texts and images of female empowerment through expensive and long-term beauty treatments, culled from a well-known firm in the local beauty industry. In the midst of a predictably passionate discussion, I juxtaposed this writing space with a second space that contained a series of text and images from major health and fitness magazines for men. A simple device like this can help students appreciate why they should not simply accept the terms of reference in any discussion as given.

Storyspace allows the user to resize, realign, and reposition each writing space quickly, giving users the ease and flexibility to divide the screen space into many writing spaces. The visual interface is sufficiently attractive (see Exhibit 1) and, with creative construction of the hypertext itself, can be enough of a novelty to sustain the interest of students even through discussion of the driest topics.

Storyspace or World Wide Web?

While connectivity on the Web largely relies on links in HTML, Storyspace's connectivity depends on the use of links as well as dynamic textual juxtapositions. This more complex connectivity offers a number of benefits, some of which I describe below.

Storyspace enabled me to produce a large quantity of course materials in a fraction of the time that it would have taken to write, design, and then code in HTML. It also allowed me to visualize the "final look" of the pages as I composed the texts, and thereby avoid having to think separately about questions of substance, format, and style.

Creating Storyspace documents is no more difficult than writing standard word processing documents. It requires neither complicated coding nor the use of a server. Teaching materials created with Storyspace facilitate far more interactive discussions than essentially linear presentation software like PowerPoint. The creation of a hypertext document is collaborative: a facilitator creates, transcribes, positions, and links new writing spaces as the discussion and debate unfolds. Projecting onto a screen the documents and changes that are made to them in the course of discussion gives students a powerful sense that their

ideas and contributions matter a great deal. Participating in an expanding web of ideas fosters greater intellectual engagement, keeping everyone on their toes. Consequently, teachers and students collaborate during class time on building up, modifying, or even producing from scratch the arguments surrounding a topic. Inventive uses of Storyspace will help to draw students in large lecture groups away from being passive information receivers and toward becoming active collaborators in their own intellectual development.

Another advantage of Storyspace over the Web is that instructors can store all course materials, including teaching materials, on one Zip disk (without pictures, it may even be possible for everything to fit on a single floppy disk). Instructors can also distribute copies of this disk to students at the beginning of each semester so they can make their own additions, modifications, and annotations as they progress through the course, freeing them to pursue lines of inquiry that may be suggested in the course materials but never considered in class meetings.

HTML export templates allow easy conversion of texts, images, and links created in Storyspace into HTML for the Web. Although introducing frames to these Web pages may allow for some textual juxtaposition, this function is much less flexible and adaptable than the writing spaces in Storyspace.

Teaching with Storyspace: Future Plans

In the Thinking About Politics course this past semester, a substantial part of my students' final grade depended on their participation in a discussion forum on the Integrated Virtual Learning Environment, an Internet courseware management system designed and developed by the National University of Singapore. Every week, I asked my students to post responses to textual excerpts that I present for political analysis, and to engage with responses from other students. Next semester (Fall 2002) I plan to supplement this exercise with hypertext discussion written in Storyspace. I will divide the class into groups of eight at the beginning of the semester and present each group with a disk containing a single writing space with a loaded quotation, such as the following from Landow (1997):

> As the capacity of hypertext systems to be infinitely recenterable suggests, they have the corollary characteristic of being antihierarchical and democratic in several different ways (p. 281).

The task of the first student in each group will be to identify at least one word or phrase in the quotation and link this to a 300-400 word explanation, analysis, and critique written within at least one new writing space. In the next class, the student will give the disk to another student in the group, who will perform

the same tasks and then give the disk to another group member at the next class meeting, and so on. A simple exercise like this can help participants to learn experientially and self-reflectively about a number of course concepts: the nature of hypertext; group dynamics and interaction; topics in political science; the composition of explanations, interpretations, and critiques; and the connections among all of these concepts. I also plan to conduct an end-of-semester analysis of the different hypertexts' development during the course that I hope will be very illuminating.

Purchasing Information

I became adept in the use of Storyspace with only two evenings of practice, and since then it has opened up many possibilities for facilitating and improving my teaching. The product retails for $295, and is available for both Macintosh as well as Windows users. Ten-user and hundred-user licences can be purchased at $695 and $4,995, respectively; further educational discounts are also available. Orders and enquiries should be emailed to info@eastgate.com.

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