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Resources, Constraints and the CMS

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When historians of technology eventually look back on the first few years of the World Wide Web's existence, they may well wonder what the controversies surrounding "virtual community" were all about. During the Web's first years there was a good deal of talk and publication about the inevitable promise of virtual communities, for providing a kind of sociability liberated from spatial boundaries, and promoting or reviving participatory democracies. At the same time, there were many who worried about the sociability and citizenship of future generations who might prefer the virtual communities to the "real" communities to which they would have belonged -- or at least have been limited -- in former times. Nearly a decade after Howard Rheingold's *The Virtual Community*, however, we find that these communities have more often to do with the value of products than with political values, and a number of recent studies show little evidence that either sociability or civic engagement is strongly affected by Internet use (see e.g. the survey in DiMaggio et al. 2001). What, then, were we so excited about?

There is a sense in which "virtual community" seems an oxymoron, at least when we consider the technologies currently available for realizing such a thing. While the sociologist and communitarian philosopher Amitai Etzioni has argued in "Can Virtual Communities Be Real?" that there is no reason that a computer-mediated community (CMC) couldn't be a *bona fide* community, he overlooked the possibility that the phrase *virtual community* was too loaded not to eventually disappoint. As the sociologist Manuel Castells writes in *The Internet Galaxy*, the phrase "confused different forms of social relationships and prompted ideological discussion between those nostalgic for the old, spatially bounded community, and the enthusiastic supporters of Internet-enabled communities of choice." (Castells 2001: 125) Indeed, pending a cure for nostalgia, it seems that for many people a *virtual* community could at best simulate, and never emulate, a real community.

What could this possibly have to do a Course Management System (CMS)? As I listened earlier this year to a presentation by one of the vendors of a CMS Brown was considering, and the discussion among the faculty that followed, I thought that here too we run the risk of confusing different forms of relationships, this time between teachers and students and curriculum. Here too there were those nostalgic for a certain sort of classroom experience, and they were failing to find common ground for discussion with those anxious to use the new technology. Adding to these difficulties is the circumstance that, except for those vendor presentations and the primarily technical questions they inspired, we had little opportunity to formulate even a common vocabulary for discussing pedagogical strategies in, and teacherly evaluation of, whatever CMS the University decided to adopt.

In their widely acclaimed *The Social Life of Information*, John Seely Brown and Paul Duguid argued that, when it comes to the use of technology in previously established practices, we are often less clear than we think about what is a *constraint* and what is a *resource*. Their famous example is that of the paperless office: it turns out that paper isn't only a constraint on efficient information management, but also a resource with "properties that lie beyond information, helping people work, communicate and think together." (Seely Brown and Duguid, 2002: 19). An example closer to home is that of a course web site offering complete lecture notes published by the teacher in advance of the lecture: it turns out that these notes can be not only a resource for students but also a constraint on the sorts of attendance and attention the teacher can expect in class.

The examination of the relationships between constraints and resources in the use of new technologies in education seems a promising aspect of a scholarship of teaching, and the introduction of a CMS at Brown offers a wonderful opportunity to make experiments a part of that examination. Specifically, a CMS allows us to test a number of hypotheses about teaching and learning with technology that have not yet been seriously investigated.

For example, it is a widely held belief among educational technology advocates that opportunities for asynchronous communication between teachers and students, and between students, enrich the learning experience in higher education. The use of electronic mail would seem an obvious supporting example, but given the CMS's support for on-line "discussion" and other forms of interactive broadcasting between class members and the teacher it becomes interesting to ask whether or how the use of these resources constrain classroom teaching. Similarly, and especially at Brown, any technique or technology that promotes individualization or customization of the learning experience is usually recognized as an educational good, even as it seems to constrain certain kinds of moral and

political development in our students. The CMS allows us to compare individualized models of instruction with their more standardized counterparts, and study the consequences for students who have chosen and experienced one model rather than another.

Additional experiments inspired by the constraint/resource question and made possible by a CMS could involve hypotheses about instructional design (e.g. do uniform course "interfaces" contribute to or detract from the learning experience?), and the role of information in teaching (e.g. when does the amount of course material available on-line begin to constrain rather than promote student achievement?).

What will make our examination more complicated than the studies of Seely Brown and Duguid is the fact that each generation of students evaluates educational constraints and resources quite differently. Indeed, perhaps the weakest aspect of *The Social Life of Information* is the assumption that these values persist from generation to generation. What seems an undesirable constraint to one generation might seem an excellent resource to another ("Instant Messaging" being my current favorite example), but perceptions of resources and constraints are themselves the result of education, or at least of powerful example.

These considerations lead us to a heightened awareness that, as teachers, we're asked to not only observe our students and adapt our practice to their needs, but also to engage students in the sorts of exercises that create preferences and perceptions about learning. In his classic analysis of the grammar of "telling" and "teaching", in *The Language of Education*, the philosopher Israel Scheffler clarified the sense of the teaching as norm-setting as well as fact-stating, and this sense is reflected in both the contents and techniques of a course. We'll find that in the careful use of a CMS we'll be doing much more than transmitting and receiving information, and we should make the most of our curiosity and uncertainties about this new technology as a resource, and as a constraint.

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