THE SPACE BETWEEN: CREATING A CONTEXT FOR LEARNING

By J.C. Herz

We’re in a very strange sort of flux right now, with technology and education and information and the way people learn. As in the Chinese curse “May you live in interesting times,” the present is fascinating and interesting and exciting but also tense and disconcerting and uncomfortable. You may wake up and say, “Well, I just don’t know how I’m going to come to terms with this.” Or you may, especially if you’re a student, wake up and say, “Cowabunga!” It is here, in this space between—between the old technology and the new tools, between the offline and the online—that the opportunities reside.

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One aspect of this space between is a change in focus from the individual to the group. The library serves as an example. In the history of how information appears online and even further back, to card catalogs and archives, there has been a kind of intimacy between the individual and the library, in how the individual relates to the library. A library archive is the information and the individual assisted by a librarian or, if you're in a more corporate setting, assisted by an IT person. But now we're seeing all these systems that enable and empower groups, with a lot of applications written specifically for groups rather than for individuals.

This is actually all about context—about groups of people, whether the groups are classes or scholarly communities or academic departments or library departments. How do these groups create the context that makes the information matter? For example, how do students in a class churn through information in a way that constructs a framework in which they can understand what happened in a specific historical period, or understand how modern art relates to the events of the time, or understand what's going on in the sequencing of a particular species? There is a construction of context that, to some degree, is the purpose of higher learning: you don't simply memorize the facts, you learn how to learn; you learn how to construct new context with the information you receive. That is the hallmark of a broadly educated person. In essence, liberal education is the ability for someone to come into a situation, have some knowledge at their disposal, encounter new knowledge, and then be able to create for the new knowledge a context that makes sense or be able to use the tools that they have for learning in order to assimilate that new knowledge and put it in a new framework. The more information there is, the more important this becomes—not only for educational institutions but also for online sites like Amazon.com, eBay, and the music services. It's all about taking this vast river of data or information and creating a context in which the information makes sense and can be understood.

As a result, value exists less and less in the pure data or in the pure information and more in the implicit, in people, in their context. At the same time that this is a great opportunity for the process of learning, it also runs up against the culture of engineering, which is the culture of a lot of the people who hold down the fort with information structures—the computer science majors and the engineers. This culture of engineering, which has achieved some incredible feats in history, has several assumptions. One of them involves the product that is going to be built. In the great enlightenment tradition, we break the product down into the smallest possible parts, understand what those parts are, specify all the parts, build the parts, and put them together. Then we're done. We can say, “It's built—there you go, thank you very much, there's your bridge ma'am.” But what we're seeing on the network is that so much of the value of the information is actually the flow of the information. It's the vectors and the trajectories and how things grow. It's organic, for lack of a better word. When you build a system (the product), or you put a tool into place—whether that's a mailing list or a blog or a wiki—so much of the value is what emerges from the activity around that tool. It's not in the spec; it's not in the code.

We know how to build a product; we know how to put information into neat little boxes. But the value lies less in the organized information boxes and more in how these boxes are linked. Information may be properly and adequately categorized and people may be able to access it easily, but if no one does access it, how valuable is the information? How do we “spark up” the activity around the information and create a context in which that information takes on real value? As technologists, we have this kind of awkward responsibility to deal with the social context. In order to provide value to our organizations, we need to understand the messy activity of groups of people using and exchanging information, as well as understand all of the not easily specified results.

Coming from a background of game design, I tend to think of these sorts of group-activity issues as part technology and part anthropology. An example is EverQuest, one of the massively multi-player persistent world games. I like to describe this game as twenty-first-century technology mixed with Stone Age anthropology. The network platforms that support EverQuest are jaw-dropping—they're the Hoover Dam of the network age. On the one hand, this is an amazing throbbing technological infrastructure; yet on the other hand, it is people getting together in groups of six or eight and going on this massive, sci-fi, Tolkienian kind of hunting trip. People work their way up in status, they get these cool objects, and they earn things; but at the heart of the game, a very deep, profound, old, and not particularly exotic set of human drivers is pushing this thing forward. People are competitive, they want acknowledgment, they like to see that they've earned something, and they like to bond. In fact, the bonds of their group are often what keep them in the game.

The game was designed to form people into these small groups for a reason. It's not just that playing that way is fun. In addition, people don't like to leave their group. This is the same sort of unit cohesion that the military has long talked about: people will not leave their pack.

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They won't divorce the game because their friends are there. And so if people do leave, they do not leave alone. These groups of people leave together. The whole group of six or eight of them will just pack up, move to another game, and plop themselves down; and that existing social network will continue to roll forward in another context.

When I taught a graduate course at New York University called “The Anthropology of Massively Multi-Player Online Worlds,” I had some of my students do research on this tendency. It turns out that there were people who were on early text-based MUDs (multi-user dungeons) ten to fifteen years ago and that they still use these spaces, even though text-based, as a staging ground for the activities that they plan to undertake in their fully roamable, three-dimensional, modern, fantastic, up-to-the-minute games. They continue to use the old shell of the forgotten text-based world as a kind of clubhouse. And this started me thinking about the persistence of spaces and the social networks that we have in academia and in our organizations.

Often we decide that a class or a department or a team needs to do some activity, and we choose an online tool so that the people can come together and can take on an identity and a discourse as a group. When you evaluate the technologies to use for online shared spaces, one of the questions to ask is, “What's the appropriate scale for this technology?” Is the space intended for six people, for two hundred people, or for the whole campus? The tools that work for a group of ten or twelve—say, the size of a section—are not necessarily the same tools that are going to work for a class of six hundred. A buddy list may be best for a section of twelve students, whereas a chat program might work well for a survey class of six hundred students. It’s not a value judgment. There are things that are really good when they're large. Big isn’t always bad. For instance, things like marketplaces are much better when they're big: Craig’s List, eBay. Markets work when they have the scale and the volume and the liquidity to function more smoothly. On the other hand, some things are much better when they’re small.

Another issue involves how people are going to be let in to the space. Will people be invited in? Can someone who just happens to stop by come in? Is the whole world going to be allowed in the space? These are decisions that affect the social fabric. For example, a class in which students know that the only people who are going to be looking at the discussion are those who are in the class will have a different orientation from a class in which students know that their discussions are going to be out there on the Internet. To some degree, these are policy decisions. But practically speaking, the closed/open decision may be left to a particular professor or a particular class. Of course, openness in the academic community is very much a “motherhood and apple pie” kind of issue. But beyond that, the experience and the learning substrate for the students are affected by having a private versus a semi-private versus a public space.

Time is another consideration. Some real decisions have to be made about the birth and death of these spaces. Should the space last over the course of a student’s education or over the course of a person’s career at a particular organization? Should
the space be kept alive only through the end of the semester? Should any student of the subject over the course of a decade have access to the space as a sort of living document? The answers will vary because the context is not always the same. Is there a value for this being a perpetual thing? Is there a value for it not being a perpetual thing? Students work on projects for their classes; conferences, to some degree, are projects. Is there a value in having a limited amount of time for people to complete a project? I’m currently involved in a project in which a group of people have been given a series of challenges that they have to work on. They have different skills and come from different disciplines, but they have to produce a deliverable to these challenges. I’ve argued that the Web page for every single one of these challenges should have a clock that’s counting down. This gets back to the group dynamic. Groups are motivated by forces outside themselves; maybe it’s competition with another group, or maybe it’s time and they’re racing that clock. One of the things that binds them is the sense: “We’ve got to get something done because there’s something outside ourselves that is demanding a heightened level of performance.”

Time is also an issue of persistence, the value of connectedness in any of these spaces. Do you want a persistence built over a year or several years—a resource that becomes the sort of be-all, end-all, linked-up encyclopedic reference for something or another? In part, that’s the genius of Google: it measures human decisions, lots and lots of human decisions. There is a valuable lesson in Google: Google lets computers do the things that computers are really great at, and it leverages humans for the things that humans are really great at. Computers are great at rapidly searching massive amounts of information. Humans are not very good at that. But humans are great at making judgments about what’s relevant, what’s not relevant, what’s connected, what’s not connected.

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Computers, for all of the research into the semantic Web, are not that good at creating context. So Google says, “OK, here’s a thing that computers can do really well—just grip all of the information.” But what it’s really spiders is millions and millions of human decisions. Basically, people are generating the value of Google. All of these discussions about the semantic Web are fine, but it is always people who are generating the value in the context that they’re creating—and in the context of a single classroom or an entire university. This is a foundational issue: how do we enable the value from interchanges between people?

A friend of mine, David Temkin, worked for Apple years ago. In 1998, in his spare time, he started a print magazine, called In Formation, with the following motto: “Every day, computers are making people easier to use.” When the technology and the infrastructure decisions run the whole process, there’s a dreadful and Orwellian danger. The technology piece definitely has to be there, and we have to be competent in that technology, yet there is also this anthropological aspect that people, who may or may not be trained that way, have to take into consideration. Ultimately, that should be the tail that wags the dog.
We need to look rigorously at the effect that these different technologies, particularly social software, have on the learning experience. I would dearly love to see someone conduct the following experiment. It would start with a very large survey class—the required, core course that has various sessions led by graduate students. One section of the class would be traditional—students go to the section once a week and sit around the table. There are about twelve people in the section: two or three of them do all the talking; one of them is always asleep; and the rest are half-listening and hoping that they can wing it on the tenth of the material that they’ve read. This is the status quo, the control group. Another section would have no face-to-face meetings whatsoever; the entire section would be online, with its own buddy list, using wikis, blogs, you name it. This is the totally wired section. The third section would have both traditional and online features. People would meet once a week and also use all the online tools.

At the end of the course, the students in the three sections would all take the same exam. It would be interesting to see whether there is any statistically significant variation in their grades. Of course, the grade-grabbers in every group would instantly object to the whole experience. And there are always people who will stand up and wave their arms around and say: “Well, nothing has been proven. A whole body of educational and pedagogical theses have been written, and there are none about this. How have you validated the results?” These aren’t always our favorite people, but it’s good that they exist. I think we need to be asking these kinds of questions and we need to start coming up with some answers. Because in the first flush of any technology, there is a great impetus to use it simply because it’s new and it’s there and it’s interesting and it’s cool and the students love it. But we need to be somewhat rigorous in our analysis of the effects of the new technologies. We have all of the data.

At the same time that students are using the new technologies, they will also be learning how to learn. They already know how to learn the Google way, and after a series of classes in the traditional mode, they know how to learn the classroom way. The question is, how do those two intersect? How can they be resolved? I think that is the really hard question for all of us: not so much how do we replace the old with the new, but what is the synthesis of the old and the new? How do we make a third thing that is greater than the sum of the parts?

Look at what’s happening in the sciences, particularly in physics. The community of physicists has collectively decided that they would prefer to get the electronic equivalent of preprints rather than wait for paper distribution. In biology, the Public Library of Science, which is $9 million richer thanks to the Gordon and Betty Moore Foundation, is publishing two biomedical journals online, with no charges for access and no restrictions on subsequent redistribution or use. So this thing is brewing. It is about the online connections, the downloads, and the links. It is about peer review being
reinvented as a term and as a concept. Whether we like it or not, whether the libraries like it or not, whether the journals like it or not, this is happening.

About a year ago, I was asked at a conference, “When will someone get tenure for a blog?” Blogs have already caused a sea change in companies in the area of hiring. For example, a job applicant has a blog that is the most popular, highly referenced blog in the subject. The guy is twenty-two years old, and he’s got 650 inbound links on Technorati.com. These links are third-party validations that this person is worth paying attention to. He is the person with the best network and the most credibility in his field, so on a purely rational basis, leaving aside what the human resources department says about educational level and years of experience, when it comes to actually getting the job done, this is the person you want. Hiring decisions are being made right on this basis.

A few years ago, I had a very interesting conversation with a retired Marine brigadier general. When he was in the first Persian Gulf Conflict, he made a point of trying to meet all of the junior officers and enlists who were in his purview because that’s the sort of person he is. He wanted to know who was in his command. And so he was talking to this enlisted guy at night, and the stars were out in the desert sky, and this guy was pointing out all the stars and all the constellations with comprehensive, encyclopedic knowledge. The general asked, “Say, is this some sort of hobby for you?” And the enlisted guy said, “No, I was working on a Ph.D. in astrophysics before I enlisted.” The general thought to himself, “Hmm, this guy probably shouldn’t be doing what he’s doing now. We should put him in another job because he knows math!” Whatever your position is, whatever your qualifications are for the job you’re supposed to be doing, the knowledge management paradigm is shifting away from the information itself and toward the know-how. We’ve all had this experience. I don’t necessarily need to know where exactly in the database this particular problem is that I need to solve—I need to find the person who knows how to solve that kind of problem. In any community of practice, people will say, “Well, so-and-so is the expert on that.” The person may not be the academic superstar in the department or may not be the kid who takes the most initiative in discussion during class, but this person is known as the expert in some area. How do we value these hidden experts?

We need to create a new context for learning. The space between—between the raw technology and the new tools, between the way that things have traditionally been done and the way that things can possibly be done, between the offline and the online—causes the most tension but also offers the most opportunities. To find the most value in this space, we need to create a context that combines the old and the new, rather than simply replaces the old with the new.