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Disrupting Determinism: Classroom Design as a Technology

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Classroom design, specifically in computer and digital environments, has largely been discussed in ideal terms, relying on unrestrained pedagogical fantasy that exists in a world free of economic and institutional constraints. In these fantasies, the space and architecture of these classrooms are pedagogically mutable where the space adapts fluidly to the instructor's teaching philosophy. It may seem that I am coming down heavy-handedly on others whose scholarly pursuits lie at the heart of design in technology-equipped environments, but like them I too find myself enraptured in flights of fancy, daydreaming about the perfect computer environment…even going so far as to imagine the perfect students for these spaces, students who have the necessary literacies needed for production of digital and multimodal texts. But, when I come back to reality, I, like many other writing instructors, find myself in computer classrooms that have been designed to replicate an ideology and philosophy quite alien to my own. As noted by both Katherine Fredlund and Vanessa Cozza, these spaces exert a coercive effect on classroom ideology and interaction. Like both of my colleagues, I find myself in a classroom that is constructed not by writing instructors but by networking specialists, or in a classroom predicated upon the institution's economic and spatial downsizing.

Understanding Design as Technology

  This section articulates classroom design as a technology. However, by technology I do not simply mean the ways in which technology is used in the writing classroom, but that the classroom space itself functions as a technology. Like Katherine Fredlund and Vanessa Cozza, I too will be discussing the design of the classroom; however, unlike them I will focus my analysis on design through the lens of technology. By viewing classroom design through the lens of technology, I hope to unveil the underlying ideologies in classroom spaces. Furthermore, by taking a *substantive* view of these classroom spaces, I hope to show the ways in which these spaces dominate the individual pedagogical practices. This view of the classroom will emphasize that these classrooms have been constructed—engineered—and therefore new paths can be found to change the way in which the physical classroom space limits interaction and pedagogy. Through this articulation, I will conclude by looking at ways to disrupt, decenter and democratize these static classroom environments and ultimately investigate new practices so that writing instructors can take back control.

  For this discussion, I will draw on the experience of instructors in these spaces, specifically the experiences of Katherine Fredlund, Vanessa Cozza, and my own. Moreover, I will place these experiences into context, theorizing instruction and interaction through a technological lens, using Andrew Feenberg's Critical Theory of Technology. Though Feenberg employs his theory as a lens through which to view societal and cultural forces, his emphasis on larger institutions does not make the theory inapplicable to smaller samplings in society. Using Feenberg's theory and focusing the lens on the micro—the classroom—I will show how the classroom environment functions as a technology. In addition, using Feenberg's theory I will

demonstrate how the classroom design fits into more traditional views of technology and ways

that these conventional modes can be subverted. But before I move into the specific dynamics at

play within educational spaces, I will first need to discuss the two predominant theories of

technology.

Technology as viewed by most social philosophers is broken down into two camps:

instrumental and substantive. Instrumental theory is the most common view on technology. At

its foundation, instrumentalists view technology as "tools" designed to serve the purposes of an

individual or community. Moreover, instrumentalists deem technology as value neutral. As

Feenberg explains, technologies are viewed as neutral because "a hammer is a hammer" (6), by

which he means that since technologies are based on replicateable standards and uses, they do

not bring with them a dogmatic component dictating their functionality.

Contrary to instrumental theory, substantive theory holds a differing perspective.

Denying the neutrality of technology, substantive theorists argue, "that technology constitutes a

new type of cultural system that restructures the entire social world as an object of control. This

system is characterized by an expansive dynamic which ultimately mediates every

pretechnological enclave and shapes the whole of social life" (Feenberg 7). Substantive theory

asserts that technology is imbricated with cultural and societal constructions and are tools

performing a hegemonic function. In *Wild Technologies: Computer Use and Social Possibility*,

Johndan Johnson-Eilola echoes the substantive view, stating "technologies are inherently

political in the most general sense of the term: In key ways, technologies define allowable ranges

of action, hierarchies of power, and appropriate ways of communication" (97). In contrast to

Johnson-Eilola's conception of technology, the classroom (in most cases) does not function

politically. However, by its very nature, the classroom is contingent on multiple and competing ideologies. Design, in this case, dictates the shape of pedagogy, teacher/student power dynamics, and classroom interaction.

Beyond Theory: The Classroom Experience

As I begin to explore the operation of the classroom as a technology, what constitutes the geography must be defined. The geographical or spatial design of the classroom is defined by the arrangement of seating, the focus of the classroom, topographical features (such as monitor placement), and other available technologies arranged in the classroom (i.e., printers, projectors, tables, etc.). One caveat to the geography and design of the classrooms are writing programs, like my own, which require students to use their laptop computers in the environment. The use of external portable technologies must be accounted for as I begin to examine the way that the space dictates class interaction and pedagogy.

The first classroom I will examine is one of my own. Like Katherine Fredlund and Vanessa Cozza, the first classroom I will look at is based around the perimeter design. The classroom in question is a traditional classroom, where students sit at tables in a perimeter design; however, in addition to the conventional set-up, students bring their personal laptop computers to class. I will call this a laptop-equipped classroom; however, laptop-equipped in one way is a misnomer: the classroom is a normal classroom, where students are required to bring their own laptop computers to class—minus the A/V box in the classroom, there is no difference between a normal classroom and laptop equipped classroom. The design of the classroom consisted of a white-board and projection screen at the front with an A/V box; the students sat at tables arranged in the shape of square with a middle section near the front open;

and the tables were arranged in such close proximity to the walls that there was not enough room for a person to walk behind the students while they sat in their chairs. The students' eyes focused on the empty center of the square.

The physical space of the classroom seems to be one conducive towards discussion, creating a very dynamic classroom. But, as notebook computers are placed in the space, the dynamics change, causing the open lanes of human interaction to be blocked by the screens of the notebooks. These "road blocks" disrupt the basic structural ideology of the class. Students become tiny old women behind the wheel of their notebooks—eyes barely peeking over the laptop screens. Introducing the notebook computers into the physical space transforms what would seem like a student-centered and social environment without the technology into an environment that isolates the students from each other and the instructor, reinforcing the romantic notion of writing as an individual act.

Looking at this classroom through a substantive lens, the classroom, which at first seemed to fit in a student-centered design, became one that created isolated pods in which students would work. The large tables pushing students towards the walls of the classroom also created other problems, specifically with peer workshops. Like most writing courses, peer review is essential in my classroom, but the addition of notebook computers into a space that already separated students exacerbated the problems of group work in this environment. Additionally, with the physical constraints, the materiality of the students' laptops served to aggravate the constraints of the environment on peer review. The laptops are laden with economic, personal and even cultural value, which in effect created an intimate relationship between student and computer. Regardless of the perverse connotations, this relationship made

the sharing of work even more cumbersome than usual. The students were leery and opposed to handing their personal laptop computer to another student for review. Though most of these problems are common to classrooms of all types, at some point these issues begin to break down, except in this environment the problems became pervasive throughout the remainder of the semester.

As I move into an example from Katherine Fredlund, I think it is important to note that in my view there is not a separation between the traditional and technological classroom: They both function as technologies. Yet, regardless of this semantic variation, by pulling excerpts from her discussion it is apparent that many of the same issues are at play. Unlike my own classroom, Fredlund's was modeled after the proscenium design. Looking at her experience within this environment, it is apparent how the space controlled much of the interaction between the students and instructor, limiting her pedagogical practice. She notes, "Although I frequently attempted writing workshops, my inability to negotiate the design of the room led to what I felt were unsuccessful workshops: I spent more time trying to get to my students then trying to help my students with their writing." I see echoes of my own experience in Fredlund's narrative, particularly the cumbersome design. And like my own experience, she suggests that the design subverted her pedagogical intentions. It is apparent that she is taking a student-centered view of teaching, except as she notes of the proscenium design, "The inconvenient design of this classroom led to exactly what it was made for: lecture."

Similar to both my own and Fredlund's experience, Vanessa Cozza marked many constraints that compromised issues of pedagogy and interaction within her classroom. In what she calls a "modified" proscenium plan, some students would be separated from the remainder of

the class, noting that "there is one solitary computer desk for one student who sits facing the

right wall." Another problem, separate from student isolation that Cozza suggests, are problems

of classroom communication. She writes, "While facing the front of the classroom, each student

has to raise his or her head or move to either side of a larger computer monitor, which blocks the

student from seeing the teacher and/or whiteboard positioned at the front wall." In Cozza's last

statement, it is apparent that neither the student nor the teacher was any longer the actual focus of

the classroom—the focus was the computer. The geography of her classroom was dictating the

computer-centered design, altering and changing and ultimately usurping the instructor's

pedagogical design.

Disrupting, De-centering and Democratizing

As a way to reconceptualize the power that these spaces have in our teaching, it is

important to remember, as Francis Bacon wrote, that "nature to be commanded must be obeyed."

By no means is classroom design equivalent to nature, but as a way to deconstruct the

technological apparatus, we as instructors must still abide by spatial and geographical limitations

handed to us by our classrooms. However, the space and technology provide the exit from the

physical confines of the classroom, allowing instructors to reassert their own pedagogies and

ideologies through hypertext. Just as Vanessa Cozza mentions, using different technologies can

assist in overcoming the physical restraints of the classroom. By using Web 2.0 applications,

hypertextual mediums and New Media, the instructor can disrupt, decenter and democratize the

physical environment.

In his book, *Hypertext 2.0*, George Landow suggests that "one experiences hypertext as an

infinitely decenterable and recenterable system, in part because hypertext transforms any

document that has more than one link into a transient center, a directory document that one can

employ to orient oneself and to decide where to go next" (37). For teachers, a move to

hypertexts opens up freedoms that Andrew Feenberg would call a "moment of positioning,"

where instructors can situate themselves, their students, and their pedagogy strategically within

these technical practices (184). Furthermore as Cynthia Selfe suggests, in a "postmodern world,

new media literacies may play an important role in identity formation, the exercise of power, and

the negotiation of new social codes" (qtd. in Wysocki et al. 9). Wysocki's second suggestion is

most important in understanding how to break free of the physical limitations of the classroom

design. Only by moving toward the virtual where texts and people can move ephemerally,

decentering and recentering, in a space not limited by physical restraints, can writing instructors

reassert their pedagogical and ideological autonomy.

Works Cited

"Apple Laptop Computers Required for Teacher Education Students." Ball State University:

      Teacher's College, 2008. Web. 11 October 2009.

      <http://www.bsu.edu/teachers/laptops/>.

Balester, Valerie M. "The Evolving Computer Classroom for English Studies." *Approaches to*

      Computer Writing Classrooms: Learning from Practical Experience. Ed. Linda Myers.

      New York: SUNY, 1993. 135-148. Print.

Blair, Kristine and Cheryl Hoy. "Paying Attention to Adult Learners Online." Computers and

      Composition 23.1 (2006): 32-48. Print.

"Computer Initiative." University of Dayton Undergraduate Admission. Web. 11 October 2009

        <http://admission.udayton.edu/Academics/Computer_Initiative/>.

Feenberg, Andrew. *Critical Theory of Technology*. New York: Oxford UP, 1991. Print.

Johnson-Eiola, Johndan. "Wild Technologies: Computer Use and Social Possibility." *Computers*

        and Technical Communication: Peadagogical and Programmatic Perspectives. Ed.

        Stuart A. Selber. Greeenwich: Ablex, 1997. 97-128. Print.

Landow, George P. *Hypertext 2.0*. Baltimore: Johns Hopkins UP, 1997. Print.

NCTE. "The NCTE Definition of 21st Century Literacies." *National Council of Teachers of*

        English. 20 August, 2008. Web. 29 October 2009.

        <http://www.ncte.org/positions/statements/21stcentdefinition>.

"Northwest Admissions." Northwest Missouri State University. 2009. Web. 28 October 2009.

        <http://www.nwmissouri.edu/admissions/laptop/index.htm>

Palmquist, Mike, Kate Kiefer, James Hartvigsen, and Barbara Goodlew. "Classroom Dynamics:

        Interaction and Classroom Design." *Transitions: Teaching Writing in Computer-*

        Supported and Traditional Classrooms. Greenwich, CT: Ablex, 1998. 53-90. Print.

Selfe, Cynthia L. "Technology and Literacy: A Story about the Perils of Not Paying Attention."

        Computers in the Composition Classroom: A Critical Sourcebook. Eds. Michelle Sidler,

        Richard Morris, and Elizabeth Overman Smith. Boston: Bedford/St. Martin's, 2008. 93-

        115. Print.

Selfe, Cynthia L. and Richard J. Selfe. "The Politics of the Interface: Power and Its Exercise in

        Electronic Contact Zones." *Computers in the Composition Classroom: A Critical*

Sourcebook. Eds. Michelle Sidler, Richard Morris, and Elizabeth Overman Smith.

Boston: Bedford/St. Martin's, 2008. 64-85. Print.

Selfe, Richard. "Planning Technology-Rich Environments." Sustainable Computer

Environments: Cultures of Support in English Studies and Language Arts. Cresskill, NJ:

Hampton, 2004. Print.

---. "Sustaining Multimodal Composition." *Multimodal Composition*. City; Publisher, Year. 167-

179. Print.

"Technology: Bentley." Bentley University. Web. 11 October, 2009.

<http://www.bentley.edu/undergraduate/technology.cfm?linkref=pn>.

Van Waes, Luuk, and Peter Jan Schellens. "Writing Profiles: The Effect of the Writing Mode on

Pausing and Revision Patterns of Experienced Writers." *Journal of Pragmatics* 35.6

(2003): 829-853. Print.

Wysocki, Anne, et al. *Writing New Media Theory and Applications for Expanding the Teaching

of Composition*. Logan: Utah State UP, 2004. Print.