NEGOTIATING SPACE: EXPLORING THE RHETORICAL POTENTIAL OF OPEN SOURCE SOFTWARE

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NEGOTIATING SPACE: EXPLORING THE RHETORICAL POTENTIAL OF OPEN SOURCE SOFTWARE

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Virtual learning environments have received little academic or critical attention pertaining to their rhetorical implications or their effects on the agency of their users. While some scholars -- Cynthia and Richard Selfe (1994) and Darin Payne (2005) -- have issued calls for increased academic engagement with the software designers and developers of virtual educational spaces, or Learning Management Systems (LMSs), few have heeded that call. The growing popularity of open source software creates an opportunity for a renewed dialogue about what educators and software developers can accomplish at the local level to create and maintain virtual learning spaces that accurately reflect the goals and values of local institutions, faculty, and students. This thesis enters into that conversation by directly addressing the people involved in the building and development of virtual pedagogical spaces. This is accomplished by focusing on a specific LMS (Isidore) in a specific local environment (the University of Dayton).

Keywords: LMS, CMS, VLE, virtual space, rhetoric of technology, rhetoric of functionality
Dedicated to Mike, Bonnie, and Mom
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INTRODUCTION

In the early 1990’s, as computer and Internet technology became more prevalent in the classroom, scholarly attention began to focus on the rhetorical and pedagogical implications of virtual spaces. Cynthia and Richard Selfe (1994) were some of the first to analyze the interfaces of computer operating systems (including the Macintosh and IBM’s DOS) to determine how those interfaces influenced the teaching and learning of composition students. Selfe and Selfe were concerned that composition instructors were embracing the democratizing potential of the technology without considering the hegemonic values expressed by the interface itself. Their underlying premise, that interfaces are never value free or rhetorically neutral, challenged educators to critically appraise and examine their virtual learning spaces. At the end of Selfe and Selfe’s thorough treatment of a variety of interfaces as they existed at the time, composition educators were encouraged to “contribute to an increasingly critical awareness of technology issues on the part of individuals involved directly in the design of technology” (p. 498-499).

By 2005 an increasing number of students are engaging not only with desktop interfaces and word processing software but also entering into complete online learning environments, typically referred to in the United States of America as Learning Management Systems (LMSs). In response to this dramatic shift into online education,
Darin Payne (2005) writes an article entitled “English Studies in Levittown: Rhetorics of Space and Technology in Course Management Software,” in which he critiques the ubiquitous LMS, BlackBoard. One of Payne’s principle claims is that LMSs in general, and BlackBoard in particular, have homogenizing tendencies that potentially limit both the agency and the individuality of the students who inhabit these spaces. In addition, Payne is concerned that students are being positioned “within digitized spaces that are not of their own making, nor of ours for that matter” (p. 484). Like Selfe and Selfe (1994), Payne maintains that the values of the (LMS) interface are nonnegotiable and culturally imperialistic. Payne concludes his article by asking teachers of English to engage with the developers of course software in order to ensure that the pedagogical interests of both students and faculty are considered.

In 2009, Aimée Knight, Martine Courant Rife, Phill Alexander, Les Loncharich, and Dánielle Nicole DeVoss examine how the web sites of college writing programs establish identity and communicate, intentionally or not, the pedagogical preferences of those programs in their article “About Face: Mapping Our Institutional Presence.” In their study of writing program web sites, they discover problematic representations of the relationships between writing programs, English departments, and the larger educational institutions that emphasize hierarchical relations among faculty; diminish the contributions of students; and ignore aesthetic values altogether (p. 194). They conclude their study by stating “There are multitudes of articles and books that sustain critique; there are fewer resources that make visible the everyday, local actions we can or should engage in to enrich the ways in which our web sites serve as interfaces” (p. 201).
Educators have been slow to answer these calls to engage with the designers and developers of LMS software, and, until recently, with good reason. Many schools who use big-box software, like BlackBoard, have had little opportunity to modify or engage with the LMS. The software is sold as a one-size-fits-all package that permits little customization. BlackBoard’s acquisition of WebCT in 2006 has further limited the LMS options available for colleges and universities. Consequently, open source software, such as Moodle and Sakai, have begun to grown in popularity because colleges and universities that opt for open source software have greater control over their LMSs. With this shift comes a renewal of conversation about the rhetorical implications of the LMS, as local software developers and e-learning specialists now have the ability to respond to the requests and concerns of educators and students. In response to these developments, and to the challenges issued by Selfe, Selfe, (1994) and Payne (2005), this thesis enters into the conversation surrounding the rhetorical implications of learning interfaces by directly addressing the people involved in the building and development of virtual pedagogical spaces. And, as Knight, et al. (2009) have recommended, this thesis “make [s] visible” some of the “local actions” that can be implemented by focusing on a specific LMS (Isidore, based on the Sakai learning platform) in a specific learning community (the University of Dayton).

Scholars of composition and rhetoric and scholars of interface studies are persuaded that there are rhetorical, visual, political, cultural, and pedagogical implications of the computer interface in general, and the LMS environment in particular (Selfe and Selfe, 1994; Payne, 2005; Knight, et al., 2009; Bayne, 2008; DePew & Lettner
Rust, 2009). Conversely, software developers and e-learning specialists are not at all convinced that LMSs are anything other than a neutral medium for students and faculty alike. Joel Haefner (2009) sums up the prevailing view of the designers of virtual space when he asserts “the premise is that interfaces will be ‘transparent,’ that users will not even be conscious of the tools they use as they write and work” (p. 135). In light of the disconnect between the viewpoints of the academic community who use and inhabit these spaces, and the perspective of the software developers and IT specialists who create these spaces, I will first establish that LMSs, like Isidore, are not neutral spaces for educators and students, and I will demonstrate why that matters. Second, I will offer some recommendations specific to the Isidore LMS, but generalizable to other systems, to illustrate some examples of those “local actions” to make LMSs a more positive learning environment for all.

**LMSs are Spaces, Not Tools.**

Haefner’s (2009) use of the word “tools” to describe the methods by which a user will interact with an interface is not accidental. Tool is a dominant metaphor used to describe both the particular functions that a user can engage and the entire interface itself. Benjamin Bederson and Ben Shneiderman (2003), authors and editors of *The Craft of Information Visualization: Readings and Reflections*, claim that a well-designed interface will enable the computer to “become a tool in the best sense of the word -- an extension of the user’s body” (p. xv). Siân Bayne (2008), in his analysis of the now defunct WebCT, notes “discussions of the virtual learning environment"1 have in general focused

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1 “Virtual Learning Environment” (VLE) is the United Kingdom term for Learning Management System. “Course Management Software” (CMS) is another term for the LMS. For the purposes of this paper, I will be using “LMS,” except when quoting those who use a different term.
around its *instrumental functionality* [emphasis added] and ‘affordances,’ rather than subjecting its interface to a visual analysis aimed at exploring how it represents and constructs informational and pedagogic space” (p. 396). While functionality is something worthy of study and examination, the focus on functionality (or LMS as “tool”) denies or crowds out notions of LMS as space. Bayne (2008) also argues “the ‘toolbox’ terminology is problematic from the outset in that it casts the digital environment in instrumental mode, denying that the media shift forges an accompanying shift equally in teaching method and in the assumptions which drive such methods” (p. 400). If the developers of virtual learning spaces are focused only on the tools the space provides, then they may lose sight of how the space as a whole influences the teaching and learning practices of the students and faculty who inhabit the space.

Also problematic is the notion that tools themselves are rhetorically neutral, despite the fact that the use of tools dramatically changes the way people think and live. In an article entitled “ESL Students’ Computer-Mediated Communication Practices: Context Configuration,” Dong-Shin Shin (2006) reports the findings of a study he performed on ESL graduate students and their spouses who used a chat room informally with each other to practice their English-writing skills. Shin states,

> The social practice of learning is tool-mediated and involves the use of cultural semiotic artifacts, based on the cultural and social norms of a discourse community. Uses of cultural artifacts influence or mediate individuals’ perceptual and conceptual boundaries, interests, worldviews, and patterns of thought. (p. 67)
Tools are rhetorically biased. Tools influence the way we think and what we do. Certain tools can only be used for certain tasks, which means that they are functionally self-limiting. One cannot pound a large post into the ground with a ball peen hammer. But tools can also open up unforeseen possibilities as well. For example, the invention of the wheel also led to the invention of the cart, and the invention of factories of mass production. The invention of factories then led to the Industrial Revolution, which changed where people lived and how they earned their living. In short, the use of a tool can never be considered rhetorically neutral because it has the power to change people’s ways of thinking and doing in fundamental ways.

LMSs are not just tools, though. They are spaces, or learning environments, and that is evidenced by how they convey themselves to the user. Looking specifically at the University of Dayton’s Isidore, the “Welcome” page is associated with an icon that looks like a house. Houses are spaces or places, but not tools. The fact that users are welcomed to anything connotes the idea of space. The Welcome mat is placed outside the front door of a house, but not a tool box. More explicitly, the paragraph on the “Welcome” page describes Isidore as a “place [emphasis added] for students to learn, share ideas and present their work to the world” (Isidore, n. pag.). If Isidore were just a tool, the paragraph would instead describe Isidore as a “tool for students to use.”

This establishment of space is borne out in other ways as well. Once beyond the “Welcome” page, students are at their “Home” page, which is identified as “My Workspace.” They can modify this space to a limited degree by accessing a tab labeled “Worksite Setup,” another reference to space. Depending on the preferences of their
teacher, a chat room may be available for their use, and students will probably “share ideas” with one another in the forums. The idea of space permeates the entirety of the LMS.

The significance of LMS as space is that spaces are not transparent media for our use. They are rhetorically biased. As Payne (2005) observes, “while space makes possible a range of actions within it, it also validates those actions and normalizes them, concealing in the process their arbitrary social origins” (p. 486). Spaces tell us how to engage with them, and they tell us about the desires and intents of the people who designed them. Again, Payne (2005) argues that it would be highly unlikely for a group of “unionized construction workers” to stage a strike in a local Starbucks, because the patrons’ “discursive behavior -- including that which is political -- is policed, at least in part, by the space [emphasis added]” (p. 486). The space of a Starbucks is conducive to drinking coffee, working on laptops, and chatting with friends; it is not conducive to protest demonstrations or collective bargaining.

Spaces also tell us what kind of users they are designed for. In a typical American house, for example, there are clearly designed spaces for cooking, sleeping, and watching television. It is not that it is impossible to sleep in the kitchen or cook in the bedroom, but to do so requires the user to initiate and sustain an intentional, subversive effort. Consequently, the user becomes physically and emotionally uncomfortable, because the space does not facilitate those actions. And even for those who wish to submit to the designs of the space by performing the appropriate tasks, such as cooking in the kitchen, some users will be marginalized if they are not the particular user the space was designed
for. For example, if the user is confined to a wheelchair, that user is likely to find the layout of most American kitchens is not accommodating to their needs.

If an LMS is a space, it is also a kind of text. As both spaces and texts, LMSs dictate how users engage with the site and what kinds of users can best engage with the site. It is not difficult to imagine the LMS as text because most LMSs are dominated by some combination of text and iconography. Rick Carpenter (2009), in his article “Boundary Negotiations: Electronic Environments as Interface,” argues a “well-designed web site” “will also demonstrate rhetorical sophistication not incompatible with a well-written essay” (p. 145). Implicit in Carpenter’s essay analogy is the assumption that “well-designed web site[s],” like essays, should make some well-supported claim or argument. For example, the success of Amazon.com, both as a web site and a business, can be at least partly attributed to its efficacious claims for a personalized approach and ease of use. Amazon’s claim that it will deliver a personalized approach is demonstrated by the text, “Personalized Recommendations” on the Home page, and by the appearance of those personalized recommendations after a customer has established a buying history. Similarly, its claim for ease of use is supported by the text “Buy now with 1-Click,” and by the functionality of the site which enables users to quickly and easily navigate the buying process (Amazon, n. pag). Seeing the LMS as text (in addition to space) enables the user to evaluate its claims, and focuses attention on the essential interaction between writer and reader/audience.

In 1975, noted English scholar and expert on the evolution of human consciousness from orality to literacy, Walter Ong (1975/1977), wrote the landmark
piece, “The Writer’s Audience is Always a Fiction.” In this article, Ong established that for a reader to fully engage with a text, that reader must play the role that the writer requires or “imagines”. Using the opening lines of Ernest Hemingway’s *A Farewell to Arms*, which begins “In the late summer of that year we lived in a house in a village that looked across the river and the plains to the mountains” (qtd. in Ong, p. 62), Ong points out that for a reader to enter into the story, the reader must play along with Hemingway’s use of the definite article “the” and the relative pronoun “that.” The reader does not know which year (“that year”), which river (“the river”), which plains (“the plains”) or which mountains (“the mountains”), but Hemingway’s use of “the” and “that” assumes that the reader does, in fact, know which year, river, plains and mountains he is referring to. As a result, Hemingway creates a sense of intimacy between the reader and writer which presumes a more familiar relationship between the two than what actually exists. In order to engage with the story, the reader must either agree to play the role of intimate confidant or else subversively deny that relationship as she reads the text, and, consequently, frustrate any real sense of enjoyment or fulfillment from the reading.

**LMS’s Are Not Culturally Neutral**

An LMS represents the values of its educational institution, including the greater cultural context in which it was created, and some of those values are reflected in the way that the LMS grants agency to the student and facilitates the student’s learning process. Because the Internet was created in the West, many distance education platforms or environments are highly influenced by Western philosophical thinking. This is not necessarily problematic for Western students, but at educational institutions like the
University of Dayton where a large number of international students and/or English as a Second Language (ESL) learners attend, an LMS that represents Western ways of thinking and doing can create obstacles for students to overcome before they can successfully negotiate the site and assert agency over their learning process. Researchers Fujuan Tan, Lee Nabb, Steven Aagard, and Kioh Kim (2010) claim “distance and other learning technologies are dominated by Western culture and cater to its teaching styles and preferences at the expense of students from non-Western cultures” (p. 10). Similarly, Selfe and Selfe (1994) propose that computer “interfaces are cultural maps, and… such maps are never ideologically innocent or inert” (p. 485).

Case in point, most Western LMSs dictate that their users be English speakers. This is established by the use of English as the primary or default language of choice. While it would seem that immersion in the targeted language would be beneficial for ESL learners, the lack of language choice has significant rhetorical implications. For Selfe and Selfe (1994), the use of English as the primary language means “that students from other races and cultures who hope to use the computer as a tool for empowerment must—at some level—submit to the colonial power of language and adopt English as their primary means of communication, even if this submission is only partial or momentary” (p. 489). And while Payne (2005) admits that most LMSs today offer service in multiple languages, he observes that this service is in the form of “plug-ins that translate text but do not alter much else” (p. 503). In other words, the language interface is merely a translation of the original English text, but it is not a translation of the culture itself, because culture is not translatable.
Further, it is commonly understood that the language of the Internet (which is still dominantly English) is the language of power. Mark Warschauer (2000) reports on his ethnographic study of a Hawaiian language class at the University of Hawaii in which students wrote and communicated in Hawaiian online. The professor of this class believed it was important for students to use technology to communicate in Hawaiian because she wanted students to “develop a sense that Hawaiian was a language of the future and not just of the past” (p. 46). Additionally, Warschauer reports “From my interviews with these students, I learned that they saw themselves as developing the skills to successfully compete in a world that they viewed as dominated by English and new technologies [emphasis added]” (p. 46). The students’ equation of “English and new technologies” implies that the two are paired in their minds and connected by the thread of power. Also significant is their belief that they can subvert the power structure by designing Hawaiian language-based web pages, as opposed to English-based web pages.

Isidore does provide some interface translation into other languages, but even when those other languages are chosen, the left-hand menu -- with the exception of the “Help” button -- and some page titles are still written in English. While it is true that the students of the University of Dayton are taking classes at an American institution, and that those classes will be taught by English-speaking individuals, the fact that English still dominates their virtual learning space even when another language is chosen communicates that the space is not always hospitable to ESL learners. Additionally, the less than thorough accommodation of other languages reinforces the notion that English is still the language of power for this learning space.
But LMSs are not just dominated by a Western language; they are also dominated by Western thought processes. Further evidence that the ideal user for the LMS is a Western student or educator can be found in the Western rhetorical structure which governs most LMSs. Contrastive rhetoric studies have long documented the differences in written rhetorical styles between Western and Eastern cultures (Kaplan, 1966; Hinds, 1983; Connor, 1996). The West is often portrayed as more linear, hierarchical, and “logical” than the East. It should come as no surprise then, that the structure of the LMSs of today, much like the structure of most word processing systems, is linear and hierarchical. Files and folders, for example, are designed in ways that organize information hierarchically, and this organization may not be intuitive for international or ESL students. Selfe and Selfe (1994) opine that hierarchical and linear “way[s] of representing knowledge within computer environments, although not essentially limiting or exclusive by itself, becomes so when linked to a positivist value on rationality and logic as foundational ways of knowing that function to exclude other ways of knowing, such as association, intuition or bricolage” (p. 491). Although Selfe and Selfe were speaking of computer interfaces in general, their conclusions about the reifying effects of this dominant rhetorical structure become even more significant when considered in the context of a learning environment. ESL students from cultures who revere and respect teachers may also intuitively, if subconsciously, respect and revere the rhetorical structure of the educational delivery system itself.

Bayne (2008) points out, however, that the linear and hierarchical rhetorical structure may also be linked to the influence of print on web design. “If we accept that
writing ‘on the screen’ is subject to a different logic -- one more to do with the linkability of text, its mutability, manipuability and multilinearity -- we can see the focus on linearity and hierarchy within WebCT as constituting yet another refusal of its own digital medium” (Bayne, p. 403). Linear and hierarchical rhetorical structures serve to distance the user from the digitality of the medium by attempting to imitate traditional print structures. This imitation is an attempt to make the user feel more comfortable with an unfamiliar medium, but instead functions to preclude the realization of the digital medium’s potential for increased functionality and for increased agency on the part of the user/reader. Gunther Kress (2005) observes that in a traditional text, the reader experiences the written events in the order that the author prescribes, but in space, “it is the viewer’s action that orders the simultaneously present elements in relation to his or her interest” (Kress, 2005, p. 13). If a space is structured like a text, however, the reader/user is subject to the preferences of the author.

Like most LMSs, Isidore’s rhetorical structure is decidedly Western. The space has a left-hand menu driven user interface (UI), with specific class tabs that go across the top of the screen. While these tabs can be hidden and unhidden, they cannot be moved or even renamed by the student or the instructor. Hierarchical order is also evident in the setup of the forums. Forums are arranged in descending order from forum to topic to thread. Organizationally, this all makes sense to a Western mind, but to students from other cultures, this set-up may not be so intuitive. This rhetorical structure also evidences capitalism’s focus on efficiency. This emphasis is largely unquestioned in Western culture, but Anne Wysocki and Julia Jasken (2004) ask us to consider whether “we want
our interfaces to shape us as people who care only about getting things done quickly and easily. Or do we want interfaces to look at us as people who value generosity or patience or careful critical and interpretative thinking or...?” (p. 40). To students from cultures less focused on individual efficiency and more focused on communal collaboration, these structures result in a space that does not feel hospitable, and a text that asks them to engage in roles that are unfamiliar. As Ai-Yen Chen, Azen Mashhadi, Daniel Ang, and Nancy Harkrider (1999) state, “the interface designer must be aware how different cultures will respond to issues of the layout of the graphical interface, images, symbols, colour and sound, inferring that culture itself cannot be objectified unproblematically as just another factor to be programmed into a learning course” (p. 220). Again, culture is not translatable, but a space can certainly demonstrate an awareness of the multiplicity of cultural mindsets represented by its users. The present lack of customizability by students or faculty communicates that while Isidore is certainly a space, it is not the student’s or the instructor’s space. Rather, it is functionally and rhetorically the institution’s space.

No discussion of the rhetorical structure of the online learning context would be complete without an examination of the iconography common to many LMSs. Payne (2005) claims “As a discursive system, iconography functions because icons are culturally familiar objects; they have verbal and visual meanings that are context-bound and both call upon and reify those contexts when they are employed” (p. 493). In other words, icons serve both to refer back to and to further establish the “culturally familiar.” They are important because they both reflect and create shared cultural meaning.
Additionally, they work with the text of the LMS to communicate the kind of role the user/reader needs to play to productively engage with the LMS.

Selfe and Selfe (1994) originally pointed out the implications of “the virtual world as desktop,” imagery which also reinforces the privileging of a capitalistic culture (p. 486). Payne (2005) observes this corporate office iconography in BlackBoard as well. Folders and file cabinets dominate the environment, and only limited customization of the colors of the navigational buttons is available to teachers, and no customization is available to students (p. 484). This kind of iconography assumes that its user will be a white collar professional. Users who are not white collar professionals will have to “play along” in order to effectively engage with the interface. Instead of corporate iconography, Selfe and Selfe (1994) suggest alternatives such as “a kitchen counter top, a mechanic’s workbench, or a fast-food alternative” that could work to validate other occupations or activities (p. 486-487).

In addition to corporate iconography, many LMSs also use an iconography which is reminiscent of traditional classrooms. This is evidenced in BlackBoard’s name, which evokes traditional classroom imagery, and in the (now acquired) WebCT iconography, which is not just traditional, but “almost pre-war in its historical positioning” (Bayne, 2008, p. 400). Bayne also points out while the traditional metaphor is designed to make users feel safe, it instead “functions both to inhibit truly innovative pedagogical engagements with digital space, and to normalise a ‘corporatised’ construction of online higher education” (p. 397). This imagery will probably only feel “safe” for users old enough to remember the use of, for example, a wooden index card holder box, which is
the icon associated with the “Index” button in WebCT. For those users born long after World War II, the imagery may well evoke puzzlement or confusion, but not necessarily a feeling of safety.

Like BlackBoard and WebCT, Isidore’s iconography is also reminiscent of traditional classrooms (Figure 1). In the left-hand menu, many of the tabs (or tools) are associated with traditional (as in not electronic) classrooms or imagery. For example, the “Announcement” tab is associated with a flag. While flags are associated with a variety of political, military, and even maritime contexts, the imagery has nothing to do with the electronic environment in which it is displayed. The “Syllabus,” “Assignments,” and “Blog” links are all represented by icons which denote writing by hand. The “Syllabus” icon is a piece of paper; the “Assignments” and “Wiki” links are a piece of paper with pencil; and the “Blogs” icon is a notebook with pencil poised over it. The irony is that students who are required to blog, for example, will not be permitted to use a notebook to do so. They will be required to blog using their computer or other electronic device. The intention of the print-oriented imagery is to imply that blogging is like writing in a notebook. But it is not. Blogging is a function that is solely enabled by the electronic age in which it was born. Blogging opens up a world of options for linkability, sharing, and publishing which are simply not available from one’s college-lined notebook. These options are part of the advantages of an electronic environment, and these advantages are why an LMS like Isidore was created in the first place. Not only is the traditional iconography inaccurate, it is self-defeating because it denies the abilities and advantages attendant to the LMS as learning space.
If some of the WebCT iconography was “pre-war,” then the use of the name and imagery of St. Isidore of Seville is medieval. The Isidore LMS is, according to the “Welcome” page of the site, named for St. Isidore of Seville, “the patron saint of students and schoolchildren, and recently recommended for patronage of computers and the Internet” (Isidore, n. pag.). (Figure 2). According to the article accessed through the link provided on the “Welcome” page, Isidore earned a reputation as the foremost educator in
Spain (“Catholic Online”). The picture of Isidore on the “Welcome” page is of an older white man with a white beard, dressed in a gold cape and a white hat with a gold cross on it. A halo encircles his head. Isidore is holding a book in his left hand, while his right hand is holding a quill poised over the book. In the background are shelves with books and scrolls. The image carries with it the implication of the hierarchy and religious authority of the Church. Scholarly study and Christian saintliness are strongly connected in the image.

Figure 2. Isidore Welcome Page

Another picture of Isidore appears in the banner at the top of every page (Figure 3). Again, there is an image of a white male with a beard and a traditional religious hat. Isidore is looking down over the rest of the page, as if from on high. In this image, however, half of Isidore’s face is cast in shadow and seems to melt into the stained glass imagery that fills up the left half of the banner. While the same religious authority of the Church is invoked, this Isidore feels darker and less transparent than the picture on the “Welcome” page. The name “Isidore” is written to the right of this murky picture of the saint in a script that has a medieval feel to it. The surprising juxtaposition of an ancient saint with a 21st century LMS clearly communicates the Church’s authority over this learning environment.
The University of Dayton is a Catholic school, so Catholic overtones are to be expected and even encouraged, as representative of the heritage and tradition of the school. For example, in an acknowledgement of and an attempt to influence the rhetorical bias of the physical classroom space, there are small wooden crosses hanging on the walls of most of the classrooms. Students who attend here are fully aware of the religious affiliation of the university, but since students are not required to be Catholic themselves, the student body is fairly diverse and represents many different belief systems. I am not suggesting that Isidore, as an LMS that reflects the values of a Catholic educational institution should embrace a secular ethos (in fact, in my recommendations I suggest just the opposite), but an iconography that projects a more inclusive, less restrictive, narrative would not require users to play unfamiliar, and perhaps uncomfortable, roles in order to engage with the site.

Of equal concern is the teacher-centered aesthetic of the site, despite the insistence that the site is a “space for students.” Isidore was a well-known teacher, and this is a seemingly logical mascot for a learning environment, but Isidore was not just any teacher; *he was a teacher who was also a saint*. For students, the connection between scholarly and moral authority could be fairly intimidating -- not to mention the implications for teachers who are not on the sainthood track. In addition, St. Isidore is the
only person represented on the site, which means there are no pictures of actual students (or actual faculty, for that matter). The result is a space that places a saintly teacher at the top of every page, while simultaneously rendering students invisible participants in the space. For the many teachers at the University of Dayton who teach with a learner-centered emphasis, there is a disconnect between that approach and the teacher-centered aesthetic of the Isidore LMS.

**LMSs Are Not Pedagogically Neutral**

It is important to note that there is significant disagreement about what pedagogical approach *is* dictated by the online learning environment. On one side of this debate are those who agree with DePew and Lettner-Rust (2009), who state “that the textual and visual features of the different interfaces lend themselves to specific pedagogical choices, while suppressing others and, as a result, articulate certain epistemological philosophies and power relationships between instructors and students” (p. 175). DePew and Lettner-Rust claim the “specific pedagogical choice” is for the current-traditional approach, or “banking method,” a teaching approach that treats knowledge as a product that must be invested in the student in the quickest and most efficient way possible. If DePew and Lettner-Rust are correct, then the result can be an exaggerated power differential between teacher and student, in which “student[s] embody their errors” because of the lack of face-to-face representation (p. 179). DePew and Lettner-Rust’s claim is supported by the rhetorical emphasis on corporate efficiency that has already been discussed. If efficiency is the goal, then the banking method becomes the method of choice because it is the quickest way to impart large amounts of
information from teacher to student. But if, as Warschauer (2000) suggests, “using computers seems to raise people’s expectation that they can fully participate in and determine the shape of meaningful activity,” then the efficiencies of the banking method may be especially frustrating in an online context because it means that students cannot actively engage in their own learning process (p. 56).

Others argue that the virtual learning environment is more favorable to a constructivist pedagogy (i.e., the belief that students construct knowledge through their own experiences and interactions with others). Lesilee Antonette (2006) observes “The online class space is a wonderful, nonlinear space in which students can best utilize collaborative techniques” (p. 139). Spaces like forums, chat rooms, and blogs certainly lend themselves to those “collaborative techniques.” A research review by Marina Papastergiou (2006) also finds that “CMS support collaboration in HE [higher education]” (p. 603). On the other hand, Antonette (2006) cautions that, despite the constructivist potential of the virtual learning environment, most LMSs are designed to imitate the traditional classroom space and the traditional teaching methods inherent to those spaces.

The pedagogical leanings of a particular site or LMS can be determined, in part, from a ‘rhetorics of functionality.’ David Menchaca (2009) claims that a “rhetoric of technology must be more than a set of tools for conducting analyses of technical documents, discourse, and artifacts because technology is more than the artifacts and systems that direct our daily interactions. Technology is a rationale for those interactions and constitutes an environment in which those interactions take place” (p. 12). If
technology is the “environment in which ... interactions take place,” then a rhetoric of functionality is the examination of the rhetorical impact of specific functions within that greater technological environment. In his discussion of the rhetorics of display, Lawrence J. Prelli (2006) claims “Put directly, whatever is revealed through display simultaneously conceals alternative possibilities; therein is display’s rhetorical dimension” (p. 2). In the same way that Prelli can determine a rhetorics of display from what is and is not there, a rhetorics of function can be determined from the functions that are and are not available in a given technological space. The functions that a space allows are, inherently, the function that a space favors.

Conversely, a space can also be defined as much by what it does not allow, as by what it does. Payne (2005) cites Langdon Winner’s description of how the building of low-hanging overpasses in New York in the early 20th century was designed to discourage bus transportation so that poverty level whites and blacks “were kept off the roads because the twelve-foot-tall buses could not handle the overpasses” (p. 23, qtd. in Payne, p. 489). This is an example of how a space can encourage, or fictionalize, one user (middle class whites) and discourage another (poor blacks and whites) through a rhetoric of functionality.

As spaces defined in large part by their functionality, LMSs communicate through a rhetoric of functionality the type of teaching they encourage or allow. For example, Payne (2005) observes that composition instructors working in BlackBoard are more likely to use multiple choice quizzes, despite their philosophical opposition to that assessment style, “because BlackBoard makes it efficient and easy” (p. 499). (Note, here
again, the rhetorical emphasis on efficiency.) In Carla Payne and Cornel Reinhart’s (2008) more recent analysis of BlackBoard, they find that “the capabilities and structure of this CMS are not oriented to empowering of the learner, but instead create an instructor-centered environment” (p. 40). They base this conclusion on the large amount of functions that are available to teachers as opposed to students. Examples include the many ways that faculty can track student postings, control student access to forums, and track the amount of time students spend online. Faculty could not, however, track student “interactions” or times when they engaged with one another. C. Payne and Reinhart (2008) propose that “Given the enormous attention to counting all other aspects of participant’s postings, it is pedagogically noteworthy that interactions are not measured” (p. 40). According to C. Payne and Reinhart, this is significant because if a teacher is pedagogically constructivist, then the ability to track this important standard for learning is denied her. Marina Papastergiou (2006), in her study of LMSs also found that it was “difficult and time-consuming for the instructor to organize and follow the interactions, especially when these become intensive (e.g., Verkler, 2001; Haack et al., 2003), and additional tools, beyond these currently offered by CMS [emphasis added], are needed for evaluating the interactions (e.g., Garvin, 2003; Giza, 2003)” (p. 603). An LMS that enables student interactions but does not enable teacher assessment of those interactions sends, at best, conflicting messages about the pedagogical philosophy that it supports or encourages.

In 2006, the University of Dayton published “Habits of Inquiry and Reflection: A Report on Education in the Catholic and Marianist Traditions at the University of
Dayton” (HIR). This report recommends an increased emphasis on community, and a campus-wide transition from a teacher-centered to a student-centered style of teaching. Significantly, the report also considered issues of space in accomplishing its goals. Under Section VI.E, entitled “Recommendations Concerning Educational Infrastructure,” the fourth recommendation is to “Reconfigure design and assignments of classroom space and course schedules to facilitate student inquiry, collaboration, and reflection” (p. 13).

Although the HIR does not specifically address online learning spaces -- a significant and unfortunate omission -- it is worthwhile to examine how Isidore, as a classroom space, specifically reflects the pedagogical and rhetorical values expressed in the HIR (2006). If Isidore emphasizes the value of teaching, what kind of teachers does the Isidore space seem to favor? How does Isidore “imagine” its ideal instructor? The fact that Isidore’s iconography strengthens ties to the traditional classroom may be an indicator that Isidore as rhetorical space or text favors or presumes a current-traditional classroom. Antonette (2006) states “Software that attempts to mimic the traditional physical class space seems to be an attempt to enunciate a current traditional representation of the learning experience” (p. 134). This is a reasonable assumption, given that traditional classrooms usually contain rows of desks facing a blackboard and a lectern, populated by a teacher who favors lecture over discussion. Here again, teachers who are not current traditionalists must work to subvert the space by, for example, arranging the desks or chairs in a circle, in order to facilitate a space that is more hospitable to discussion.
Since “the aesthetics of a site contribute to its interface and reflect particular values, beliefs and practices,” it should come as no surprise that Isidore projects a teacher-centered rhetoric of functionality as well (Knight, et al., 2009, p. 198).

The menu functions available to teachers in Isidore also lend themselves to a traditional pedagogical approach. Evidence to support this is, ironically, found in another LMS, BlackBoard (Figure 4). In an admission that the structure of the interface does, in fact, encourage one pedagogical philosophy over another, BlackBoard is now offering a selection of “Course Structures” that faculty can choose from. These structures are broken down into five categories, one of which is “Teaching Method.” Under the “Teaching Method” category are several choices, which run from “Case-Based” to “Web 2.0.” Included in the selections is a “Traditional” option. If this option is selected, a preset menu appears, which includes “Announcements,” “Syllabus,” “Instructor,” “Content,” “Assignments,” and so on. This “traditional” selection is very similar to the default choices of the Isidore site (Figure 5). These default choices are customizable to a limited extent, but, as Bayne (2008) observes, “it is reasonable to argue that the default options of any piece of software bear a burden of assumption relating to how the software should be used and how meaning is to be constructed within that software environment” (p. 400).
Contrast the “Traditional” preset menu selection in BlackBoard with the “Constructivist” menu selection, and the difference in teaching approaches becomes apparent. (Figure 6). For the “Constructivist” teacher, the menu selections are
With the exception of the “Instructor”/”Facilitator” links, these are not just different names for the same functions; these are different functions. In addition, the Instructor/ Facilitator distinctions are not just semantics; there is a fundamental difference between the role an educator plays as an instructor versus facilitator. These options for customization of Course Structure demonstrate a rhetoric of functionality. Different tools or functions enable or disable entirely different teaching and learning styles. Students who enroll in the “Traditional” course will have to engage and learn in different ways than students who enroll in the “Constructivist” course, but the students will not be able to make those choices for themselves. They will still have to submit to the teacher-centered designs of the space, unless the teacher herself gives up that power.

Figure 6. BlackBoard “Constructivist” Menu
RECOMMENDATIONS

Although this thesis has primarily been addressed to the developers and designers of LMSs, the following recommendations are addressed to faculty, administrators, and software developers alike. Effective conversations are never one-sided, and the following recommendations are intended as conversation starters to provoke further discussion and action by all participants.

1. Forget the tools.

Abandon the view that the learning platform is a transparent medium or tool. As has been established, Isidore is a space and a text that is a reflection of cultural, institutional, and pedagogical values. Denying the rhetorical implications of the space effectively precludes software developers from answering for something for which they are being held accountable, fairly or not. Conversely, affirming the rhetorical potential of the space allows software developers to speak into the ongoing conversation surrounding these contested spaces. In addition, the fact that Isidore is based on an open source platform creates the opportunity for these conversations about space between academics and developers to actually mean something. LMSs have exciting potential as learning spaces for institutions, educators, and students alike; clinging to notions of neutrality only denies the realization of that potential.
2. Lose the service providers.

Re-envision the role of the local software developers and e-learning specialists. If an understanding of LMS as both space and text changes the roles students and faculty play as they engage with the space, then it must also change how software developers and e-learning specialists see their own role in the creation of virtual space. If LMS is only a tool, then software developers are simply writing a software code to enable users to perform certain tasks. This viewpoint equates LMS management with providing a service, and is reenforced by the attitudes of those administrators and faculty who issue individualized requests to the developers and e-learning support staff without consideration for how those requests may impact the space as a whole. The perception that the primary purpose of the local software developers is to “fix” bugs and error codes undermines their larger purpose of designing the local learning environment. Local software developers cannot be held responsible for the rhetorical and cultural implications of the virtual learning environment if they are not given the authority or credit for its design. If, instead, they are writing narratives and creating spaces that imagine or “fictionalize” their users (Ong 1975, p. 73), then the software designers become authors and architects of stories and spaces that readers and users enter into. Seen this way, LMS software designers are not service providers; they are leaders of virtual spaces.

3. Ditch the big-box.

Capitalize on the fact that Isidore is based on an open source learning platform (Sakai). Open source learning platforms are both an opportunity and a responsibility.
Institutions who use open source learning platforms can no longer abdicate the responsibility for the design of virtual learning environments to the LMS software giants. Open source software creates the potential and the responsibility for institutions to customize and create spaces that reflect their values; submitting to the default value set is no longer acceptable.

As huge and ubiquitous as BlackBoard is with all of its customization and functionality, it cannot escape its own mass market commercial persona, which draws comparisons to “big-box” education. Payne (2005) compares BlackBoard to Levittown, a homogenizing suburb of the 1940’s. These are both narratives that are based in a capitalistic productivity model which emphasizes the importance of efficiency. As has been demonstrated, this model often results in a more traditional pedagogy that favors the banking method over the less “efficient” models that value the community-centered construction of knowledge. These are not positive narratives about BlackBoard as product or learning space.

Conversely, the University of Dayton has chosen to exit the big box LMS market and invest its resources in an open source learning platform. This decision is a favorable indication of how it values the online learning spaces of Isidore. One of the advantages of open source software is that it has a more positive narrative than that of big-box software because it is created by a community of users who freely share their ideas and codes with each other. This, in turn, creates potential for new narratives about Isidore as LMS.

For example, capitalizing on the already established “branding” of Isidore, the space could develop an identity based on the spiritual communities known as
Beguinages. These were Northern European communities established by women in the 12th century that considered both spiritual and material concerns (Raber, 2009, 10). Although these communities were Catholic, they never received a formal order from the Church, which allowed them to govern themselves and structure their communities according to their own desires (Brasher, 2005). The Beguine movement, which was known for its acts of charity and concern for the poor, also “existed within an urban milieu and ... allowed women avenues of public participation not afforded them elsewhere” (Brasher, 2005, p. 3). Today, the movement, which also includes men (known as Beghards), has experienced at least two waves of growth, and is now experiencing a third (Raber, 2009). According to Jean Raber (2009), “What has changed in the intervening centuries, however, is that those who call themselves Beguines today are not strictly Catholic, but include Protestants and sometimes non-Christians” (p. 11). An ecumenical narrative like this, or similar to this, capitalizes on the spiritual heritage of the University of Dayton without being exclusive in nature. It also communicates the notion of Isidore as shared communal space, rather than institutional space.

**4. Make peace with the digital natives.**

In keeping with the notion of shared space, my fourth recommendation is to work toward an interface that is customizable by both students and faculty. Bederson and Shneiderman (2003) state “we believe it is important that the users stay in control and that the computer offers choices with appropriate feedback for user actions. Conversely, computer-controlled interactions often lead to unpredictable, and therefore unacceptable, interfaces” (p. xv). I recognize that technical concerns may make such an ability
impractical, but if Isidore is to become an accommodating and hospitable space, this is a goal that merits serious consideration. The student body of the University Of Dayton is diverse, and they need the ability to reflect the diversity of learning styles and life styles that they represent.

For example, Stanford University students have piloted a program called ClassOwl, which “allows students to ‘follow’ their classes and input class assignments and due dates, which then trigger notifications as deadlines near” (Wieder, 2011, n. pag.) When a student inputs an assignment or a date into the program, it shows up on the calendars of the other students in the class as well. While this program is currently limited to a scheduling application for Stanford students only, the program’s founders plan on expanding its reach to other campus locations and expanding its capabilities to that of a fully operational LMS (Wieder, 2011). ClassOwl demonstrates that students want to be able to speak into the design of their virtual learning spaces. Web 2.0 is here, and this type of flexibility is what students have come to expect in their virtual spaces. Also, allowing student ownership of the learning environment can have a positive impact on learning outcomes, as it leads to greater agency and authenticity in learning interactions (Kramsch, A’Ness, Lam, 2000).

5. Have your people call my people.

Fifth, I recommend that educators become more intentional about initiating a dialogue with their local software developers and e-learning specialists. Up until this point, most conversations about the rhetorical implications of virtual spaces have taken place in and amongst the educators themselves. In preparation for this paper, I met with
the e-learning specialists at The University Of Dayton, who graciously answered all of my questions. That conversation gave me a better understanding of the multiplicity of the sometimes conflicting needs and desires of the students and faculty who use and inhabit Isidore. It also helped me to understand the underlying preconceptions and beliefs that the developers are bringing to their work. Scholars should meet regularly with their local e-learning specialists in order to communicate what values they see the space is reflecting, and to become more aware of the technological and practical limitations that the developers are facing as they seek to accommodate the needs of educators and students alike.


Finally, I recommend that a mission statement be formulated that is aligned with the mission of the university and emphasizes service to both faculty and students. Presently, there is no mission statement for Isidore, and this absence is in itself rhetorically suggestive, as it communicates (rightly or wrongly) that the purpose of Isidore has not been given serious thought or consideration. Not having a mission statement is analogous to allowing a city to grow without any real forethought or planning. The result is often congested streets and an awkward sprawl as the city moves outward. The presence of a mission statement, on the other hand, establishes the importance and validity of Isidore as a learning space. In addition, it creates the parameters and goals for future growth. Finally, a mission statement that is considerate of both faculty and students will help to disabuse the impression that Isidore is a teacher-
centered environment, in addition to also being a helpful way to establish priorities and goals for the future.
CONCLUSION

LMSs are spaces and texts that rhetorically favor or imagine one user as opposed to another. Software developers must seriously consider what kinds of users are being favored or imagined. Presently, Isidore appears to favor traditional teachers over constructivist ones. The aesthetic also imagines a user who is Western, Catholic, and is more disposed toward translating the physical classroom into the virtual, instead of entering the electronic environment on its own terms, and realizing the potential for all that that means.

Composition educators have engaged in much discussion amongst themselves over the rhetorical values reflected by the virtual learning environments that educators and students are teaching and learning in. The recent growth in popularity of open source software, like Sakai, presents a new opportunity for academic dialogue with the local software developers and IT specialists who now have the ability to build virtual learning spaces that more accurately reflect the values and philosophies of local learning communities. Academics should make the most of this opportunity by initiating conversations with their local IT and software development departments so that they can better understand the diversity of needs that such departments must try to satisfy. For their part, software developers must decide to join the ongoing conversation about the spaces they are designing and maintaining.
Finally, it is worthwhile to note that, according to a 2010 poll of students and faculty taken by the Isidore support staff, most students and faculty were generally satisfied with the learning space (Isidore Student, Isidore Faculty Survey Results). When the focus is not on efficiency, however, user “satisfaction” becomes only one small part of the mission for the space. Instead of efficiency, the focus should be designing a space that allows and encourages users to play multiple roles; that fosters a sense of community and ownership among students and faculty; that invites users to fully realize the potential of learning in a virtual space; and that invites and facilitates “vigorous dialogue, learning in, through, and for community” (HIR, 2006, p. 1). “Satisfaction” is too low of a goal for a space that can do all of these things and so much more. Recognizing that it is a lived space for faculty and students alike, in addition to a reflection of the values of the university as a whole, enables the realization of the greater potential of virtual learning environments. Therefore, it should not be treated casually, and is worthy of the best of our shared forethought and scrutiny.
REFERENCES


