

# *The Other WWW*

## Using Intranets to Reconfigure the Who, When and Where of Network-Supported Writing Instruction

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TERESA, A HIGH SCHOOL SOPHOMORE, SITS AT ONE OF THE DOZEN OR SO computers in the common computer lab of her school. There is a sporadic clicking of keys as the three other students in the room, none of whom Theresa knows, work at computers. Theresa sighs; she is nowhere near having a draft for tomorrow's peer review session. She does have a couple of paragraphs and a page of brainstormed words and phrases, but she wants something that at least resembles an essay—title, thesis sentence, five or so paragraphs, double-spacing, one-inch margins—by tomorrow morning so her teacher will give her credit for it.

She sighs again, lays one hand on the computer's mouse and stares into the screen of the computer monitor. The computer's desktop has several icons lined up in a neat row. Among these are icons for standard computer programs: a word processor, a spreadsheet, a graphics program, and a World Wide Web browser. Theresa deftly uses the mouse to place the on-screen cursor on the browser icon. She clicks the mouse button. As she waits for the program to open, she glances out the window and thinks about the after school pep rally she's missing. She sighs again.

The browser finishes loading and her school's home page appears. She moves her cursor past the lunch menu and sports schedule links and clicks on the link titled "Write to Know." Her school page disappears and a new one appears. It has just a couple of graphic images, so it loads quickly. Dull, thinks Theresa, but fast. Theresa enters her username and password when she is prompted to do so and then clicks on a button to submit this information to the network server. A new page appears on the screen with the following message:

Hello, Theresa! Glad you dropped by. How are things today?

Theresa mumbles a response and reads further.

Here's what's going on at Write to Know right now:

At Plato's Place of Pondering, KarenK, Override5, and Bomber3025 are chatting.

The Teachers' Lounge is quiet, and the lights are off.

In The Writing Center, MsMullin is sipping coffee and waiting to talk with someone about writing. \*Watch for the new video conferencing link coming soon!\*

The Commons is featuring Poetry 4 Reading, a collection of poems written by members of the Write to Know intranet community.

You can also connect to other Writing Related Resources:

Writing Basics—A Searchable Collection of Information on Writing

Essays of Interest—A Searchable Collection of Essays

Theresa reads through the list of these and other links that use the internet to connect her to any of these sites that, together, constitute the Northwest Ohio Writing Education Consortium intranet. She is inclined to go to the “3 Ps” to talk about her writing assignment with the people logged onto that chat room, but the last time she went there, she spent her time talking about music instead of writing. MsMullin is logged onto another chat channel, “The Writing Center.” Theresa doesn’t know much about MsMullin, except that she helps people with their writing—at least that’s what Theresa has heard from some of her friends. She considers checking to see if anyone has posted a comment about the poem she published on “The Commons,” an electronic bulletin board system for student writing, but she reminds herself of the task at hand and clicks on the “Writing Basics” link instead. The following text appears on a new page:

#### Welcome to Writing Basics

##### A Source for “How To” Information About Writing

Please select the kind of writing you are working on and what part of the writing process you want to know How To do. Click the Go button when you are done.

- |                            |                      |
|----------------------------|----------------------|
| • Planning                 | • Writing in General |
| • Writing the First Draft  | • Essay              |
| • Revising                 | • Research Paper     |
| • Editing and Proofreading | • Journal            |
| • Writing with a Computer  | • Letter             |
| • Writing on the intranet  | • Book Review        |
| • Poem                     | • Story              |

Well, Theresa thinks, I have some ideas, and I really need to have my first draft for tomorrow, so. . . . She clicks the “Writing a First Draft” and “Essay” boxes to select them and then clicks on the “Go” button to begin the search. As she waits for the computer to process her search request, Theresa leans back in her chair and stares at the screen, which is quickly filling with links to information related to her search items. “Man!” she exclaims, “this could take a while.”

#### VIRTUAL WRITING PROCESSES AND EVERYDAY WRITING PRACTICES

Theresa’s writing task—preparing a rough draft of an essay for peer review—is part of a widely shared process approach to writing. Her responses to the

task—jotting a few items down, making some tentative starts at paragraphs, waiting until the night before to compose the draft—are recognizable as fairly typical student responses to writing assignments. What is not typical about Theresa’s writing experience is the access she has to computer network technology and a variety of online writing resources that have been specifically developed for her and other members of her online writing community. This centralized access increases the number of options Theresa can exercise at any given point in her writing process, requiring her to make decisions about her process. She is, in practice, designing a particular process to address a particular writing situation.

Theresa is still at work half an hour later. She finishes writing in her notebook and puts down her pen. The information she has found on using a thesis statement to focus her thinking and her essay has been very useful. She is pretty sure the thesis sentence she has written does a good job of tying together the paragraphs she had written earlier. She was also able to use some of her brainstorming ideas to begin writing two more paragraphs. A thesis sentence and four paragraphs—now she’s getting somewhere, she thinks. But she wants to be sure what she has written makes sense. She grabs the mouse, moves the cursor to the “Home” button, and clicks. She is returned to the Write to Know homepage. Theresa anxiously glances at the list of current activities. Good, she thinks, MsMullin is still in “The Writing Center.” Theresa clicks on the link and glances at her notebook while she waits for the computer to connect to the chat room. A new window appears on the screen. It is a text chat box, which will allow Theresa and Ms. Mullin to have a conversation by typing messages to one another.

*Theresa:* hi

*MsMullin:* Hi, my name is Ms. Mullin. What’s your name?.

*T:* Theresa

*MM:* Hello, Theresa. How may I help you?

*T:* hi. i want to now if my thesis sentence and paragraphs go together

*MM:* Okay. Do you have a file I can look at?

*T:* ???

*MM:* Have you made a text file of your writing that you can upload to the Postmodern?

*T:* no

*MM:* Looking at the document would be very helpful. We can talk about your thesis sentence and paragraphs without one, but it will be more difficult. Do you want to go ahead and talk now or come back later after you have had a chance to type in your document?

Theresa looks at the clock on her screen: 3:47. She has to type the draft anyway, and she is pretty sure she’s on the right track.

*T:* how late will you be in your room?

- MM: I will be here online until six, but a consultant will be in The writing center until 10 tonight. We can work now, or you can make an appointment to work later. What would you like to do?
- T: how do you make a file?
- MM: For more information on making text files and sharing them on the network, go to "Writing Basics," select "Writing on the Intranet" and "Writing in General," and click on "Go." Find the link that says "File Sharing on the Intranet"—or something like that. It will tell you how to send a file to the Postmodern.
- T: thanks. ill type my stuff and make a file you can look at. i should be done soon.
- MM: It's almost 4 now. Would you like to make an appointment to come back at 4:30 or 5:00?
- T: yes
- MM: Would you like to come back at 4:30 \_or\_ 5:00?
- T: 5
- MM: I will talk to you then, Theresa. Bye.
- T: bye

Theresa logs out of the chat room, follows the World Wide Web links to the information on file sharing, scans the information to get a basic idea of how to create the file she needs, prints a copy of the instructions for later reference, quits the web browser, opens the document processing application and begins typing. As she types, she adds a couple of sentences to each of her existing paragraphs. When she finishes typing, she spellchecks her document, saves it to her folder, saves another copy, according to the instructions she printed, to a public folder, and then transfers a copy to "The Writing Center" folder, where MsMullin will be able to retrieve it.

Theresa looks at the clock: 5:07. Oops, I'm late, she thinks. As she opens the interrelay chat application and makes the connection to "The Writing Center," she hopes her conference won't take too long. Maybe, she hopes as she clicks on "The Writing Center" link, I'll catch the end of the pep rally.

#### THE IDEA OF AN INTRANET WRITING COMMUNITY

The assignment Theresa addresses in her after-school writing session is familiar to those who teach writing. Marked by current writing theory, it is process-based and incorporates collaboration. Theresa's approach also evidences more "traditional" writing instruction: it emphasizes the formal characteristics of the essay—itself a traditional academic form of writing. This combination of contemporary methodology and traditional form creates an interesting tableau of secondary writing instruction curriculums, which must constantly re-invent themselves to respond to—and often conform to—the demands placed upon them by local, state, and federal governmental bodies, which are in turn influenced by business, industry, higher education, and other cultural institutions.

Amid this profusion of institutional structures, however, Theresa is able to put together an approach to her writing task that enables her to respond to conventional writing instruction through the exercise of her own, self-constructed, writing practice. Her practice, based less on the strategies of writing provided by theories and curriculums of writing instruction and more on the tactics of the student writer herself, takes advantage of the resources afforded her by her access to online writing resources.

Michel de Certeau (1984, xix) has defined strategy as “the calculus of force-relationships which becomes possible when a subject of will and power . . . can be isolated from an ‘environment.’” In this case, I am presenting schools that are organized in ways that are grounded in the regulation of locations and times of instruction—most schools—as the “subject of will and power.” This isolation allows the “subject of will and power” to generate “relations with an exterior distinct from it. . . .” In other words, schools create their identities, or relationships to others, by regulating the locations, or spaces, of instruction and the times of instruction in ways that differentiate it from everyday life. In contrast to a strategy, a tactic is

a calculus which cannot count on a “proper” (a spatial or institutional) localization, nor thus on a borderline distinguishing the other as a visible totality. The place of a tactic belongs to the other. A tactic insinuates itself into the other’s place, fragmentarily, without taking it over in its entirety, without being able to keep it at a distance. It has at its disposal no base where it can capitalize on its advantages, prepare its expansions, and secure independence with respect to circumstances. (Certeau xix)

Tactics in education, then, can be thought of as being practiced by those who seek to construct their own approaches to learning within the teaching and learning structures of the institution. Teachers use tactics when they use classroom time in a manner not directly regulated by a curriculum-driven administrative structure. Students engage in tactics when they pass notes during a lecture or daydream while another student is at the board diagramming sentences. In Certeau’s relationship between these two approaches to “everyday practice,” a strategy relies on “a victory of space over time,” while a tactic “depends on time” (xix). The result is that a tactic, when employed by a student, “is always on the watch for opportunities that must be seized ‘on the wing.’” The tactic-practicing student must “constantly manipulate events in order to turn them into ‘opportunities.’”

The result, or “intellectual synthesis,” of combining the various information derived from these tactical opportunities is not to be found in something one can necessarily point to, but in “the decision itself, the act and manner in which the opportunity is ‘seized’” (Certeau xix). In short, Theresa, as a tactician, took advantage of the fact that 1) she had the time to work outside the traditional constraints of the class period and 2) she had access to documents and people who, while working within the structure (and often the employ) of a strategizing institution,

were separated enough from the “spatial or institutional localization” (Certeau xix) of that institution to create a number of “heterogeneous elements” that could be combined, on the one hand, to produce a draft of an essay that included a thesis statement and paragraphs—a discourse—and on the other hand, to produce a *critical* experience and a *critical* act recognizable as a critical thinking activity to be valued in and of itself.

This shift from institutionally-based writing instruction *strategy* to learner-based writing *tactic* is the result of providing access to the textual and human resources that comprise the everyday reality of the institution. The critical elements of this concern are who will have access to what features of writing instruction and where and when they will have it. The relative flexibility Theresa has in determining who will be involved in her writing process (peers, instructors, writing consultants, herself), where that process will take place (the classroom, the computer lab, her home, a variety of virtual electronic spaces, or elsewhere) and when that process will take place (during her English class, during other class time, before or after school) is made possible by using currently available *internet* technology to construct an *intranet* writing community, a learning community that supports a tactical rather than strategic approach to literacy education.

Certeau’s account of tactic and strategy is interestingly echoed by two recent comments on how an intranet redistributes institutional authority. “From a user perspective,” Michael Taylor (1997, 40) wrote, “an intranet provides more control over information, making it possible to get what you want, when and where you want it.” And according to Glenn Haseck (1996, 65), “Unlike the internet, which typically involves a few individuals communicating to many people, intranets involve many people communicating with many people. This chapter presents the “idea” of an intranet community developed to facilitate secondary writing instruction by providing student-selectable alternatives to the traditionally managed classroom, a classroom whose identity is based on locating particular people in a particular physical space during a particular time period. Forming intranet writing communities allows opportunities to rethink how writing instruction will be managed by affording students, instructors, administrators, and others who belong to the intranet writing community (including students, instructors, and administrators from other traditionally-defined schools and people unaffiliated with traditional educational institutions) opportunities to make instructional or informational choices based more on a writer’s need to have access to a variety of writing resources during a variety of hours and from a variety of locations rather than on the needs of the institution to organize and regulate such access to conform to a notion of the work day that may no longer serve people’s educational needs.

What the technology and design of the intranet promise is a way to rethink the organization of writing instruction by challenging two critical determinants of

instructional organization and management: location and time. The intranet provides the opportunity to move away from the concept of the classroom, the class period and the requisite class management associated with both. The technology necessary to make this next move is available now at a reasonable although not insignificant cost. But, like Theresa's uses of technology described earlier, this technology can be used in a myriad of ways, ranging from replicating the traditional English classroom to challenging the notions of writing as a skill best learned in those classrooms.

#### THE INTRANET: SOMETHING OLD, SOMETHING NEW

The intranet, a relatively new but fast-growing use of current internet technology, has been developed primarily to support intracorporate and intragovernmental communications. A "domesticated internet" (Trowbridge 1996), it uses existing internet pathways and platforms to provide corporate and governmental information and communication services, from lunch menus to video conferencing, once handled by costly and limited dedicated information systems. Because an intranet is developed to serve the specific needs of a specific community—large or small—it often stands in contrast to current perceptions of the internet. As Trowbridge has pointed out:

On the web, the emphasis has been on "recreational surfing" in a setting that is often indistinguishable from anarchy. Organizational users enjoy a more organized environment and thus have an entirely different set of application requirements. The technologies of the internet can indeed be very useful in an organizational setting but they must be "domesticated"—integrated in a fashion that observes organizational realities. (52)

Trowbridge's touting the ability of an intranet to organize corporate (and educational) environments in a manner that "observes organizational realities" serves well as a promise and a warning. Intranets, like other technologies, both shape and are shaped by the more general cultures in which they exist. It is therefore important to carefully consider what type of community is to be connected by an intranet. An intranet writing community may or may not reflect the current organization of educational institutions into classrooms, grade levels, school buildings and school districts at the primary, secondary and post-secondary levels. An intranet writing community may or may not reflect the traditional hierarchy of administrator, instructor, student, and "general public." Theresa's experience, for example, contains many recognizable elements of current writing instruction associated with classroom teaching: approaching writing as a process; an emphasis on publication; support for collaboration, peer response and conferencing; and support for the connection between reading and writing. There are also obvious differences: Theresa is not in a traditional classroom; she can choose from a variety of approaches, resources and people rather than the one approach selected

by the classroom instructor; and she is free to move from place to place, depending upon how effectively each place addresses her needs. These differences in approaches to the teaching and learning of writing are made possible by changes in 1) the technologies available to support writing instruction, 2) the use of these technologies to manage writing instruction, and 3) the rethinking of the writing classroom as a writing community.

#### AN ALTERNATIVE APPROACH TO TECHNOLOGY AND WRITING INSTRUCTION

Using current internet technologies to support intranets provides flexibility in determining what information will be made available to users, in what form (textual, graphic, interactive event) that information will be made available, and who will have access to all or some of the available information. Whereas the limits of computer technologies once determined how we could use them to support collaborative, process-based approaches to writing instruction, the new internet information and communication technologies challenge us to make full use of their potential to support writing instruction.

Many writing classrooms currently use computers to support student writers, but as the role of computers in writing instruction shifts from one of speeding up word processing to one of providing access to a wide range of writing-related information through email, the World Wide Web, and other online resources, writing classrooms will need to reconsider the role of technology in writing instruction.

When computers first began to be used as part of writing instruction, they were little more than high-powered typewriters. Their innovation lay in their ability make the writer's job of document management an easier one by offering the ability to cut, copy, and paste text within and between documents and to store many pages of writing on a single 5 1/4" floppy disk. One could also print copies of these files, which a student writer could spellcheck before submission to the writing instructor. Word processing became a commonplace activity in a student's preparation of a document for submission to an instructor. Whereas legible penmanship and minimal crossings out once had been indicators of careful editing, correct margins and properly placed page numbers became the marker of scribal abilities.

Stand alone computers were soon linked together by cables, and local area network (LAN) computer classrooms came into being. No longer did each computer have to monopolize a printer. Several computers could be connected to a single printer. In advanced networked classrooms, instructors at the instructor or teacher stations located at the front or back of the classroom could project samples of student writing on a screen using an overhead projector and a liquid crystal display. Others in the classroom could watch as the student or instructor revised the draft in front of the classroom members. Students could then submit their final drafts by having them downloaded to the teacher's computer, where the teacher could retrieve them for evaluation. The paperless writing classroom had been achieved.



At the same time computers were being used for word processing and file management, they were also being used to provide computer assisted instruction (CAI), which consisted primarily of drill tutorials and Socratic dialogues that assisted students through the writing process of prewriting, drafting, revising, and editing.

Fairly recently, computers have been connected to larger networks, including the internet, and students now have access not only to word processing but also to electronic mail, electronic bulletin boards, chat rooms, electronic mailing lists devoted to special topics, and research reference sources once available only in a library. The bookless classroom has come hard on the heels of the paperless one, and students can now conduct research from one location, their internet-connected computer terminal.

Marjorie Montague (1990, 100) has touted the promise of such a computer-assisted, process-based writing pedagogy to provide “a context where writing processes can be taught effectively and reinforced and where students become motivated and enthusiastic about writing.” Montague, citing Daiute, has listed the following advantages of a “computer writing environment” (98) over the traditional classroom: the writing is more personal; the curriculum is student-centered; instruction is individualized; students have more practice in writing at all stages of the writing process; students are encouraged by computer-assisted instruction to participate more actively in the writing process; it reduces anxiety and increases risk-taking; reduces writer’s block; and it facilitates both surface and deep revision. When Montague made her observations, “electronic networks” were equated almost exclusively with email, a mode of electronic discourse that had even greater promise than computers themselves to promote collaboration among student writers.

But even as the sophistication and flexibility of technology grew, writing instruction as a whole remained relatively unchanged. Instructors still chose the textbooks, made the assignments, and managed the classroom. As the technology changed, educators struggled with inventing new ways to manage the technologies, ways that frequently reflected traditional pedagogical approaches—particularly teacher-centered classrooms.

An intranet approach to instruction uses currently available computer technologies to support a more decentralized and interactive learning environment by simplifying the movement of information to the point where users can make use of the technology to support their writing without spending a great deal of time contending with the technology itself. Accessibility and usability lead to greater opportunities for participation and the formation of very real virtual, or electronic, communities. Such communities are defined less by the management of teachers and administrators and more by those who belong to them, particularly those who are expected to contribute the most—students. “Students,” George Landow has remarked, “who frequently comment that they have encountered texts by friends and acquaintances, experience a particular kind of community with an ongoing

history and culture” (Tuman 1992, 110). This community, Landow also notes, frequently extends beyond the time and place defined by a particular class or course.

In addition to extending the boundaries of the traditional writing community, computers can, Helen Schwartz has observed, “help us picture collaboration and its consequences differently, not as a metaphor or theory but as a new and tangible thing” (Tuman 112-13). An intranet, then, would help writing communities move current writing theories toward another practicable reality by facilitating the restructuring of instruction and learning time and establishing protocols for communicating among community members. In doing so, it would both enable and prevent members in their literate practices; it would be both responsive and resistant to community manipulation. In other words, it would behave like a technology—both passive and aggressive in its interaction with people. Not all educational institutions will be prepared to or interested in supporting the alternative literacy community promised by an intranet, but for those who are interested and able to make a commitment of technology, time, and personnel, there are benefits to be realized from community membership.

#### ESTABLISHING A CONCEPT OF THE INTRANET

Tobin Anthony (1996) has offered the following vision to potential intranet designers:

I like to think of an Intranet as a concept, rather than a physical mass of network hardware and chattering computers. Your Intranet users will utilize services that you’ll develop and nurture. These services will grow in scope and sophistication along with your growing administrative expertise. . . . I like to think of your Intranet as an amorphous information entity that encompasses and enhances the lives of your coworkers. (1)

But before investing in the hardware and software needed to achieve Anthony’s “amorphous information entity”—or a more modest writing community intranet—it is essential that the intranet be carefully planned. This planning will involve rhetorical assessments of purpose and audience in order to better determine the technologies required to achieve the information processing goals established by such rhetorical analysis. In addition, purpose and technologies will need to be adjusted to reflect the realities of limited finances and technical support. If it is determined that intranet members who have modems connected to their computers should be able to connect to the server via those modems, then certain types of data transmission that are very intensive, like large graphics, audio, and video, may not be useful. Text-based data with minimal graphics would be a better choice in such circumstances. And of course, pedagogies would need to be adjusted to reflect these choices.

A school system- or consortium-sponsored intranet could provide electronic bulletin boards and chat rooms; email conferences and list services; online writing

reference resources; online interactive tutorials, virtual communities (MOOs and MUDs) in which students and teachers could meet to discuss their writing; online workshops, including print materials, slide shows, and audio and video files for both student and teacher development; World Wide Web links to other internet resources related to writing and writing instruction; and other intranet and internet resources. These components could be combined to form a relatively modest information posting and exchange system using web pages, email, and file exchange, to sophisticated interactive communities using extensive use of audio and video technology. A single building could support an intranet, as could an entire school district or state school system. But the scale of the intranet has to be such that it is small enough to reflect the individual, perhaps unique, needs and concerns of its members while also being large enough to provide enough diversity to promote change and growth through the sharing of ideas and practices.

### Planning the Intranet

Whether an internet-technology based network is used to facilitate the sending of text files for evaluation by an instructor or the gathering of several student writers to collaborate on a writing project, there are basic considerations in putting together such a network. Many writing-related computer networks have failed to live up to the visions of their implementors because of inadequate—or absent—planning. It is important that a comprehensive plan be developed in putting together an intranet writing community, a plan that carefully analyzes the community's purpose, population, organization, technology resources and finances.

The advice Cynthia Selfe (1990 "Computers") has provided for post-secondary English departments applies to any institution planning to support writing instruction with technology: make technology a learning community rather than strictly technological issue, thereby involving more people in the decision making process; make technology decisions reflect community goals; remember that the needs of people, not technology, should be emphasized; and place community issues before technological ones. John B. Dykeman (1997) has provided suggestions similar to Selfe's but tailors them to a business community. As the lines between education, business, and other institutions blur, it is important to plan technology use in a way that takes into account points of shared interests and points of contention.

Like writing itself, planning an intranet is a recursive and flexible process. While the following description of one approach to planning an intranet presents determining content type before assessing actual network resources, both factors, need to be considered together. Ultimately, the shape of the intranet will be formed through a sifting of the various factors into a coherent plan of action.

According to Bob Wallace (1996), the first consideration in forming an intranet is determining content type. Content type is different from content in that the former denotes the form that actual content will take. Content type affects the speed at which information can move through the intranet and the sophistication of the

computer hardware and software needed to use that information. Small electronic files, such as text-based web pages, text files, and email files, move quickly along even “slow” network connections such as a dial up connection via a modem. Most computers in use today can also accommodate text-based communications. Likewise, interactive text-based communications like internet Relay Chat (IRC) work well with relatively unsophisticated networks. Large files, such as video and audio files, and large bandwidth communications technologies, such as video conferencing, however, require high speed connections to be effective. Matching the kinds of information and communication made available on an intranet to the capacity of the intranet to process and transfer it between users is critical.

Wallace has also suggested that procedures for posting information and conducting communications exchanges on the network must be established. It may, in fact, be in the best interest of the network community to limit the use of audio and video on the network, perhaps reserving it for special occasions such as one-to-one tutoring or conferencing. Providing widespread access to audio and video features can quickly tax the resources of an intranet network server, the computer that stores and processes the intranet information. If audio and video files are used, say to provide poets reading their works or an act from a production of *King Lear*, the systems administrator may well want to require that users first download a file and then play it back locally using the processing resources of the user’s computer, rather than playing it in real time and using the intranet server’s resources.

Content, according to Wallace, must also be controlled in order to guard against overloading the resources of the intranet server. It is important to note that Wallace is advocating control of content based on the total amount of information being processed rather than on a particular point of view. The format of the content file (text, video, audio) combined with the size and number of such files determines the amount of storage space and processing power required of the server computer. Determining who will select content is a matter of community concern.

### Managing the Intranet

At this point it is a good idea to consider carefully who will be managing the intranet server or servers, the computer or combination of computers that store and process information for the intranet. This “webmaster” should be someone with considerable computer and networking experience. However, it is also important that the person responsible for managing the information on the server be someone who has a strong theoretical and practical grasp of the relationship between the construction and maintenance of the server, the content it provides, and the community it serves. This is also a good spot to insist that the manager of the intranet server be considered a full-time position. If a server is to assist a community in remaining dynamic and viable, then there must be someone available to facilitate that robustness.

Three models can guide the management of an intranet server. The first, managed access, restricts the access content developers and other community members have to the workings of the server itself. Centralized access, the second approach, places the server administrator in control of the installation of all approved content. The third model, distributed access, consists of a team of administrators managed by a central administrator .

Managed access allows community members to publish personal home pages in files they have been assigned by the systems administrator, but it would also deny them access to other parts of the server. Community members would be able to place content on the server with little or no restriction. In this model, the webmaster maintains the server hardware and software integrity and creates accounts for the intranet members but does not control content. The webmaster is essentially a technician in this scheme (Anthony 123-24).

A centralized access model places a central administrator in charge of all content changes to the intranet. Unlike the managed access approach, community members would not be allowed to directly upload files to the server but would have to have them placed on the server by the central administrator. While a centralized access model runs counter to the communal nature of the intranet, it may be a pragmatic approach to server management if the community is constituted by relatively unsophisticated users who do not frequently “post” information to the server. However, if the intranet is to be more than just an administrative vehicle for disseminating selected information, one prerequisite for community membership might be enough technological literacy to allow the intranet to operate at the level of managed access (Anthony 124).

The distributed-access strategy empowers a centralized team of developers to create intranet content. One administrator coordinates the actions of the other team members, who are responsible for editing, converting, and archiving information provided by the community members. This approach is often employed by large corporations who feel the need to carefully manage the information content provided by employees (Anthony 125).

While the management strategy adopted by any one intranet community will reflect the needs of that community, there is an obvious “sliding scale” of centralized control as one moves from managed access toward distributed access. Centralized and distributed access appear too tightly controlled to allow for the high level of interaction necessary if theories of collaborative learning and process writing are going to be realized in an electronic writing community. The greatest benefits of these administration-focused approaches, their consistency and regulation, are gained at the expense of dynamism and collaboration. In a community constituted by technologically literate members, or in a community provided with technology that is relatively easy to use and guidelines for using that technology that are consistent and minimal, managed access provides the best opportunity to realize truly collaborative approaches to literacy development.

When community members are able to not only access information but to publicly post it for other community members, they are placed in a truly literate environment, one that demands they actively, and ethically, engage in constructing a language environment that is responsive and responsible to all members.

### Connecting the Intranet

Once matters of planning content and access, as well as administration, have been addressed, attention can productively be paid to the specific hardware and software needs of the intranet. Obviously, the server computer must be connected, either physically through a wired network or via a cellular phone connection, to each of its client computers. It must also be able to exchange information with those client computers. This data exchange is facilitated through the adoption of protocols, or standard ways computers communicate with each other. The two most important protocols for internet connections are TCP (Transmission Control Protocol) and IP (Internet Protocol). These protocols greatly reduce the incompatibility problems associated with using different computer platforms (PC, Macintosh, Sun, etc.).

Since one of the appeals of the intranet is the fact that it uses existing internet protocols and network connections, it is important to plan how these connections will be made. Because most server computers will be connected to a local area network (LAN), which will then be connected to the wider internet, it is important to consider how the server, its locally connected computer clients and the distant clients connected by an ethernet or modem connection will be “webbed” together to form the intranet.

First, planners should determine how the various computers will be physically connected to one another and to the internet. Beginning with the intranet’s connection to the internet and working “down” to each desktop computer, they will need to produce a comprehensive diagram of the intranet’s wiring. With this information, they should reconsider how the intranet will be used in light of the speed at which it is able to transfer data from the server to each of the clients. The speed at which data can be transmitted to the various parts of your intranet will be a significant determining factor, if not the determining factor, in making pedagogical choices. It matters little that an instructor or student has a very fast desktop computer if the information traveling to and from that computer is crawling along a slow modem connection. Decisions regarding the location of network clusters should not be made without considering the impact of network speed on how the computers in those clusters can be used effectively.

If the intranet server is going to make use of an existing LAN (Local Area Network), such as a computer classroom, it will probably be wired together using a 10BaseT cabling system. While there are newer and faster cable configurations, 10BaseT should be fast enough to handle all but the most data intensive communications, like high quality video conferencing. If both the server and the client are communicating on a very high speed network and there is a desire to use high

quality video conferencing, the faster 100BaseT, which can move ten times the amount of information moved by 10BaseT, might be warranted. Planners should remember, however, that content type requiring such high speed connections will be all but useless to anyone who must rely on a slower network connection. There are other cabling systems out there, both older and newer than the currently common 10BaseT, so the current network administrator should be consulted in order to determine what system will best serve the community's specific needs.

If the intranet server will be called upon to direct a great deal of network traffic to a variety of locations, planners should consider the use of a router to direct the information flow. A router, also called a gateway, can be a regular computer running routing software or a piece of hardware designed specifically for routing data to its appropriate destination of the network.

Once local connections are made to create local networks, those LANs will need to be connected to the internet itself. Since the intranet being promoted in this chapter may have to span significant distances in order to connect its community members, it will need to make use of the globe-spanning internet. This connection to the internet and its vast resources, however, comes at a cost to the community. Security must be carefully considered because gaining access to the internet means the internet also gains access to the information shared by the intranet community. Therefore, specific guidelines for accessing the intranet, including security measures such as a user identification and password combination, will need to be provided to all users.

There are many ways to connect to the internet. Most post-secondary education institutions and some secondary schools have their own high speed connections known as T1 or T3 lines. These lines can pass a great deal of data very quickly; therefore, the intranet server and any clients that will be used for intense information processing, such as video conferencing, should have such a connection. Some schools and most individuals use an internet Service Provider (ISP) to gain access to the internet via a modem that connects a computer to a standard telephone line. Compared to T1 and T3 lines, even the fastest modems are slow. In determining how information will be shared on the intranet, the disparity between connections must be considered. A user connecting via a modem, even a fast modem, will not be able to use intranet resources in the same way someone with a fast direct connection can.

One of the great appeals of the internet is its ability to serve a community that is not located within a limited geographical area. Planners may, therefore, want to enable their intranet community members to access their intranet from a remote site, a site not identified as a stable part of the network. Remote access enables community members to use intranet resources from any computer with internet access, providing high levels of mobility to community members. Two protocols that will allow a computer to emulate a TCP/IP connection, SLIP and PPP, enable community members to read their email or surf the net from any phone connection.

## Selecting an Intranet Server

Once it has been established how the computers that make up the intranet are connected to one another, a server computer must be selected. This intranet server is responsible for providing a “home” for the software necessary to process information to and from the other client computers belonging to the intranet, as well as storing the various files that will be distributed to intranet members.

Selecting a computer to act as an intranet server requires planning that addresses the intranet’s immediate and future uses. For most networks—those that receive limited numbers of hits, or connections, per day—any fairly new computer with a reasonably fast processor speed, adequate data storage space, and enough RAM will do. Typically, what slows networks is not the processor speed of the connected computers but the speed at which data can travel over the network wiring. Usually, the server computer can provide as many files as the network connection can handle. If all the server is doing is providing static web pages or other text files, little strain will be placed on the server—and most intranet servers will likely begin with such static text files. However, as community members want to make use of dynamic files like audio and video, the processing ability of the server becomes much more important. As users enrich online content with graphics, photos, and other elements that make text documents more visually appealing, the size of those document files will swell. A breaking point might be reached when the server is required to respond to dynamic content requests such as database searches, real-time video, etc. and must process tremendous amounts of information in order to serve up the requested data. Providing searchable content, forms, instructional processing, etc. is processor-intensive work. If the community has a need for this interactive and multimedia content, considerably faster, more powerful processors will be required. A separate server for special processing applications might be called for in order to support the work of the intranet server itself. An intranet can make use of several servers working together to process more data at faster speeds. However, relatively small intranet communities, communities that are purposely limited in numbers, should be well-served by a single, reasonably fast, server computer.

A server, however, is just another piece of hardware until it is configured to use the software that will allow it to process, organize, and move the data along the intranet. Various software packages are available to enable the server to handle World Wide Web services, such as publishing web pages and allowing connections to other WWW addresses; File Transfer Protocol (FTP), which allows the server to send and receive a variety of files; email; searchable databases; internet Relay Chat (IRC); electronic Bulletin Board Systems (BBSs); and video conferencing. They vary greatly in capabilities, costs, and ease of use, so understanding resources and goals is once again a prerequisite to making an informed choice.

In order to take advantage of the server’s resources, planners must select application software for each client computer belonging to the intranet. Much of this client software is available now as integrated communications packages. These



packages typically include a World Wide Web browser, an email manager, and some type of collaboration software that enables users to collaborate on projects by sharing files. Other internet software for other applications, such as video conferencing, is also available.

### New Technologies, New Literacies?

Perhaps the greatest promise of using communications technologies (in this specific case, intranet technologies) to support secondary writing instruction is using it as a means of reshaping the traditional boundaries of literacy instruction in ways envisioned by critical educators. Intranets, by making possible redefinitions of institutional boundaries, learning populations, and curricular timetables, encourage what Daniel A. Wagner (1994, 319) has written about as life-span and life-space literacies, literacies that challenge traditional notions of how literacies are acquired, including factors of age (time) and locale (space). Wagner has asserted that “literacy is practiced in ways that can and should be understood *across the life span*, and *across life spaces*. . . .” More specifically:

It is becoming increasingly clear that in a number of fundamental ways, a more literate society cannot be created in America or elsewhere without a more comprehensive conceptual framework—one that explicitly attempts to link children’s acquisition of literacy with that of adults, and one that assumes that there is no single normative theory to literacy development.

Henry Giroux (1990, 32-33) has also asserted that current notions of literacy must change in order to create a literacy paradigm he has represented as

a shifting sphere of multiple and heterogeneous borders where different histories, languages, experiences, and voices intermingle amid diverse relations of power and privilege. For example, within the pedagogical cultural borderland known as school, subordinate cultures push against and permeate the alleged unproblematic and homogenous borders of dominant cultural forms and practices. . . . Critical education needs to provide the conditions for students to speak differently so that their narratives can be affirmed and engaged critically along with the consistencies and contradictions that characterize such experiences.

An intranet community has the potential to provide the “conditions” for approaching thinking and writing in ways that address Giroux’s theoretical stance through concrete practices. Such practices might include the uses of technology to create communicative opportunities not otherwise available due to distance, time, or cost; the uses of people other than professional educators to constitute the talk that leads to learning within this intranet community; and the dedication of professional educators to providing the institutional resources necessary for learners to engage with one another in constructing literacy communities that exist extra-institutionally. Whether students will be allowed to “speak differently” is a much more complex matter, one that is beyond the scope of a mere technological fix. The intranet writing community promises, however, to challenge its

members to focus on establishing Giroux's "socially nurturing" pedagogy less through some material realization of grand theory than through tentative and frequently faltering establishments of conversations among community members—a community whose borders are constantly being defined in response to the influences of institutions outside of and within which they extend themselves.