WINDOWS TO LITERATURE. THE COMPUTER AS CONTEXT IN NORTH CENTRAL TEXAS COMMUNITY COLLEGES

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DEDICATION

To my inspiration, spiritual and temporal

To my love and friend, Boyd L. Anderson

In Memory of Mary E. and Norman E. Vincent

And to all inspired teachers with righteous desires

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ABSTRACT

This thesis evaluates the study of literature with the use of computer technology and recommends how it can inspire students to search for "possibilities." Chapter one reviews and synthesizes current scholarship in the field of computer-aided classrooms. Chapter two focuses on ways computer hardware, appropriate software, and Cyberspace assist students extend the existing windows to different spaces, realities, and time in their quest to change information to knowledge. Chapter three highlights teachers' and students' roles when adopting a computer-aided literature class. Chapter four is devoted to the methods of evaluating the existing computer-aided literature classes in the North Central Texas community colleges and an analysis of the survey results. Concerns and advantages of studying literature with computer technology are also addressed.

Although the study of literature is a complex undertaking, computer technology opens the existing windows of information encouraging students to continue probing the mysteries and wonders of literature.

TABLE OF CONTENTS

| DEDICATIO | N | iv |
|------------|--------------------------------|----|
| ACKNOWLE | EDGMENTS | V |
| ABSTRACT | | V |
| CHAPTER | | |
| I. | OPEN WINDOWS | 1 |
| II. | WINDOWS ACCESSED | 14 |
| III. | PARTICIPANTS THROUGH WINDOWS | 26 |
| IV. | SURVEY ANALYSIS AND EVALUATION | 33 |
| WORKS CO | NSULTED | 44 |
| APPENDICE | S | 53 |
| APPENDIX A | A: COVER LETTER | 54 |
| APPENDIX I | B: SURVEY | 55 |
| APPENDIX (| C: GLOSSARY | 59 |
| APPENDIX I | D: WINDOWS TO VISIT | 74 |

CHAPTER I

OPEN WINDOWS

The pursuit of excellence, achieved through probing great ideas of the past and present and through applying this knowledge to the present, and, by extension, creating a future, requires the use of the best available means to support the pursuit. Knowledge is obtained by the exchange of information through codes. Jeremy Campbell defines code in *Grammatical Man: Information, Entropy, Language, and Life* as "a set of statistical rules, a form of stored information" (256). In an ever changing world that records information in ever changing codes, as evident in the movement from pictographs (graph, style) to print (Ts'ai Lun's block printing, Gutenberg's movable type, typeset, offset lithographic), to electronic exchange (Internet, e-mail, MOOs, hardware, software), the close of the twentieth century offers a means for new codes through computer technology that opens the existing windows for examining information from which a synthesis will lead to new knowledge.

Through the study of codes imparted in literature, the past and present knowledge, views, and understandings of others can be accessed to further mankind's ability to succeed as individuals and nations. Finding a concise definition of literature among the many given in articles and books is difficult. Irena R. Makaryk's definition in the *Encyclopedia of Contemporary Literary Theory* is as follows: "The definition and value of literature are primarily determined in accordance with the changing disciplinary

interests of academic and cultural institutions, interests that have mainly to do with the reception, preservation . . . and cultural reproduction of literary texts" (583). Terry Eagleton asserts in *Literary Theory: An Introduction* that literature is a type of writing that certain people value in specific situations "according to particular criteria and in light of given purposes." He further states that, "All literary works, in other words, are 'rewritten' if not unconsciously, by the societies that read them; indeed there is no reading of a work that is not also a 'rewriting'" (11-12). Literature, then, records values of a time, place, and society that produces, studies, reproduces, and preserves those values for the future.

The value of studying literature has been a matter of discussion for many years. In *Literary Logic* Kim Ball recognizes that "the goals of the university or college literature teacher have been argued since the establishment of the first post-secondary English literature departments in the last decades of the nineteenth century." The first teachers of English literature were not concerned about transmitting moral values (14-16). Graff states that the philologists studied and taught literature with the "idea of scientific research and philological study of the modern languages" rather than the idea of transmitting moral values (28-32, 55). Matthew Arnold later advocates that the teaching of literature was the transmission of culture and a literary tradition, meaning that reading of the classics of a culture will lead to self-enrichment, enjoyment, and better citizenship. Others, like Eagleton, argue that the study of literature can only be justified by undertaking to produce more useful, organized workers for the new mechanized industries (23-29). The "idea of teaching moral values through literature, both in

Arnold's sense of moral enlargement and in Eagleton's sense of social control, persists today" (Ball 15).

Ball suggests that "New Criticism approaches to literature have had an extremely important influence on how literature has been taught in this country" (15). These critics, Ball concludes, attempted "to get away from emotional, personal readings of literature. . . . Growing out of a desire to demonstrate how social and moral functions operated in literature, New Criticism gradually evolved into the explication of texts through close reading and isolation from background information with which we associate the movement now" (16). Later, Graff states the political implication of literature: "The argument that the politics of literature should be seen as part of its form modulated subtly into the idea that literature had no politics, except as an irrelevant extrinsic concern" (149-50). These scholars indicate the fluidity of different approaches in teaching literature while still retaining the formal aspects of studying literature.

Ball observes that, "These two strains in literary study and teaching, concentration on moral and cultural values in literature and concentration on formal aspects of literature are still the two main channels in which literary study runs today" (15). Robert Scholes calls the first strain "secular criticism" to indicate criticism that sees literature as "socially and historically grounded" (76). Multicultural and feminism studies, for example, "have been guided by sociological interests rather than by preexisting literary standards." They depend upon "content analysis" as do Marxist and Freudian approaches and show little interest in form (Levin 38-39). Ball also suggests that the "Reader-response theory, with its roots in Freudian and psychoanalytic theory,

and reception theory also belong in the category of content-oriented approaches that concentrate on 'social and historical' significance of literature' (16).

The second strain, which focuses more on the formal aspects of literature, is represented by structuralism and post-structuralism. Structuralism highlights the immanent relations constituting language and all symbolic or discursive systems that includes semiotics fathered by Ferdinand de Saussure (Makaryk 199). Structuralism and post-structuralism represent an attempt to study structures within structures to find meaning and gaps in meaning.

Some scholars disregard critical barriers for a more practical approach. J. Hillis Miller asserts that when there is little agreement about theory, literary texts are studied as examples of how theories work and not for established meanings and values. Reading is thus, in his view, becoming an increasingly artificial and marginal activity, no longer serving a social function as it did in the past (87-96). Miller argues that literature should be taught because being able to write well depends on reading well and the practical value of writing well can be sold to the public by English departments.

The debate between these two strains goes on among the modern critical field; professors wonder if somewhere between "the extremes of traditional, value-based criticism and post-structuralist formalism" they will discover what to teach and how to teach it (Ball 16). Many scholars contribute to this debate, mainly Richard Ohmann in *Politics of Letters* and *English in America: A Radical View of the Profession*, Robert Scholes in *Textual Power*, and Gerald Graff in the last chapter of *Professing Literature: An Institutional History*.

Another issue of importance to the field of literature includes the expansion of canons in unknown measures of the past. Jay David Bolter notes that "It is still popular in this late age of print to believe in the enduring, 'timeless' quality of great works of literature—to believe that such works define our cultural ideals and therefore to argue in favor of a canon of such works." He further states that "Literary theorists have recently made an issue of the canon, examining how canons have formed in the last few hundred years of Western culture and why certain works and authors have been included and excluded" (Writing 150). The lack of canonical boundaries—threats against traditional boundaries of literature—"is opposed by the advocates of more traditional views of literature . . . such as Graff and Booth" (Ball 17-18). Still, the boundaries are being enlarged and sometimes ignored. Professors introduce print advertisements, newspaper articles, histories, personal letters, diary entries, and television scripts in literature classes, while textbook editors include Native American creation myths, Chicano poets, folk ballads, slave spirituals, and early feminist manifestoes, among other texts, in undergraduate anthologies. This diversity of text is proposed for different reasons. For example, Patrick Colm Hogan, while teaching comparative literature, requested curricular diversity because he felt that "some minimal study of a non-Western literary tradition" was necessary since "linguistic study goes beyond the writing of grammars and broaches larger issues of structure or function . . . [of] one language or language family" (182). More common and probably most likely, social and political points of view seem to be the basic factor for extending the canonical boundaries. Ball acknowledges that feminist. Marxist, and African-American critics lament that the values being taught are restricted

by socially dominant groups or classes (19-20). No one questions that values are to be taught through literature; the question posed now is whose values to teach.

This thesis will not debate or answer questions involved in the decision making of scholars' and teachers' approaches in teaching literature and the extension of canon boundaries. The concern lies with what Barrett John Mandel expressed in *Literature and the English Department*: the experience of reading literature "often jolts a reader out of complacency, sweeping him into uncharted emotional and intellectual adventures. . . . The jolt to one's sensibility may make one more receptive to 'possibilities' in one's own life" (95). This thesis will evaluate the study of literature with the use of computer technology and recommend how it can inspire a search for "possibilities" and be a kind of training in social ethics that helps students handle a body of information in a way that is conducive to action. When the possibilities become apparent, then uses of technology open windows of opportunity to pursue and achieve excellence.

Although computers are vital components of society—inhabiting homes, offices, and schools—many people fear the change that computer technology brings. The unfamiliar and unknown often shroud a community with stress and grief. A natural reaction to seemingly threatening changes is the feeling of grief and emotional stress. It is a healthy response to transitive and transformative situations, such as death of a loved one, separation or divorce, injury or disability, loss of a job, property, or pet, and children leaving home. Some might say that when changes are introduced to students and teachers grief strikes, especially if the changes involve the use of computer technology in the classroom. Grieving people share certain feelings: shock, denial, anger, guilt,

depression, loneliness, and hope. Not all of these would be felt by those introduced to computer technology in the classroom, but shock, anger, depression, loneliness, and hope are among those experienced. Loss of control in the workplace may cause shock, then fear, anger, (why me) and hostile feelings. As programs and ideas are first implemented, depression might rear up when performance seems difficult and below standards; loneliness creeps in as new challenges are presented. Feelings of unreality, panic, and emotional distance is replaced by hope when the focus turns to possibilities of the future. No matter how difficult life seems when transitions and transformations happen, life can and will get better. Overcoming these feelings can be done by expressing feelings, asking for help, and accepting help. Setting long-term plans with short-term goals is another effective way of handling stressful situations. These sometime uncomfortable feelings can be overcome with training, goal setting, and persistence. The reward of teaching with computer technology requires adapting to change.

Another reason for man's inability to look at "possibilities" is discussed by Jonathan Miller in *The Body in Question*. He states that William Harvey, the first modern biological scientist, had difficulty in recognizing the existence of mechanisms in the circulatory system because of his susceptibility, like his colleagues and predecessors, to ancient dogma. Miller said that Harvey had difficulty shaking "off the traditional belief in the existence of vital principles" (212). Similarities exists when recognizing the capabilities of computer technology in literature classes. Many teachers cannot see past the traditional methods of teaching literature. The people of Gutenberg's day thought that the ability to print over 300 copies of a book per day was scandalous and might

cause all kinds of problems. This reaction persisted fifty years later in the early 1500s. "Nearly a century after Gutenberg's movable type, many people continued to believe that value and beauty came only from handwritten manuscripts. . . . Such attitudes isolated people from new ideas and scientific information that were available only in printed format" (Swerdlow 8). These factors of transition can be countered with persistence. The arts and humanities have been slow to utilize computer technology in teaching literature. Even after computer technology was common place in the sciences (i.e., cognitive science, information technology, and computer science), the arts have just recently become interested in applying it to classroom pedagogy, literary theory, and programs or software that enhances the development and understanding of them. Composition teachers, the forerunners in teaching with the use of computers, initiated interest in many teachers to use computer technology in literature classes. The subject matters that most interests people working in the arts and humanities include literacy and computers, hypertext and hypermedia, virtual reality, and Internet pedagogy.

Investigating literature with computer technology, the focus of this thesis, adds further dimensions that encourage and enable students in their studies and in obtaining pertinent information instantaneously. Use of software programs on CD-ROMs encourages close readings and notations on electronic books that engage the student in interactive activities. The Internet offers many opportunities for interaction with prose and poetry. E-mail and discourse communities (MOOs) offer another means of communication with peers and the World Wide Web (WWW) specialty groups expand the horizons of interactive learning.

Collaborative work is also indicated in teaching literature with computer technology. Ball states that "Much work has been done in recent years in collaborative work in composition studies, but little of this research effort has spilled over into the study of literature." Ball continues that "Collaborative learning is foreign to the tradition of studying literature in this country" (39) and Kenneth A. Bruffee, in agreement, states that "Humanistic study, we have been led to believe, is a solitary life" (Collaborative 645). He further describes an active, group-refereed learning experience that requires participants to join into a community by accepting the premises that knowledge is an extension of information and that binding the two creates a community of knowledgeable peers. Bruffee asserts that since "learning is a social and not an individual process, then to learn is . . . to work collaboratively to establish and maintain knowledge among a community of knowledgeable peers through the process called socially justifying belief" (646). The computer technology-aided literature classroom encourages interaction between text, Cyberspace contacts, teachers, and peers. These collaborative efforts introduce different windows to literature.

Ball goes a step further and advocates that when students are able to convey concepts under consideration to others they learn more. The active involvement and interaction with students, as instructor, encourages a deeper involvement with the lesson material (42). She quotes McKeachie (64) stating that "Preparing to teach and teaching involve active thought about the material, analysis and selection of main ideas, and processing the concepts into one's own thoughts and words" (42). Even the computer technology in the literature classroom encourages collaborative and an extension of

collaborative learning—learning in order to teach—encourages complex, extended, and usually repeated interaction with the text and with other classmates.

Current scholarship on the use of computer technology in the study of literature begins with Richard Lanham's statements that the introduction of electronic texts will eventually "redefine the writing, reading, and professing of literature" (269). Although texts being redefined by computer technology has proved to be true, electronic books do not threaten to replace the printed books as some people feared. O. B. Hardison, Jr. observes the cultural revolution from book to screen: "Books are still produced and read in prodigious numbers, and they will continue to be as far into the future as one can imagine. However, they do not command the center of the cultural stage." He continues that "Modern culture is taking shapes that are more various and more complicated than the book-centered culture it is succeeding" (264). Hypertextual writing, electronic books and journals, e-mail, and discourse communities offer many possibilities for interaction and research; however, printed books and textbooks will still be essential in the computer technology-aided classroom.

Bolter agrees that the book will not die, but "will be reborn." He states that "The printed book . . . seems destined to move to the margin of our literate culture. The issue is not whether print technology will completely disappear; books may long continue to be printed But the idea and the ideal of the book will change; print will no longer define the organization and presentation of knowledge, as it has for the past five centuries" (2). As the advent of printed books lead to more accessibility to information and knowledge, computer technology leads to even a greater accessibility to information beyond

comprehension. The volume of information along with the difference in organization and presentation of knowledge available through Cyberspace requires adjustments in methods of research and inquiry.

Electronic writing is adaptable, malleable, and nonlinear. The difference between reading electronic and printed texts has been discussed by many scholars (Bolter, Selfe, Hawisher, and Costanzo). William Costanzo mentions the different physical features of accessing text: the computer's short screen, the unportability (except laptops), the feel of manipulating function keys instead of the easy-to-carry paperbacks, soft-bounds, and hardcovers, and the feel of flipping through the pages. Costanzo states that one is not better than another, but just different, and after experience with the flexibility of manipulating text, the ease of marginal or hypertext annotating, and scrolling for scanning, computer reading becomes second nature as did reading of text from a printed book. Next he covers the structure of electronic text compared to the linear printed book: a few keystrokes change font sizes, word or phrase strings are searched and found, and hypertext features activate electronic text transformation and escapes the confinement of printed text (11-12). He even suggests that "the cursor is a lively invitation to compose" (16).

George Landow's *Hypertext: The Convergence of Contemporary Critical Theory* and *Technology* also assesses the effects of technology upon reading and understanding literary texts. He states that hypertext is different from print text because it is multisequential—readers can access many links through sets of documents ("Hypertext" 70). Costanzo poetically describes it this way: "Readers of hypertext travel along

branching lines of narrative within dense networks of interconnected words" (12). Landow discusses ways that hypertext concedes some authority to the readers. He delineates two ways hypertext blurs the boundary between author and reader: "First, by permitting various paths through a group of documents, it makes readers, rather than writers, control the materials they read and the order in which they read them. Second, true hypertext . . . permits readers to become authors by adding electronic links between materials created by others and also by creating materials themselves." Landow states that hypertext "has broad implications for literature and literary education. . . . It raises fundamental questions about plot, characterization, narrative line, and other aspects of fiction" ("Hypertext" 70). Hypertextual reading and writing offer students opportunities to annotate, compare, author, and share study materials. While participating in hypertextural writing, students may develop an awareness and an appreciation of authors' writing styles, character developments, narrative techniques, and other writing strategies.

The excitement and enthusiasm of previous educators have been tempered with concerns addressed by scholars (Selfe and Hilligoss, 1994; Barber, 1996; Hawisher, 1992). Now scholars are more inclined to write about both the potential and problems of computer technology in the classroom: teachers' attitudes toward technology, evaluation of course material and students' work, problems students have with addressing the distant audiences, and techno-political issues including politics of gender (Winkelmann 432).

The review and synthesis of current scholarship in the computer technology-aided classroom shows the arrival of many concerns, questions, and solutions. This scholarship

forms a context from which to move forward in conducting an ethnographic study in North Central Texas community colleges. The structure of the remainder of this study continues with chapter two by categorizing computer hardware, software, and Cyberspace capabilities that are available for instruction and with chapter three highlighting teachers' and students' roles when adopting literature study with computer technology. Chapter four lists methods of evaluating the existing computer technology-aided literature courses in the North Central Texas community colleges and the interest their directors and educators of literature have in them. The fourth chapter also assesses the advantages and concerns of studying literature with computer technology and recommends selected use of the computer. Appendix A (Cover Letter), Appendix B (Survey), Appendix C (Glossary [computer technology terminology]), and Appendix D (Windows to Visit [a list of Cyberspace addresses]) appear at the end of the thesis.

CHAPTER II

WINDOWS ACCESSED

This chapter categorizes computer hardware, software, and Cyberspace capabilities that are available for instruction. Each of the three categories catalogs and describes the principle features of items included.

Before delineating the three categories, the problem created by the overwhelming speed in which hardware and software is upgraded and revised is addressed. In order to take advantage of the best programs that are helping define the future of computer-aided classroom, state-of-the-art equipment is required. Only by investing in the newer technology will teachers and students be able to use complex graphical environments to control the computers, take advantage of hypertext and hypermedia software, benefit from the educational and reference CD-ROMs, and use Cyberspace—worldwide telecommunications information services and tools. With this warning in mind, current technology, and specifications will be addressed. Although some of these recommendations may be obsolete at printing, they are important because they identify features to look for when selecting hardware and software. Of course, to avoid assessing available material is to ignore the future of electronics in the literature classroom.

Further, previously selected materials will serve until new programs and equipment can be replaced and will open the window to their extended use in the future.

For these reasons, the recommendations for the three categories include the following:

(1) IBM compatible computers with a 100+ MHZ Pentium Processor with thirty-two megabytes of RAM and two megabyte of VRAM (less than that will limit the ability of some of the new programs). A large hard drive is recommended (2.+ Gigabyte), as well as a CD-ROM drive (8X-speed Multimedia Kit) and modem (28.8 kbps /28,800 baud). When purchasing sound (16-bit+) or video cards (high resolution), it is best to stay with the leading products to ensure compatibility with a wide range of software programs. Educators who use the Macintosh will want to purchase the current highest capacity equipment.

To participate in the multimedia world¹ the following additional equipment is recommended: CD discs, a CD-ROM Recorder, CD-ROM-to-video tape converter, multimedia software, scanners, and photo equipment. A CD-ROM disc looks like a compact disc and can store about 600 megabytes of information. Among the discs available are dictionaries, encyclopedias, general reference works, graphics, and literary works. CD-ROM recorders allow the creation of multimedia discs. CD-ROM-to-video tape converters allow the conversion of a CD-ROM presentation to videotape for VCRs. Multimedia authoring software permits manipulation of images and editing of text on multimedia presentations. Sheet scanners and photo equipment allow creating presentations from existing photos, pictures, maps, and graphics. Multimedia requires a tremendous amount of memory; therefore, consideration of computer compatibility while

¹ Multimedia, as defined by Jeremy Galbreath in "Multimedia in Education," is "nothing more than an umbrella term referring to the technologies that present various combinations of graphics, text, video, audio, and animation under user control" (17).

selecting hardware and software is necessary for sure and effective results. Galbreath mentions that a number of multimedia systems (e.g., IBM's Ultimedia and Touch System's D/Vision) are now available that include both the required hardware and software necessary to author and playback multimedia programs (19).

Galbreath addresses the question, "Why use multimedia?" He states that he promotes interactive multimedia technology because it "appears to improve the learning process in education, from the standpoint of increased retention rates and decreased learning time" and to "aid students' ability to receive, process and act on the tremendous amount of information presented to them. . . ." He adds that it also allows students the "opportunity to gain critical technology skills that they will need to survive in the highly competitive marketplace they will face in the future" (17-18). Through multimedia presentations (including pictures, maps, and audio clips), teachers can introduce class material about authors' background, historical events, and setting of literary work. Students can use multimedia productions for class presentations on different authors and literary works. Multimedia authoring, like hypertextual writing, leads students to producing instructional material for sharing with peers in the process of learning themselves.

(2) The selection of software cataloged and described is limited to those being used in classrooms. There are other software programs available, some are being used in limited situations, but their success and application have not yet been evaluated; therefore, they will not be mentioned here. Selecting software to meet the goals of a curriculum is difficult. Educators in general are proficient at selecting and using

textbooks, but their experience in selecting and using computer software is usually limited. Most of the information found on software is found in biased catalogs or in computer journals. For a more academic approach in selecting software, Ball suggests that educators investigate a number of associations (e.g., EDUCOM), listed in the *Humanities Yearbook*, that are "specifically dedicated to facilitating computing in the humanities" (31). Once the instructor has gained facility with selected hardware and software, the teacher may be courageous enough to introduce more software programs into the classroom that will help students acquire more tasks and skills.

Gail E. Hawisher expounds on the many ways of classifying software and programs in "Blinding Insights: Classification Schemes and Software for Literacy Instruction." She illustrates how classification systems changed with exploration and creation of more products and different points of view. In the early 1980s the categories were tutor (drill, practice, and invention), tool (word processing and style checkers), and tutee (logo and hypercard). Classification continued to evolve with theoretical themes to current-traditional (style checkers and grammar with punctuation), expressive (freewriting and invisible writing), cognitive (heuristic), and social (interchange, electronic bulletin boards and communities) (39).

For the purpose of this study, various programs and software listed below are loosely arranged in four categories: Composing tools (word processing, spell checkers, and style and grammar checkers), specific tasks (freewriting, hypertext, and multimedia), resources, and social opportunities (interchange, electronic bulletin boards, and

communities). Each item specified in the four categories is followed with a description that details the principle features that distinguish it from others in the same classification.

- (a) *Composing Tools*. Software should include a word processing program. The popular Microsoft Word and WordPerfect for Windows allow hypertexting and other attributes for webbed environments. They are used frequently by teachers and students in composition and could be used more often in the study of literature.
- (b) *Specific Tasks*. Many teachers and students have used word processing programs and style or spell checkers such as Grammatik for writing papers, typing and revising, and inserting and deleting, but few have used a program to analyze literature looking for imagery, symbolism, structural or thematic ideas such as *TACT (Tag Text)*. Mark Hawthorne in "The Computer in Literary Analysis: Using *TACT* with Students" informs educators on the use of this freeware that works with "key words and word clusters in imagistic, structural or prosodic studies" (19).

Other task-specific software programs that analyze text, facilitate group writing and annotating, and offer reference and research resources include *Common Space*, *LITTerms*, *StorySpace*, and *WordSmart*

Common Space is a program that allows writers and readers to share and respond to texts. Multiple columns can be linked to any text, so more than one reader can see other readers' comments; comments can be linked to a particular spot in the students' text. Teachers can create a library of frequently-used comments that can be pasted into responses. Some synchronous communication is possible.

LITTerms: A Tutorial for Understanding Poetry, Fiction, Drama created by Richard Dilworth Rust is a set of three software programs useful in any introductory literature course. All of the benefits of interactive computer learning are available for the mastery of the elements of literature. The program can be used for classroom instruction or independent study. It consists of three program disks that run on an IBM PC with 256K and a color monitor.

StorySpace is a hypertext authoring software in which students create writing windows with links to other texts. Teachers use StorySpace to create flexible hypertext lesson plans, while students use it to learn organization by rearranging window spaces and design paperless essays for readers to navigate. Teachers and students also use it to download text into windows and conduct word to word connection with outside text.

WordSmart is an interactive vocabulary CD-ROM that is offered on ten individually sold volumes ranging in difficulty from fourth grade to adult. Each volume includes more than five hours of audio, pronounces over 5,000 words in a human voice and teaches anywhere from 180 to 260 vocabulary words. The program focuses on synonym recall for each word, using visual flash cards, multiple choice selections, column matching, and sentence completion. One segment uses onscreen text (read aloud by the computer) to discuss synonyms, word derivations, contextual understanding, common misuses, and the differences in meaning of words close to the target word. WordSmart's thoughtfully chosen content taps most commonly misunderstood words and definitions in multiple choice selections, and provides valuable feedback by explaining both correct and incorrect responses.

(c) Resources. DISCovering Authors is a database of 300 frequently studied writers, including various ethnic and minority writers. Each entry features a biography, a bibliography of written works and media adaptations, and further references, followed by an overview of the writer's work and five or six critical essays. A natural companion to DISCovering Authors is the Illuminated Books and Manuscripts, an innovative learning experience of classic literary works and historical figures.

The Language Pack, an comprehensive reference resource, is a CD-ROM package that gives students and professors access to a new level of reference technology. Using COMPuter LEXographer (CompLex), the user can work with the complete texts of both the Harbrace Twelfth Edition and the Merriam-Webster's Tenth Collegiate® Dictionary. Harbrace's clear, practical advice on writing is formatted for quick referencing and ease of use. This digital version includes rapid search capabilities that enable any user to quickly address questions based on specific writing and revision situations. The Merriam-Webster's Tenth Collegiate® Dictionary includes the full text of the print edition, in addition to over 1,000 helpful illustrations. It combines authoritative, up-to-date information about English vocabulary with the high-speed searching and cross-referencing capabilities of the computer. In addition to the multiple entry points for each individual book, these two references can also be accessed simultaneously. These features dramatically expand the user's base of knowledge and provide ample opportunities for improvement. Using joint access to both the Harbrace and The Merriam-Webster's Tenth Collegiate® Dictionary, students can search for information by section, book, or both books at once; users can annotate, mark,

backtrack, change preferences, and print. Further, they can utilize hypertext cross-references and indices.

Another excellent resource program, the *Wilsondisc—Reader's Guide Abstracts*, is a subscription CD-ROM that contains indices (beginning in January 1983) and abstracts (beginning in September 1984) of articles in 240 popular magazines and the *New York Times*. It is comprehensive and has reliable search capabilities.

Hytelnet is a hypertext guide to telnetting to remote online library catalogs and other information sources that is updated 2-3 times per year. It can be downloaded by Anonymous FTP (File Transfer Program) and placed on a local machine. Complete instructions for downloading are available from listserv@UHUP.

(d) *Social Opportunities. IRC* (Internet Relay Chat), a free program, is a world-wide synchronous multiuser chat protocol that allows one to converse with others in real time. *Seen* is a networked program that creates an electronic bulletin board on which students can share ideas related to a piece of literature and the connected writers can then read and comment on one another's texts (Hawisher 41).

Mosaic is a graphical Web browser developed by the National Center for Supercomputing Applications (NCSA) at the University of Illinois at Urbana-Champagne that allows users to wind their way through the Internet's World Wide Web (WWW) without using complicated jargon. Users access information (pictures, video, audio, and text) by clicking on pictures and highlighted text. This free software is available on the Internet.

Netscape Navigator, similar to Mosaic, has achieved a larger profile and is currently the browser most used by those researching the WWW.

Evaluation of and experimentation with software before purchasing is highly recommended. When selecting software programs, regardless of what advertising promises, teachers are to consider the compatibility of each software package to the specific computer(s) being used. Each software package requires a certain amount of memory and some require controllers (joysticks, laser pens, paddles, track balls, or mice). Also, the teacher would do well to ask for a demo version of the software to ascertain the appropriateness of the software before investing in site licensing for multiple classrooms.

Anne McDougall and David Squires offer guidelines (opposed to checklists) for the software purchasers in "A Critical Examination of the Checklist Approach in Software Selection." They insist that checklists do not guide teachers in selecting appropriate software for the classroom; instead they state that the "really challenging aspects of selecting software for use with students are not technical ones. . . . Rather they are concerned with classroom management, curriculum integration, resource acquisition, and questions of pedagogy and learning" (270).

(3) The third category, Cyberspace, (space created by computer networks) presents classroom opportunities on the Internet, World Wide Web (WWW), and communities (MOOS). Cyberspace opens up panoramas of information and capabilities for students to use in reading, annotating, exploring, analyzing, and critiquing literature.

"Connectivity," jargon for linking computers together via cables, phone lines or other means," is necessary to access Cyberspace. ("Cyber Schools" Oct. 4, 1996). Since

relatively few classrooms have phone lines and more and more schools are networking classroom computers for communication, the logical approach for Internet access frequently involves connecting a widely used file server to the Net. Of course, when many computers are sharing a single connection, a 28.8 baud modem connected to a regular telephone line is not likely to be sufficient. Other sources for connecting to Cyberspace are as follows: (a) Telephone companies and/or Internet providers that may offer options on higher-speed lines such as "T-1" lines, (b) state school systems that might have access to a comprehensive infrastructure (usually connected to the Internet) that connects schools and other institutions around the state, (c) providers that connect homes and individual classrooms to the Net via a central file server, (d) and Internet providers specializing in connecting business and other groups with special rates to educational institutions.

After connecting to Cyberspace (Internet, WWW, and MOOs), lists (discussions) are available through Listservs. Listserv members can send one message to the host computer, and then that message is then delivered to everyone participating on the list. To search for LISTSERVs, send the message stating: list global/(keyword) (e.g., list global/humanist) to listserv@bitnic.bitnet. The list obtained will contain the LISTSERV name, address, and a brief description. Some of the lists, germane to computers and humanities, are *Guide to Literature on the Internet*, ACW-L (the Alliance for Computers and Writing), MBU-L (Megabyte University), and Rhetnet-l. To find additional academic lists go to *Directory of Scholarly Electronic Conferences*. (For some addresses, see Appendix D [Windows to Visit].)

Exploring the WWW is aided by searching WWW indices (e.g., Yahoo http://www.yahoo.edu) or by using search engines (e.g., the popular WebCrawler http://www.webcrawler.com or Lycos http://lycos.cs.cmu.edu). They allow the user to type in any word or group of words of interest. An overview of many different search engines is available at http://home.mcom.com/home/internet-search.html. As in all research, broad subjects should be searched first, then narrowed down. For instance, if researching Mark Twain's works, "Twain" should be searched first, then followed by one of his novels or essays.

MOOs (MUD-Object Oriented), a part of MUDs (Multiple-User Dungeon/Dimension/ Domains), is a realtime conferencing program that adds a pseudo-physical dimension (community in virtual space). Participants (characters) talk in chat rooms and auditoriums and can move between rooms and interact with objects (chairs, hats, glasses). MOO settings can be used for playing, interviewing, or conferencing with individuals or with groups. Teachers can use the archival attribute of MOOs to ensure student integrity. Experiencing MOOs for discussion and other activities (object defining and moving) allows teachers and students to communicate in their classrooms and beyond to others connected online from anywhere in the world. DaedalusMOO (http://www.daedalus.com/net/border.html) and Jeff Galin's web page (http://www.pitt.edu/~jrgst7/MOOcentral.html) offer helps for learning specific MOOs codes (words) to activate conversation and action. (For more addresses, see Appendix D [Windows to Visit].)

With these three categories available for instruction—up-to-date hardware, a variety of appropriate software, and lines to Cyberspace—the existing windows for examining information are extended. Students involved in computer-aided literature classes can visit different spaces, realities, and time finding possibilities to transform information to knowledge.

CHAPTER III

PARTICIPANTS THROUGH WINDOWS

Chapter three highlights teachers' and students' roles when adopting a computer-aided literature study class. Teachers move from presenters to being mentors and counselors while students become adventurous explorers unlayering metaphors and other rhetorical strategies through the windows of computers. Students move toward active involvement in absorbing information that assists them in forming a response to literature, to other students, and to the teacher (Lanham 269, 275). This process of interaction among students and teachers transforms information into knowledge.

This chapter first addresses the apprehensions many teachers face during the transition period of introducing computers in literature classes. In "Computer Literacy for Teachers," Joseph O. Esin mentions that a couple of decades or less ago, teachers felt threatened; they envisioned that "their teaching services may be terminated by total reliance of the education system on computers." Esin gives assurance that computer technology will not replace teachers, but "its use will require teachers to become computer literate" (260-63). Instead of realizing their fears of usurping computers, teachers hear a call for more teachers—teachers that can and will utilize the positive aspects of computer technology in the classroom.

Many teachers also feel threatened and apprehensive about learning and applying computer skills in course work. Apprehensions can be tempered with preservice and

inservice training, goal setting, and persistence. Along with training on hardware equipment, software programs, and Cyberspace, analysis of appropriate curriculum and pedagogical changes are strong factors in helping dissipate teachers' apprehensions. A recent Dallas Morning News editorial series "Cyber Schools," although addressed to public school systems, is useful to higher education as well. The editorial emphasizes that for success in using computer technology "teachers, not students, need first crack at equipment." The editorial states that schools should provide training that (a) shows how to incorporate technology into the delivery of curriculum, (b) is offered when teachers need it, and (c) includes a buddy system so teachers can receive immediate guidance about integrating technology into the classroom. The editorial explains that teachers' acquisition of computer skills also increase when incentives are offered by the school or departments. A need for responsive, competent technical support and help lines is also noted. The editorial further emphasizes that teacher education colleges and national education associations must "encourage faculty to learn the technology" and instruct student teachers about computer technology instruction and classroom application (October 2, 1996).

Esin reemphasizes that the failure to encourage and allow exposure time for developing computer skills can cause major setbacks in the classroom (Esin 259-60). When teachers interact with a variety of computer software and programs, see themselves as masters of computers, and integrate those skills in the teaching of literature success can follow. Of course, teachers' use of computer skills in developing curriculum rely on

their ability to recognize the important role of computer technology in the teaching and learning process.

To enter the world of Cyberspace and open its many windows, teachers can first become familiar with e-mail. When they are ready to browse through the WWW, they can receive help by clicking on FAQ's (Frequently Asked Questions about that site). As teachers find helpful e-mail addresses and WWW sites, they can build an address book. The address book can be organized in categories (Internet, Listservs, and home pages), by topics (e.g., teaching strategies, libraries, and electronic fiction), or in a way that facilitates effective interaction in Cyberspace. By applying a value system (e.g., four star) to the addresses, teachers have effective access to favorite addresses and can share with colleagues and students. While teachers experience the Internet, thinking of course Internet competence enables teachers and students application becomes spontaneous. to expand their ability to find information, to solve problems, and to locate and collaborate with other users on scholarly projects in almost every imaginable discipline throughout the world. In "Effective Teaching in the Online Classroom," John F. Barber adopts the view that "Teachers can successfully make the transition and effectively utilize the online classroom as a site for teaching and learning, but to do so requires planning and preparation that may be different or more extensive than what is required for the traditional classroom" (2). Part of that planning process includes being aware how other teachers' use computer technology in literature classes. Jane Zeni also notes in "Literacy, Technology, and Teacher Education" that teachers' vision should be increased to include "an inquiring eye to watch readers and writers learn in complex, multimedia

environments" to ensure pedagogical goals are being met (76). Barber reiterates that "Besides developing a familiarity with the associated technological aspects . . . teachers must determine how to introduce topics, how to encourage discussion, and how to facilitate interaction within a course conducted in this computer-augmented context" (16). Teachers must also involve themselves in continual investigations and applications of computer technology in the classroom.

The hope of most teachers is to inspire students to learn and to see the possibilities that information offers them in their attempt to progress in their quest for knowledge. Campbell explains that Aristotle's information theory states that "matter is possibility, the potential for becoming, in time, something other and different. Change is a process of realizing this potential, of making the possible actual." Campbell further points out that "Information is in essence a theory about making the possible actual. It sets an event which does happen in the context of other and different events which only might have happened, so that potential and actual are related" (268-69).

In the computer-aided classroom, attention and authority is diverted from the teacher to the text, which gives students a greater opportunity to glean information and knowledge from literature. They have more chances to access, explore, and ponder information obtainable in literature, and see possibilities, gain knowledge, and change (Costanzo and Landow, *Hypertext* 123). Lanham agrees that computer technology "radically enfranchise[s]" the student computer user from the passive role traditionally assigned to the student, and produces "an active, group-refereed classroom environment . . . " (275).

Hawisher states that even though electronic conferences and hypertexts are online experiences without face-to-face contact, "students often talk more freely [online], giving teachers an opportunity to explore alternative visions of literacy in which they become active agents for change" (46). While utilizing Cyberspace opportunities, students also become aware of "the immediacy of their audience and of the rhetorical situations from which their writing emerges or to which it is directed" (Barber 11).

Computer technology extends the traditional classroom to new and challenging dimensions. Barber dedicates part of his essay on the challenge of paradigm changes. He notes that some of the "pedagogical practices in the traditional classroom can be transferred unchanged into the online classroom" while others need to be reconsidered. For example, in a traditional classroom, if teachers wanted to promote a student-centered classroom, they would remove themselves from center stage, but in a computer-aided classroom teachers would want to be more visible and interact with students frequently because "students may feel alone and adrift in a strange place" (10). Students also benefit from the display of appropriate models that foster social interaction and collaboration in the computer-aided classroom because students usually do not know what is expected of them in this new setting. Barber says that without "protocols and models on which to base their interaction, [students might] exhibit levels of engagement and productivity that are less than desired" (10).

Students benefit from guidance in another serious challenge for educators. Often newspaper and magazine articles address the unacceptable behavior of Internet users.

The unethical or illegal uses of the Net include displaying abusive or obscene material or

messages, offering unlawful information or illegally breaking into someone's computer files, sending mail in large quantities that would congest or overload networks, and interfering with others' computer work. While such abuses are minuscule compared to the wealth of excellent materials that are out there, they are not to be taken lightly. With public scrutiny of education and accountability issues now more relevant than ever, educators need to be conscious of potential misuse of the Internet and even more conscious of making students and parents part of the process of counteracting telecommunication abuses. Teaching responsibility and network etiquette ("netiquette") to students will help them interact with the global audience. Developing and promoting Acceptable Use Policies (AUP) is a way to ensure responsible use of the Internet by students. Educators should be given the right to censor material deemed unacceptable for course work and the Internet. Students and teachers should also be aware that SHOUTING (messages in all caps), attaching unsolicited files to e-mail, and rambling on without a few introductory topic sentences can be annoying to the recipient. They should also remember that politeness counts and that rudeness and sarcasm are extremely unpleasant. Educators should put AUP in place before teachers and students are trained to use the internet. AUP may be posted on the internet as well as in hard copy in syllabi. (Use the WebCrawler at http://www.webcrawler.com to search for examples of AUP.)

After much consideration and finding remedies for challenges, course work can be tailored to suit the student's interests, objectives, and learning styles. Students can share group work, tutoring, projects, lectures, and discussions. Hypertexted course material, assembled by teachers allow students to acquire factual material pertinent to the course of

study. Landow, known for his extensive work on hypertext, notes that "Because hypertext interlinks and interweaves a variety of materials at differing levels of difficulty and expertise, it encourages both exploration and self-pace instruction" ("Hypertext" 77). Such experiences engage students to a degree greater than that offered by traditional reading, research, and paper writing.

Leonard Rosen encourages educators to design software for the humanities. He says that those involved in humanities are usually disappointed in the products produced by multimedia publishers and that with initiative "this technology can extend what we do in our classes by easily (and inexpensively) juxtaposing text with art, photos, video, audio, and animation . . . producing pedagogically based multimedia disks" that will "propel us and the books we love into the new century" (25).

CHAPTER IV

SURVEY ANALYSIS AND EVALUATION

Chapter four is devoted to the methods of evaluating the existing computer-aided literature courses in the North Central Texas community colleges and an analysis of the survey results. Chapter four also assesses the concerns and advantages of studying literature with computer technology.

The evaluation begins by briefly describing the letter, survey, and participants.

(See Appendix A [Cover Letter] and Appendix B [Survey].) The cover letter invites participation from twenty-four directors and educators of English associated with North Central Texas community colleges. This letter explains that the study was being undertaken in preparation for a thesis and that all work is under the direction of William E. Tanner of Texas Woman's University in Denton, Texas.

The educators of community colleges were selected for this study because community colleges are particularly poised to play a key role in the next century. Students of different ages, classes, and backgrounds flock to the community colleges to study core courses. The demand for classes with flexible scheduling increases the popularity of community colleges. The cost and the entrance requirements also attract more students. With enrollment increasing in community colleges additional computer technology will assist staff and faculty in meeting the needs of the students and relieve

some of their apprehension. The survey's function was to glean information from this academic audience

The survey attempted to target an audience with experience in literature course work. These individuals were identified in part through a listing of community colleges in Texas. The parameters of this study dictated that the individuals were associated with community colleges in the North and Central areas of Texas.

The survey's design considered the participants by using a structure that could be read quickly and allowed them the options of responding with check marks and brief statements. This design also allowed easy recognition of responses. The formatting included a large font size for the title, appropriate white space between title and base of survey, shadow boxes for check marks, and columns for subtle visual enhancement to encourage participants to respond. Subsets to questions were used under some questions to shortened participants' reading requirements and to encourage the participants to think of possibilities available for instruction in the literature classroom.

Because response was so important, a postscript was used to encourage an immediate response and a self-addressed, stamped envelope was enclosed for the participants' use. Twenty (75%) of the participants responded. Recipients not only answered questions, but they also made comments regarding their computer and classroom experiences.

Collated responses to the survey follow. The questions in the survey appear in italics. The collated responses follow each question beginning with an indentation.

1. What literature classes are offered by the English department?

Introduction to Literature, Composition and Literature, American
Literature I and II, British Literature I and II, World Literature I and II, African
American Literature, Modern American, Forms of Literature, Genre Survey, and
varied special topics.

2. What literature classes do you teach or direct?

Some (10%) educators were restricted to a few of the courses listed above while others taught many of the courses.

- 3. Does your Department of English have faculty development opportunities?

 Seventeen responded yes.
- 4. Does your Department of English have a committee focusing on computer-aided instruction?

Ten responded yes.

5. Does your Department of English have a committee focusing on computer-aided instruction in literature study?

Two responded yes.

- 6. Does your library support and encourage use of computers?

 Sixteen responded yes.
- 7. Do at least half of the faculty members in the Department of English use computers?

Fifteen responded yes.

8. Are computer training sessions offered for Department of English faculty members?

Thirteen responded yes.

9. Are there incentives offered to faculty members to use computers for class preparation?

Seven responded yes.

- 10. Do you have a computer classroom which is available for teaching literature?
 Eight responded yes.
- 11. Are there any incentives to introduce students to computer-aided instruction in literature?

Three responded yes.

- 12. Are consultants available for integrating computers into course curriculum?
 Nine responded yes.
- 13. Have you used the following for personal research and discussions?

Three use FirstSearch (a product of Online Computer Library Center that provides easy-to-use access to a variety of databases in one online system), twelve use Internet, ten use World Wide Web (WWW), three use communities (MOOs), twelve use E-mail, seven use LISTSERVs, and seven use other electronic teaching aids.

Other electronics teaching aids listed where: SIRS Researcher, Encarta '95, ERIC, Daedalus, Invest, Seen, Microsoft Powerpoint, Gopher, Yahoo, Alta Vista, and a laptop computer with LCD overhead panel.

14. Have you used the following for classroom instruction and discussion in literature course work?

One used FirstSearch, eight use Internet, seven use World Wide Web (WWW), three use communities (MOOs), four use E-mail, two use LISTSERVs, and two use other electronic teaching aids.

Other electronics teaching aids listed where: Encarta '95, SIRS Renaissance, MLA (CD-Rom), Power Point, and a variety of CDS.

15. Have you used graphic outlines from laptops via overhead in the classroom to direct students' attention to focus on drama, fiction, poetry, writer's style, character development, narrative technique, setting, point of view, symbols, theme, writer's voice, criticism, imagery, metaphor, words, form, persona, tone, irony and paradox, and interpreting myth?

Only one or two educators answered yes to all of these selections.

If you use computer-aided instruction of literature, please continue the

- survey.² Fourteen participants did not continue the survey. Four did responded to the following questions:
- 16. Approximately how long has the program been administered?

Answers ranged from: "just starting," to "one semester," and "we have new equipment and will start soon."

17. Do students have access to computers on campus?

All four responded yes.

² At this point in the survey, participants were given an option to continue the survey based on the statement: **If** you use **computer-aided instruction of literature**, please continue the survey.

One yes response to "Are the computers located in a **classroom setting**?" and four yes responses to "Are the computers located in a **laboratory setting**?"

18. Are students instructed on how to use computers?

Four yes responses.

19. Do you use software programs? Which ones?

Four yes responses. Two participants voted the Daedalus programs as their first choice. One mentioned *Invent*, one mentioned *Netscape*, and three mentioned popular word processing programs (*WordPerfect* and *MS Word*).

20. Are students instructed on how to use the software programs?

Most of the participants responded yes and stated that the instruction did not take place in literature classes.

21. Are students instructed on how to access and use the following to study literature?

Three said yes on Internet, World Wide Web (WWW), and E-mail.

22. Has your Department of English done evaluations of **students' interest** in the computer-aided literature courses? According to the result of the evaluation or your own evaluation, how would you score (1-10) students' interest in the courses?

All four participants answered no.

23. Has your Department of English done evaluations of the teachers' interest in the computer-aided literature courses? According to the result of the evaluation or

your own evaluation, how would you score (1-10) teachers' interest in the courses?

One participant answered no. Three participants said yes. Only one participant gave a rating (7).

24. Has your Department of English done evaluations of computer software utilized in CAI of literature?

Two participants answered no, two responded with yes.

- 25. If software was evaluated and retained, which ones and why?

 One participant answered. Daedelus was his choice.
- 26. If software was evaluated and eliminated from your program, which ones and why?

No response.

27. Is technical support for hardware failures easy to request, competent, and timely? Two responded yes.

Fourteen participants consented to having further contact with the investigator, and nine requested a copy of the survey summary. Three of the four participants using computers and software in their classes consented to further contact with the investigator and those three also requested a copy of the survey summary.

Participants were encouraged to accept the invitation to make comments by leaving space at the end of the survey. Six participants wrote comments ranging from negative to hopeful. One participant even offered help with this research. Neither

participants nor their schools are identified in the following report of responses because of right-of-privacy.

Only one negative comment was received from an anonymous participant: "I have some problems with you[r] premise [misunderstood premise] that a computer classroom is necessary for teaching literature (not composition). I oppose any technology that increases the distance between faculty and student in the classroom." This scholar may have misunderstood the premise of the survey because of a background of negative feelings about computers in the classroom or because of a need to be the authority figure to the students. Whatever the reason, this scholar should be aware that computer technology-aided classrooms encourage and increase student involvement and feedback.

One comment is a matter of explanation: "Our work with computers is in teaching compostion in computer-equipped classrooms and in computer-delivered instruction through a modem."

Three other participants' comments were hopeful and enthusiastic. One stated, "Please note that _____ will be going on Internet this month. Thereafter, we will probably use the computer a lot more." Another, almost apologetically, said, "We are just getting into all of this, but hope to use our equipment soon." Another, seemingly rushing off to duties that called him, jotted down, "We have (are developing) the potential. H[ar]rdware being installed. Am interested in your study."

The outcome of the participants' responses shows that a little less than half of the educators surveyed in the North Central Texas community colleges use computer technology in the preparation of course work or instruction in the literature classroom.

The responses also show that twenty-five percent of the educators do desire to use more computer technology in the literature class. Further, four participants responded with enthusiastic comments and requested further contact with the investigator and asked for a copy of the survey results. This ethnographic study in North Central Texas community colleges, with an overwhelming (75%) response to the survey questions and additional comments, shows a keen interest by these educators in the subject of computer-aided literature classes.

These and other educators are not only aware of how computer technology can benefit the teacher and students, they are also aware that many concerns must be addressed to improve participation and productivity in the classroom. The *Dallas Morning News* editorial "Cyber Schools" lists a few concerns. The editorial states that many schools underestimate the cost of training; a study of five successful, technologyrich schools shows they spent 38 percent of their technology money on professional development and support. Also, many districts and educators spend precious funds on hardware and software without proper investigation of goal requirements. The editorial notes that some of the good attributes of computer technology are riddled with difficulties (e.g., Searching Internet brings an abundance of pertinent information; however, the abundance of less useful information can be difficult and time consuming to wade through.) For this particular concern, the editorial suggests that teachers should utilize other educators' lists and should find and list other Internet resources for research and communication for their students and colleagues use.

Barber states that the need for rethinking pedagogy is another major concern dealing with computer technology in the classroom, because "the online classroom is not an electronic duplication of the traditional classroom. It is an extension, yes, but one that extends into new and challenging dimensions" (10). When teachers and students become overwhelmed due to the newness and changes that computer technology promotes, teachers need to reconsider different aspects of their teaching methods to ease the discomfort of the class participants. Three areas of pedagogy he states should be revised are reading assignments, pedagogical style, and evaluation. First, he states that traditional classroom assignments may be too long for the students who will be interacting and collaboratively studying the text displayed on computer screens. Teachers might consider "scaling back their course reading assignments, and modeling the production of shorter, but more succinct, written responses (10-11).

Second, Barber continues with the suggestions that teachers should "rethink their individual pedagogical styles." He states that research has pointed out that teachers move from the authoritative center of the classroom activity to that of facilitator and this can present problems to some teachers and students. Adjustments in teaching techniques should be considered (11).

Third, Barber discusses the concern of ways to evaluate "the efforts, work and learning of participants in the online classroom." He asks if quantity or quality should be the basis of evaluation and if quality, can it be evaluated? Without conclusion, he suggests only that teachers need to rethink evaluation methods and ideas (11). He does suggest that planning ahead, having alternate plans, and adequate on-hands training can

assist teachers in overcoming many of the concerns of computer technology in the classroom.

Although there are many concerns to be considered in a computer-aided class, Odvard Egil Dyrili and Daniel E. Kinnaman in "Part 3: Teaching Effectively with Technology" reiterate that "educational researchers have demonstrated time and again that the most meaningful learning takes place when students have direct, first-hand experience with concrete materials." They continue to explain that computer technology provides new ways for students to have direct experience with the course work. They assert that technology in the classroom can "extend the experience of students far beyond the time and space limitations of conventional materials" (52).

The study of literature is a challenging and complex undertaking. Computer technology opens the existing windows of information encouraging students to continue probing the mysteries and wonders of literature. Searching and pondering of great ideas of the past and present through the windows of computer technology provide students with bridges to travel from the age of information to the age of knowledge.

Departments of English and individual faculty members will benefit from this study because they can assess possible benefits of using computer technology in the literature classroom. In addition, those who already use computer technology in the classroom can assess their involvement and future needs by comparing themselves to those reported here. Their analysis may result in modification of existing programs or introducing electronic opportunities into programs.

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APPENDICES

APPENDIX A

COVER LETTER

825 Anna Street Denton, Texas 76201

(date)

(name and title of educator) (address) (city, state zip)

Dear (name of educator):

Because you are a noted educator, you are invited to participate in a research project relating to computer as context in literature study by responding to the attached survey, which will only take a few minutes to complete. This research is directed by William E. Tanner at Texas Woman's University in preparation for a thesis which will examine the present and possible use of the computer as context to study literature in North Central Texas community colleges. Since only one educator from each of the North Central Texas area communities colleges is being invited to participate, your response is extremely important.

Knowing your time is valuable, I have organized a concise survey so that it should take only ten minutes to check squares and to write a few phrases or sentences in response to a few questions. Any additional comments provided for the survey will be appreciated.

Participating in the survey is voluntary and supplying your name is optional, although knowing your name and phone number would help for follow-up purposes. None of your responses will be put in print or exchanged via technology without your approval in writing; neither will it be retained after data have been used in the thesis.

I hope that you will participate in the survey. Your responses will make it possible to evaluate and merge the study of literature with technology. I appreciate your consideration and look forward to receiving your response. If you have any questions, please call 817/383-2700, anytime Monday through Thursday between 8 AM to 9 PM or e-mail me at G_4Anderson@venus.twu.edu.

Sincerely,

Sandra J. Anderson Graduate Student in English

P.S. The survey takes such little time, consider completing and returning it right now while it is in your hands.

Enclosure: Survey with SASE cc: William E. Tanner

APPENDIX B

SURVEY

Survey for Experienced Directors and Educators of Literature Study

| | | arn form to: Anderson, 825 Anna Street, Denton, Texas 76201 - Telephone: 817/383-2700 |
|--------------|---|---|
| Wha | t litera | ture classes are offered by the English department? |
| | *************************************** | |
| Wha | t litera | ture classes do you teach or direct? |
| Yes | No | |
| | | Does your Department of English have faculty development opportunities? Does your Department of English have a committee focusing on computer-aided instruction? |
| | | Does your Department of English have a committee focusing on computer-aided instruction in literature study? |
| | | Does your library support and encourage use of computers? Do at least half of the faculty members in the Department of English use computers? |
| | | Are computer training sessions offered for Department of English faculty members? Are there incentives offered to faculty members to use computers for class preparation? |
| | | Do you have a computer classroom which is available for teaching literature? Are there any incentives to introduce students to computer-aided instruction in |
| | | literature? Are consultants available for integrating computers into course curriculum? |
| Have | vou us | ed the following for personal research and discussions? |
| | | FirstSearch |
| | | Internet |
| <u>u</u> | | World Wide Web (WWW) |
| _ | | communities (MOOs) E-mail |
| 7 | ä | LISTSERVs |
| | ū | or other electronic teaching aids. List: |
| Have work | you us | ed the following for classroom instruction and discussion in literature course |
| | | FirstSearch |
| | ā | Internet |
| | | World Wide Web (WWW) |
| | | communities (MOOs) |
| | | E-mail |
| | | LISTSERVs |
| | | ar other electronic teaching aids LIST. |

| Have | you us | ed graphic outlines from laptops via overhead in the classroom to direct students' focus on |
|-------------|------------------|--|
| Yes | No 🗆 | Yes No drama? |
| | | fiction? |
| Ч | | poetry? |
| ă | ä | character development? |
| | | narrative technique? |
| | | setting? |
| | | symbols? |
| | | theme? interpreting myth? |
| If you | ı use c c | omputer-aided instruction of literature, please continue the survey. |
| Appro | oximate | ely how long has the program been administered? |
| Yes | No | |
| | | Do students have access to computers on campus? Daily Weekly |
| | | outers located in |
| | | a classroom setting? a laboratory setting? |
| | | Are students instructed on how to use computers ? |
| | | Do you use software programs? Which ones? (Please list in order of preference.) |
| | | |
| 1st Choice: | | 2nd Choice: |
| 3rd Choice: | | 4th Choice: |
| | | |
| | | Are students instructed on how to use the software programs ? Are students instructed on how to access and use the following to study literature? |
| | | Internet World Wide Web (WWW) |
| | | F-mail |
| | | Has your Department of English done evaluations of students' interest in the computer-aided literature courses? According to the result of the evaluation or your |
| | | own evaluation, how would you score (1-10) students' interest in the courses? |
| | | 1 2 3 4 5 6 7 8 9 10 |
| | | Has your Department of English done evaluations of the teachers' interest in the computer-aided literature courses? According to the result of the evaluation or your |
| | | own evaluation, how would you score (1-10) teachers' interest in the courses? |
| | | 1 2 3 4 5 6 7 8 9 10 Has your Department of English done evaluations of computer software utilized in |
| _ | _ | CAI of literature? |

| If software was evaluated and retained , which or | nes and why? |
|--|---|
| 1st Choice: | Why? |
| 2nd Choice: | Why? |
| 3rd Choice: | Why? |
| 4th Choice: | Why? |
| If software was evaluated and eliminated from years | our program, which ones and why? |
| 1st Choice: | Why? |
| 2nd Choice: | Why? |
| 3rd Choice: | Why? |
| 4th Choice: | Why? |
| Yes No Is technical support for hardware fa | ilures easy to request, competent, and timely? |
| I understand that the return of my consent to act as a subject in this r | completed survey constitutes my informed esearch. |

THANK YOU!

| | | I consent to havi | ng further contact with the investigator, Sandra J. Anderson, for |
|---------------|------|--------------------|---|
| | | follow-up questi | ons. If yes, please print name, address, and phone number |
| | | below. | |
| | | | |
| | | Please send me a | copy of a summary of the results of this survey. I have written my |
| | | | and phone number below. |
| | | , | |
| If you c | do n | ot mark yes to one | f the questions on this page, please do not return this page with the |
| survey. | | | |
| | | | |
| Name: | | | |
| | | | |
| <u>Addres</u> | s: | | |
| | | | |
| City: | | | State: Zip: |
| | | | |
| | | | |
| Phone 7 | 4: (|) | E-mail: |

APPENDIX C GLOSSARY

In preparing this glossary, several glossaries have been reviewed and used to collect the terms that follow. Some of those reviewed include the NCTE/ACE glossary, Richard Self's "Terms You May Want to Know" from Gail Hawisher and Paul LeBlanc's 1993 anthology *Reimaging Computers and Composition* (Portsmouth NH: Boynton/Cook), Victor J. Vitanza's glossary in *CyberReader*, and the glossary compiled for *Computers in Education*. This glossary is not intended to be comprehensive, though when used within the context of this thesis it should prove to benefincial to those interested in learning about computer-aided classrooms.

Those wanting to access online glossaries can search the following. (Entries appear in bold.)

Online Glossaries

Babel: A Glossary of Computer Related Abbreviations and Acronyms http://www.access/digex.net/-ikind/babel95b.html Computing Dictionary http://wombat.doc.ic.ac.uk/ Cyberpoet's Guide to Virtual Culture http://www.seas.upenn.edu/-mengwong/cyber/egvc1.html#1.2 Jargon File 3.0.0 http://www.phil.uni-sb.de/fun/jargon/index.html The WWW Jargon File http://farmr4.med.uth.tmc.edu/Miscellaneous/JARGON30/HOMEPAGE.HTML Vitanza suggests that new cyberbabble (terminology) can be submitted to: Net Jargon A-Go-Go at http://www.clark.net/pub/atomicbk/contest/contest.html

Glossary

- ACW (Alliance for Computers and Writing): An organization that brings together educators and publishers to advance the teaching of writing with technology. The Alliance is a network of regional organizations. Visit the ACW's web site at http://english.ttu.edu/acw/. Current information for subscribing is on the web site. The ACW also sponsors an electronic discussion group.
- address: (See Hypertext Transfer Protocol-http) A means to access World Wide Web sites. The addresses usually begin with http://www. When the address is requested, type in the whole address—just as it appears in print.
- anonymous FTP: A form of FTP (see FTP) which allows unregistered users (those without passwords to the account) access to files. When using, one logs in as "anonymous" and uses one's e-mail address (e.g., Berge@GUVAX) as the password.
- **application software**: Software designed to accomplish a specific task (e.g., accounting, financial modeling, or word processing).
- Archie: Internet service that allows one to search the offerings of many FTP sites.

 Archie tracks the contents of over 800 anonymous FTP archive sites containing over a million files stored across the Internet. Two archie sites are: archie.ans.net (147.225.1.31) and archie.unl.edu (129.93.1.14). To access, log on as "archie."
- archive: Storage of infrequently used data on disks or diskettes, tapes, or CD's.
- **artificial intelligence**: Hardware or software capable of performing functions that require learning or reasoning (e.g., a computer that plays chess).
- **ASCII (American Standard Code for Information Interchange)**: Permits the computer equipment of different manufacturers to exchange alphanumeric data with one another.

- **asynchronous discussion**: Discussion held on-line, over time. Electronic discussion groups or e-mail are examples of asynchronous discussions.
- **authoring language**: Usually created expressly for use by educators; it allows a user to program with minimal knowledge of computer languages (e.g., PILOT).
- auxiliary storage (external storage or secondary storage): A storage device in addition to the core or main storage of the computer. Includes magnetic tape, cassette tape, floppy disk, and hard disk.
- **Babbage, Charles**: Considered the father of the modern computer; in the early 1800s he outlined the ideas that have become the basis for modern computational devices.
- **backup**: An extra copy of information stored on a disk. If the program or other data stored on the first disk is damaged, it is still available on the backup copy.
- **BASIC (Beginners All-purpose Symbolic Instruction Code)**: A high-level computer language used in one variation or another by almost all microcomputers.
- baud: The speed of serial data transmission between computers or a computer and a peripheral in bits per second. One character per second equals approximately 10 baud. Recommended modem baud speed is 28.8 in 1996.
- **Beta version**: A preliminary version of a program, distributed to a small group of users who will test the program and find the remaining bugs, so the producers can fix them before distributing the commercial version on a wide scale.
- bit (Binary digIT): The smallest unit of digital information. Eight bits constitute one byte.
- **bitnet (Because It's Time Network)**: A major wide-area network that allows for sending and receiving e-mail.
- **Boolean**: An expression that evaluates to the logical value of true or false (e.g., 1 + 1=2 or 3 < 2).

- **Boolean operator**: Identifies the intersection of two or more terms. For example, when searching for apples AND oranges, AND. Asking for apples AND oranges would only return those documents in which both words occur.
- **Boolean searching**: Relies on the use of operators such as AND, OR, and NOT to form sophisticated queries (e.g., State AND Michigan NOT University).
- **Boot (Short for Bootstrap)**: To start the computer; to load an operating system into the computer's main memory and commence its operation.
- browser, WWW: Software that allows access to sites on the World Wide Web (e.g., Mosaic, Netscape, and others provided by online companies such as CompuServe, Prodigy, and America Online. Hardware manufacturers, such as Microsoft, are also providing browsers).
- **buffer**: Temporary memory that is capable of storing incoming data for later transmission; often found on printers to allow the printer to accept information faster than it prints it.
- **Byte**: Roughly equals one character and is made up of eight bits. Computer users refer to the amount of memory in the machine in terms of K (kilobytes that equal about one thousand bytes) or Gigabytes (a hundred thousand bytes).
- CAI (Computer-Assisted Instruction or Computer-Aided Instruction): An educational use of computers that usually entails using computer programs to drill, tutor, simulate, or teach problem-solving skills.
- **CBBS** (Computer Bulletin Board Service): A computerized database used to access, post, and retrieve messages.
- **CBT** (Computer-based Testing): Refers to the use of computers to present, monitor, or correct examinations; also refers to Computer-based Training (see CAI).

- **CD-I (Compact Disc-Interactive)**: A format available to personal computer users that allows access to picture databases and large text; a compact disc standard that includes music compact discs (CD Audio), static data (CD ROM), and graphics.
- CD-ROM (Compact Disc Read Only Memory): An auxiliary storage device that uses a rigid disk to store information capable of being read by a computer. These disks have tremendous storage capacities. A single CD-ROM can store up to 680 MB of text, stills, sound, and video.
- Central Processing Unit: (See CPU) chat rooms and auditoriums: Space on MOOs where many users can send real-time messages that are displayed for everyone to see and respond with each other.
- **CMC (Computer-Mediated Communication**: Any communication conducted over computer networks.
- **CMI (Computer-Managed Instruction)**: An educational use of computers that usually entails the use of computer programs to handle testing, grade-keeping, filing, and other classroom management tasks.
- **COBOL (COmmon Business Oriented Language)**: A high-level computer language used mostly in business.
- **compatibility, hardware**: Refers to the ability to directly connect various peripherals to the computer.
- **compatibility, software**: Refers to the ability to run the same software on a variety of computers.
- **compiler**: A program that translates a high-level computer language into machine language for later execution. This would be similar to a human translating an entire document from a foreign language into English for later reading by others.

- **computer**: Any device that can receive, store, and act upon a set of instructions in a predetermined sequence that also permits editing of both the instructions and the data.
- **computer literacy**: Refers to a person's capacity to effectively use computers. May also refer to programs designed to help students acquire this capacity.
- **computer program**: A series of commands, instructions, or statements put together in a way that permits a computer to perform a specific task or a series of tasks.
- **configuration**: Components that make up a computer (referred to as hardware—a keyboard, a mouse or track ball, a central processing unit, one or more disk drives, a printer, and a display screen).
- copy protected: Refers to a disk that has been altered to prevent it from being copied.
- **cost benefit**: A technique or method for assessing the relationship between results or outcomes and the costs required to produce them.
- **courseware**: Instructional programs and related support materials needed to use computer software in the classroom.
- **Cyberspace**: The space created by computer networks. Cyber-, like virtual, has become a handy modifier, for everything from cyberpunk fiction to cyberclassrooms.
- **CPU** (Central Processing Unit): The "brain" of the computer consisting of a large integrated circuit that performs the computations within a computer.

CRT (Cathode-ray tube. See display screen.)

- cursor (also "insertion point"): A position indicator on a video display screen usually displayed as a blinking white square or underline on the monitor that shows where the next character will appear. It can be moved under program control, by using the keyboard directional (arrow) keys, or by using a mouse or trackball.
- data: All information, including facts, numbers, letters, and symbols, that can be acted upon or produced by the computer.

- **database**: A collection of related information (e.g., mailing list or authors and titles list) that are stored in a computer and retrieved in several ways.
- **default format statement**: Formatting instructions, built into a software program or the computer's memory, that will be followed unless different instructions are given by the operation. (A common default format is a 6.5-inch line with 1.5-inch margins.)
- **desktop publishing**: A system that processes text and graphics and, with page layout software and a laser printer, produces high-quality pages that are suitable for printing or reproduction.
- **digital language**: A group of 1's (high voltage signals turn on switches called transistors) and 0's (lower voltage signals off switches)
- disk, diskette: A 5¼ inch diameter thin plastic wafer-like object enclosed in a plastic jacket or a 3¼ inch diameter object enclosed in a more rigid jacket. Each has a metallic coating used to magnetically store information.

disk operating system: (see DOS)

- **display screen**: A peripheral that allows for the visual output of information for the computer on a CRT, monitor, or similar device.
- distance learning: Learning opportunities that occur over geographic distance.

 Correspondence courses or lectures broadcast over local-access cable TV where the original distance learning initiatives. With the spread of electronic networks and increased video capacity, distance learning initiatives are expanding to include e-mail, one-or two-way video conferencing, and the World Wide Web.
- **documentation**: Instructional materials that describe the operations of an individual computer program or a piece of system hardware.
- **domain**: Usually the last term in an address. Domains are usually functional or national. Functional domains include "edu" for education, "gov" for government, "com"

- for commercial, and "org" for non-profit organizations. National domains identify a country, such as "ca" for Canada.
- **DOS (Disk Operating System)**: The program that enables a computer to read and write on a disk.
- **download**: (see upload also) Saving information from an online source to a floppy or hard disk.
- **duplexing**: The procedure that permits two computers to transmit data to each other simultaneously.
- ejournal (electronic journal): An electronically distributed publication which, like a print journal, includes a table of contents, numerically defined issues and an ISSN number. Recipients can reformat text as they wish, and print only what they need to print.

electronic discussion groups or lists: (see listservs)

- e-mail (electronic mail): E-mail is a way of sending and receiving electronic messages linked or networked to sites all over the world. Virtually every telecommunications service and software package offers an easy tool for composing and exchanging e-mail.
- emoticon (smiley): Electronic text likenesses of human faces used in mail and news to indicate a variety of emotions and reactions. The "face" is read from left to right, as if it were rotated 90 degrees counter-clockwise. The most common smiley is :-), connoting happiness. Another smiley connotes disappointment, :-(while another signifies irony or sarcasm, ;-).
- FAQ (frequently asked questions): Many electronic mailing lists and Usenet newsgroups provide a FAQ or list of frequently asked questions. FAQs are designed to help new members become familiar with a group and to reduce the burden on existing members to constantly answer the same basic questions.

- flames: Hostile e-mail messages sent privately via e-mail or publicly via a discussion group. Public flames may result in "flame wars" that involve dozens of angry messages posted in a public forum.
- FTP (File Transfer Protocol): Allows users to upload and download files to and from Internet host computers. If an organization wants to make its data public, it might allow users to FTP to its site and log in as "anonymous."
- **gopher**: Allows users to choose from a series of menus and then search for relevant items on the Internet (like WWW indexes except that the resources reached include only text—no graphics or sound files).
- hard disk or fixed disk: Coated metal disk usually permanently mounted within a disk drive; capable of storing many times more information than a floppy disk.
- hardware: The physical components of the computer: the computer processing unit and peripherals (disks, tapes, modems, keyboards, monitors, and printers), as well as hard drives, floppy drives, and CD-ROM drives.
- home page (web site): The first screen a user sees when accessing a WWW site. It offers an introduction to the site and links to other sites on the Internet.
- HTML (Hyper-text Mark-up Language): The computer language that allows web browsers to read a document and display it on the WWW. HTML includes series of commands that are placed at the beginning and end of text. See books available in the computer section at the local bookstore for more information.
- hyperdocument: A document of hypertext (linked nodes).
- hypermedia: The random access and use of multimedia to construct real/artificial situations that emulate the thinking process. It usually involves the use of more than one media window on a screen (e.g., other text (files and databases), still graphics, motion picture, speech, and sounds).

- hypertext: A technique that organizes and connects information blocks of text (nodes) in a nonsequential or nontraditional manner that are accessed by clicking on highlighted words or phrases.
- HTTP (Hypertext Transfer Protocol): The letters that are used (followed by "://" and the site name) to locate sites on the WWW. Http is a transfer method that supports text, audio, graphics, or any other sort of data that can be stored in a computer file, and allows users to jump from one location to another.
- **IAV** (Interactive Video): The merger of two electronic media, computers and television, and two design areas, instructional and visual.

insertion point: (see "cursor")

interactive multimedia: Back-and-forth dialogue between user and computer that allows the combining, editing, and orchestrating of sounds, graphics, moving pictures, and text.

interactive multimedia books (netbooks): A seamless sequences of sounds, images, and text.

interchange: Realtime chat sessions.

Internet (the Net): The gateway of electronic pathways around the world, used for online communications that include commercial, governmental, and educational networks among others.

Internet Relay Chat (IRC): Realtime online chat sessions.

Internet resource discovery: An iterative and interactive process that a user employs when searching virtual libraries, directories, search tools, and communities of people to find textual or hypermedia documents, and software applications.

links: Connections that make the WWW an interconnected "web." A link takes the user from one document to another or from one place in a document to another place

- in the same text by the click of a underlined or highlighted word, allowing for reader-directed information retrieval.
- **lists (discussion groups)**: Participants subscribe to a central listserv account over the Internet through e-mail. By using what is called "mail exploder," the Listserv software can distribute a single message to a list of many subscribers.
- **Listserv**: Software that manages electronic discussion forum or computer conference distribution lists (see lists).
- logs: Records or transcripts of on-line work.
- **lurking**: Reading or "listening" to a mailing list discussion or news group without actively participating. A good way to learn the history and habits of a group.
- **M-mail (multimedia-mail)**: Similar to e-mail, except it has the features of images and sound.
- modem (Modulator/DEModulator): A peripheral device that utilizes the telephone to allow the user to communicate with another computer by converting a computer's digital signals to audio tones and then back to digital signals for the computer at the other end.

moderator: Manager of a network discussion group.

MOOs (MUD-Object Oriented, MUDa are Multiple-User Dungeon/Dimension/
Domains): A realtime conferencing program that adds a pseudo-physical
dimension (community in virtual space). MOOs differ from IRLs in that
participants (characters) talk in rooms, can move between rooms, and interact
with objects (chairs). MOO settings can be used for playing, interviewing, or
conferencing with individuals or with groups. It is possible to set up archives of
discussions.

- **Multimedia**: The combination of text, sound, and video used to present information in ways that bring pages of information or ideas to life.
- **netiquette**: Refers to the often unwritten rules of conduct in the Internet's's online communities. These rules tend to vary from community to community.
- **networks, telecommunication**: A structure capable of linking two or more computers by wire, telephone lines, or radio links (e.g., cable TV, Internet, and the global web) to deliver text, sound, or images in conversation or faxes.

nodes: Blocks of text in hypertext.

- **OCR (Optical Character Reader also called an optical scanner)**: A device that can read text and automatically enter it into a computer for editing or storage.
- **OPAC (Online Public Access Catalog)**: Electronic library card catalogs.
- operating system: A group of programs that act as intermediary between the computer and the applications software; the operating system takes a program's commands and passes them down to the CPU in a language that the CPU understands; application programs must be written for a specific operation system such as DOS, Pro-DOS, MS-DOS, TRS-DOS, and others.
- **peripheral**: Hardware attachments to a microcomputer (e.g., printer, modem, monitor, disk drives, or interface card).

piracy: Theft for profit of copyrighted programs.

- public domain (freeware, open software, shareware, and user-supported): Software free of charge, free of copyright or patent.
- RAM (Random Access Memory): The main working memory of any computer.
- **Real Time, or Synchronous, Discussion**: Discussion held on-line among participants who are active at the same time. Some software programs allow such discussions in class.

- **ROM (Read Only Memory)**: A memory device that is used to permanently store information as it is being made.
- screen: A CRT or display screen
- **search engine**: A tool that searches for sites on the Internet by subject, name, words, or phrases.
- service providers: Companies that allow access to the Internet. There are services charges based on monthly fees and possibly supplemental fees. User needs a computer system, a phone line, and a modem.
- **software**: Programs used by the computer to process, organize, and store data, play games, communicate, manipulate text, and create images.
- **split screen (windowing)**: A type of dual display that allows some computers to view two or more different video images on the screen at the same time.
- **string**: Refers to characters that are attached to make a word or significant symbol (e.g., LIBRARY).
- substring: Refers to a portion of a string, starting at a certain character position, and proceeding for a certain number of characters. In a substring search, partial word matches are returned. For example, a substring search on the word LIBRARY might return LIBRARY, LIBRARIES, AND LIBRARIANS.
- **sylluweb**: Syllabi created and published on the WWW.
- **telnet**: An Internet feature that allows a user to connect to another computer anywhere in the world and use the programs on it.
- truncation: Refers to the use of wildcards to search for variations on a particular word.

 For example, a search on UNIVERS* might return UNIVERSITY and

 UNIVERSE and UNIVERSAL.

- **Upgrades**: Most software programs are revised periodically, to take advantage of new technological developments and to stay current with hardware improvements. An upgrade is a new-and-presumably-improved version of a program.
- upload: The transfer from the local machine to a remote one.
- URL (Uniform Resource Locator or web address): An address that identifies a file by providing the name of the machine on which the file resides, the machine's Internet address, path to the file, and the program protocol or kind of Internet software by which the file may be retrieved. A complete URL is composed of <access method://host.domain/path/filename>. Some access methods include: http:// (hypertext transfer protocol), ftp (file transfer protocol), gopher (Gopher protocol), and wais (wide-area information servers).
- **user group**: An association of people who meet to exchange information about computers, computer applications, and a variety of other topics.
- videodisc: A laser disc player used to store motion video, audio, stills, and software.
 Storage capacity is 10 GB and greater, that provides about thirty minutes of motion video.
- virtual reality: Simulations or reconstitution of data into three-dimensional representations that are lifelike. The simulations can include sound, touch, and feel. It gives one the feeling and experience of "being there" or "doing it."
- **voice recognition system**: Allows the user to "train" the computer to understand his or her voice and vocabulary.
- word processing: The use of computers as electronic typewriters capable of entering and retrieving text, storing it on disks, and performing a wide range of editing functions.

wraparound: A computer's ability to automatically move words from one line to the next or from one page to the next as a result of margin adjustments, insertions, or deletions.

Webfolio: A portfolio of work submitted on the World Wide Web.

WWW (World Wide Web, the Web): The most popular network of sites on the Internet that can be accessed and searched using a hypertext "browse." (e.g., Netscape and Mosaic) "On the Web" surfing can be done by pointing and clicking on highlighted text on various Web pages. Lynx, a non-graphical browser, may be used to access text on the World Wide Web—simply type lynx and hit return key at the menu on the campus computer account and follow the on-screen directions.

APPENDIX D WINDOWS TO VISIT

In preparing this address list, several sources have been reviewed and used. Some of those reviewed include Victor J. Vitanza's addresses in *CyberReader*, the addresses compiled for *Computers in Education*, and Dene Grigar's addresses in "Some Electronic Sources for Researching the Internet." This address list is not intended to be comprehensive, but it will be useful to novice Cyberspace explorers. (The list is divided into three main divisions [e-mail, WWW, and search engines]. Categories under the divisions are in bold type. Following each category, names of listservs or sites with addresses are listed. A thumbnail description appears after many addresses in parentheses.)

| E-MAIL |
|--|
| Global Lists |
| List of Lists send list global to [your local listserve address] |
| (Example of what to type: send list global to listserv@vml.nodak.edu) |
| (Contains information about various e-mail discussion groups by subject and title) |
| Tile.net http://www.tile.net:80/tile/listserv/ |
| (A clearinghouse for over 5000 listservs by subject or search) |

| Humanities | |
|--|----|
| Humanist humanist@lists.princeton.ed | lu |
| (Moderated electronic discussion group centering on the humanities) | |
| Rosen, Leonard e-mail at lrosen@husc.harvard.ed | lu |
| (Designing software for the Humanities) | |
| Computers and Writing and/or Literature | |
| "Bitnet/Internet Discussion | |
| Groups: Humanities" send FTP request for BBS.\$ to gwuvm.gwu.ed | lu |
| (To request list of humanities discussion groups) | |
| ACE-L (Assembly on Computers in English) listserv@vm.cc.purdue.ed | lu |
| (An organization dedicated to assisting teachers using computers in the | |
| classroom) | |
| ACW-L (Alliance for Computers and Writing) listproc@unicorn.acs.ttu.ed | lu |
| (An association of teachers and researchers in public schools, community college | S |
| and four-year colleges and universities who are interested in using computer | |
| technologies and networks to improve classroom writing instruction) | |
| MBU-L listproc@unicorn.acs.ttu.ed | lu |
| (An unmoderated list for teachers and researchers working with technology in th | e |
| classroom and in their profession) | |
| The Teaching of English | |
| MLA (The Modern Language Association of America) membership@mla.or | g |
| NCTE-talk listproc@itc.or | ·g |
| (For members of National Council of Teachers of English to use to discuss issues | S |
| of professional interest) | |

WWW

| Computers and Writing and/or Literature |
|--|
| ACE (Assembly on Computers) http://www.daedalus.com/ACE |
| ACW (Alliance for Computers and Writing) http://english.ttu.edu/acw/ |
| CCCC 1995 conference presentations http://www.missouri.edu/~cccc96 |
| Chorus http://www.peinet.pe.ca:2080/Chorus/home.htm |
| (Computing in the arts and humanities) |
| Internet Resources for Technical Communication http://www.rpi.edu/~pereze2/tc/ |
| NCTE Demo Web Page http://www.ncte.org/ |
| Electronic Citations |
| Walker, Janice http://www.cas.usf.edu/english/walker/mia.html |
| (Citation format) |
| Glossaries |
| Babel: A Glossary of Computer Related Abbreviations |
| and Acronyms http://www.access/digex.net/-ikind/babel95b.html |
| Computing Dictionary http://wombat.doc.ic.ac.uk/ |
| Cyberpoets Guide to |
| Virtual Culture http://www.seas.upenn.edu/-mengwong/cyber/egvc1.html#1.2 |
| Jargon File 3.0.0 http://www.phil.uni-sb.de/fun/jargon/index.html |
| The WWW Jargon File |
| http://farmr4.med.uth.tmc.edu/Miscellaneous/JARGON30/HOMEPAGE.HTML |
| Humanities |
| Complete Works of Shakespeare http://the-tech.mit.edu/Shakespeare/works.html |
| Guide to Literature |
| http://www.cis.ohio-state.edu:80/text/faq/usenet/internet/literary- |
| resources/faq.html |

| $Humanist\ Website\ \dots\ http://www.princeton.edu/~mccarty/humanist/humanist.html$ |
|--|
| Online Journals for Educators |
| The Chronicle of Higher Education http://chronicle.merit.edu/ |
| Computers and Composition http://humwww.hk-r.se/cc/ |
| Computer Mediated Composition http://sunsite.unc.edu/cmc/mag/current/toc.html |
| Kairos http://ttu.edu/kairos/ |
| (For teachers of writing in webbed environments) |
| |
| NewJour http://gort.ucsd.edu/newjour |
| (Clearinghouse for electronic journals) |
| MOOs |
| DaedalusMOO http://www.daedalus.com/net/border.html |
| Day, Crump and Rickly http://www.missouri.edu/~wleric/cnsc21/ |
| (Virtual Academic Communities) |
| Galin, Jeff MOOcentral http://www.pitt.edu/~jrgst7/MOOcentral.html |
| (An annotated list of educational MOOs, MUDs, MUSHes, and other texted- |
| based virtual realities) |
| Gardner, Traci MOO Teacher's Tip Sheet http://daedalus.com/net/MOOTIPS.html |
| Kairos Coverweb on MOOs http://english.ttu.edu/kairos/1.2/coverweb.html |
| Virtual Academic Communities http://www.missouri.edu/~wleric/cnsc21/ |
| References and resources |
| All-in-one Searchable Websters http://www.coc.uncc.edu/~brmattin/ref-eng.html |
| Computer Dictionary |
| Oxford English Dictionary, 2nd ed http://www.epas.utoronto.ca:8080/oed.html |
| Rhetorical terms http://www.uky.edu/ArtsSciences/Classics/rhetoric.html |
| Roget's online interface http://humanitites.uchicago.edu/forms_unrest/Roget.html |

| University of Texas http://www.en.utexas.edu/studentresources/referencedesk.html |
|---|
| Webster's online interface http://c.gp.cs.cmu.edu:5103/prog/webster? |
| Software |
| Aspects http://www.grouplogic.com/ |
| (Collaborative/distance composing and editing) |
| Commonspace http://www.sixthfloor.com/ |
| (Collaborative writing) |
| Daedalus Integrated Writing Environment |
| Norton Textra Connect |
| (Networked writing environment) |
| StorySpace http://www.eastgate.com/ |
| (Hypertext and invention) |
| The Teaching of English |
| NCTE http://ncte.clemson.edu/ncte/ncte.home.html |
| |
| SEARCH ENGINES |
| |
| For an overview of different ones http://home.mcom.com/ home/internet-search.html |
| Internet Search http://home.mcom.com/hom/Internet-search.html |
| Lycos http://lycos.cs.cmu.edu/ |
| Webcrawler http://webcrawler.cs.washington.edu/Webcrawler/WebQuery.html |
| Yahoo http://yahoo.com |