ABSTRACT

THE CHALLENGES OF HYPERTEXT WRITERS: A CASE STUDY

by

**Nandita Das**

This thesis examines the challenges of hypertext writers with respect to six aspects of

writing: authority, audience, organization, document design, style and multimedia use.

This study is primarily based on the theories presented in the three books—Jay David

Bolter's *Writing Space*, George P. Landow's *Hypertext 2.0* and Ilana Snyder's *Hypertext*.

Information is collected by means of structured interviews from Bolter and Snyder. This

study reveals that the hypertext medium does pose challenges to writers who are used to

writing for the print medium and are new to the hypertext medium. Hypertext

environment requires that the writer should either possess multiple, diverse skills or work

collaboratively. Primary causes of challenges are newness of the medium and lack of

education emphasizing visual literacy. Moreover, the challenges point towards the

necessity of a new kind of literacy that includes not only visual literacy, but also

multimedia literacy. A new rhetoric that addresses both a document's visual design and

structural design is very necessary.

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by
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# THE CHALLENGES OF HYPERTEXT WRITERS: A CASE STUDY

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This thesis is dedicated to my beloved father, who now lives in my heart. His wishes inspired me during the making of this work.

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# CHAPTER 1

# INTRODUCTION

This chapter first introduces the purpose and the rationale of this research. Then, the meanings and connotations of relevant vocabulary are explained, followed by a brief account of the hypertext medium. The chapter ends with a discussion regarding the three authors and their texts, on which this work is based.

This study examines the challenges that hypertext presents to writers. The study, as well, throws light on the nature, cause and effect of the current challenges, and their future. Very little have been written so far regarding hypertext writers. I believe that it is necessary to also focus on the writers or creators of hypertext and to examine what writing for the new medium means to them.

## 1.1 Relevant Vocabulary

Writing about hypertext in a print medium may lead to terminological problems. George Landow compares this problem to those encountered by Roland Barthes, Jacques Derrida and others when they tried to describe a "textuality neither instantiated by the physical object of the printed book nor limited to it" (Landow 57). Although gradually but steadily, electronic writing is invading almost every nook and corner of our everyday lives, we are still living in the late age of print. Most of the time, we still read and write according to the conventions of print technology. So, it is not surprising that terms such as "text," "writing," "reading" and "writer" are highly implicated with print technology and, as Landow points out, should be handled with great care. For this reason, and also to

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define the scope of this research, I will specifically mention the meanings of some relevant words that are integral to my research, such as "hypertext," "hypertext writer" and "print writer". I will also explain the connotation of the word "challenging."

In this research, by hypertext, I do not mean the hypertext that we find in stand-alone hypertext systems, such as Storyspace and Intermedia. Here, by hypertext, I specifically mean the hypertext that is available on the widely used World Wide Web or the Web. Moreover, I would like to exclude fiction—both print and hypertext—from my study and deal only with non-fiction. I agree with George P. Landow's statement that "hypertext as a writing medium metamorphoses the author into an editor or developer." By "hypertext writer," I actually mean hypertext developer or creator of hypertext and hypertext writer-editor. I use "print writer" to mean one who writes as well as edits for the print medium.

I use the word "challenging" to mean a demanding task that tests one's abilities or resources and yet is at the same time stimulating. Challenge can be both on an individual level or a general level. An instance of challenge on an individual level can be seen when someone, who is a good writer but lacks visual skills, is expected to integrate both the visual and the verbal in a hypertext document. Another instance of challenge may occur when someone who is used to writing lengthy paragraphs of prose is expected to present information in chunks and use an aphoristic style while creating a hypertext document. Challenge on an individual level will vary greatly from individual to individual since it depends greatly on an individual's natural talents, training and experience. In this research, I am concerned with those challenges that exist for all current hypertext writers—the challenges that affect almost all such writers similarly. These challenges will

therefore have some common causes, such as newness of the hypertext medium, lack of established conventions, and the limitations posed by the new technology.

## 1.2  Hypertext as a Medium

According to Jay David Bolter, electronic writing or hypertext is the fourth great technique of writing that will take its place beside the ancient papyrus roll, the medieval codex and the printed book. According to Ilana Snyder, hypertext is a wholly electronic form of writing that uses the computer as a medium both for the creation and reading of the texts. Some of the unique features of the hypertext are its nonlinearity, its use of hyperlinks and its ability to integrate multimedia elements—graphics, sound, animation, video. According to George Landow, hypertext denotes an information medium that links verbal and visual information. He states that hypertext is not only nonlinear, but also multilinear and multisequential. Hyperlinks impart to a document the qualities of dynamism, flexibility and interactiveness. Hyperlinks enable the readers to easily move around within documents and from document to document.

Hypertext is a distinctly different medium from the print medium. Bolter in *Writing Space: Computers, Hypertext, and the Remediation of Print*, discusses how hypertext remediates print by paying homage to the print medium and yet by being a different, distinct medium. Bolter's response to the debate over whether hypertextual writing is fundamentally different from and better than writing for print is his idea that hypertext remediates printed forms. Since remediation implies both homage and rivalry, the process of remediation acknowledges both hypertext's connection with and difference from print. Hypertext pays homage to the print medium that it is seeking to reform in

several ways. A hypertext often consists of units of prose and knowledge of print is essential in order to read and write hypertexts. "The very notion of hypertextual reading and writing begins with the construction of the reader and writer as we have known them from 500 years of printing" (Bolter 43). Hypertext's rivalry with print becomes apparent when it presents itself as an intensification, a hypermediation of the printed form. "In following hypertextual links, the reader becomes conscious of the form or medium itself and of her interaction with it. In contrast, print has often been regarded as a medium that should disappear from the reader's conscious consideration. Indeed, two levels of mediation are supposed to disappear, the printed page and the prose itself" (Bolter 43). Hypertext, in this sense challenges the aesthetic of disappearance and emphasizes on process and on the reader's awareness of the medium. In its emphasis on process, hypertext seems to belong to the literary tradition of modernism.

Hypertext has offered both its readers and writers many unique features. Nevertheless, hypertext also poses challenges to its readers and writers. The readers should have basic computer literacy in order to assess hypertext. But, the hypertext writers should be much more than just computer literate in order to communicate effectively. "Learning how to read, produce and exploit graphics constitutes one of a number of new demands imposed on users by the technology" (Snyder 18). Writers who have been used to writing for the print medium may often find these "new demands" rather challenging.

## 1.3 The Books and Their Authors

This study is based on the three texts—Jay David Bolter's *Writing Space: Computers, Hypertext, and the Remediation of Print*, George P. Landow's *Hypertext 2.0: The Convergence of Contemporary Critical Theory and Technology*, and Ilana Snyder's *Hypertext: The Electronic Labyrinth*. I have chosen these books for various reasons. The books by Bolter and Landow are highly acclaimed, seminal works of literary criticism and have been translated into several languages. Snyder's book is undoubtedly an important, scholarly work.

### 1.3.1 Bolter's *Writing Space: Computers, Hypertext, and the Remediation of Print*

Jay David Bolter is Professor of Language, Communication, and Culture at the Georgia Institute of Technology and Director of the Institute's New Media Center. He is the author of internationally acclaimed books on computers, literacy and culture such as *Turing's Man* (1986) and *Writing Space: Computers, Hypertext, and the History of Writing* (1991). His publications also include *Remediation: Understanding New Media* (2000) with R. Grusin and *Writing Space: Computers, Hypertext, and the Remediation of Print* (2001). Besides, Bolter is also the co-creator of Storyspace—a stand-alone hypertext system—with Michael Joyce. His primary interest is the computer as a new medium for verbal and visual communication.

The first edition of *Writing Space*, which was first published in 1991, is a pioneering work and has been translated into several languages. It is the study of the computer as a new technology for reading and writing. This study is based on the second edition of the book, which was published in 2001. The second edition expands on the

objectives of the original version by including the relationship of print to new media or hypertext, and examining how hypertext and other forms of electronic writing refashion or "remediates" the forms and genres of print. Moreover, in this edition, considering the dynamic changes in electronic technology since the first edition came into being, Bolter also includes the Web and other current standards of electronic writing. Because of its inclusion of the relationship of print to hypertext and the Web, the second edition of the book is even more relevant to my research.

### 1.3.2 Landow's *Hypertext 2.0: The Convergence of Contemporary Critical Theory and Technology*

George P. Landow is Shaw Professor of English and Digital Culture and Dean, University Scholars Programme, National University of Singapore. His notable publications on hypertext include *Hypertext: The Convergence of Contemporary Critical Theory and Technology* (1992), *Hyper/Text/Theory* (1994) and *Hypertext 2.0: The Convergence of Contemporary Critical Theory and Technology* (1997). Besides, he has created and maintains three large, interlinked web sites. They are *The Victorian Web*, *Contemporary Postcolonial and Post imperial Literature in English* and *The Cyberarts Web*. Together these web sites include over 40,000 documents and have won more than 50 awards.

The original version of Landow's book, *Hypertext 2.0*, was named *Hypertext: The Convergence of Contemporary Critical Theory and Technology*. It was first published in 1992 and was the first to bring together the worlds of literary theory and computer technology. In the first edition, Landow shows that hypertext has much in common with

some major points of contemporary literary theory, particularly with Derrida's idea on decentering and with Barthes' conception of the readerly versus the writerly text. The later and updated version of the book, *Hypertext 2.0*, which I deal with here, was first published in 1997. In *Hypertext 2.0*, Landow shifts the focus from Intermedia to Microcosm, Storyspace, and the World Wide Web. He offers new information about kinds of hypertext, different modes of linking, and attitudes toward technology. He also comments extensively on the rhetoric and stylistics of writing in and with hypermedia.

### 1.3.3 Snyder's *Hypertext: The Electronic Labyrinth*

Dr. Ilana Snyder is an Associate Professor in the Faculty of Education, Monash University in Australia. Her publications include *Hypertext: The Electronic Labyrinth* (1997), *Page To Screen: Taking Literacy into the Electronic Era* (1998), *Teachers and Technoliteracy* (2000), with Colin Lankshear, and *Silicon Literacies* (2002).

In *Hypertext: The Electronic Labyrinth*, Ilana Snyder provides a lucid overview of the radical effects that hypertext is having on textual practices. In this book, by focusing on what we mean by text, author, and reader, she explores the connections between the practical experience of hypertext and the works of critical theorists such as Barthes and Derrida, and hypertext theorists such as Landow, Bolter and Joyce. In the preface to this book, she mentions that her personal interest is in "how the versatile and volatile technology of hypertext may be used educationally for imaginative and playful purposes" (Snyder xii).

# CHAPTER 2

# BACKGROUND LITERATURE REVIEW

This chapter first provides a brief historical background of hypertext and the World Wide Web and then presents a discussion of the six aspects of writing. Based on my study, I have broadly identified six aspects of writing, both for print text and hypertext. They are as follows:

- Authority

- Audience

- Organization

- Document Design

- Style

- Multimedia Use

## 2.1 Origins of Hypertext

The term hypertext was coined by Theodor H. Nelson in the 1960s to mean non-sequential writing. According to Nelson, it is text that branches and allows choices to the reader, and is best read at an interactive screen. His publishing system, Xanadu, which was released in 1989, attempted to hold the world's "literature" under one roof. By literature, Nelson meant not only humanistic, but also scientific and technical writings. Xanadu interconnected electronic documents and other media forms, such as graphics, audio and movies.

This concept of literature as a system of interconnected texts can be traced back to the time before computers came into being. The linear format found in printed books made information retrieval very difficult. So, for centuries scribes, scholars and publishers tried to invent devices to increase the speed of information retrieval. The key innovators, who thought about alternate ways of presenting information even before computers came into being, include a span of theorists such as Samuel Taylor Coleridge and Vannevar Bush. In his "Treatise on Method" (1849), Coleridge wanted to order knowledge not alphabetically, but topically. "Even before Nelson, the scientist and engineer Vannevar Bush had envisioned using electro-mechanical technology as a hypertextual reading and writing system" (Bolter 34). In 1945, in his pioneering essay "As We May Think" in *Atlantic Monthly*, Bush proposed a device he called memex to serve as an interactive encyclopaedia.

Both Bush and Nelson had identified the key characteristics of hypertext long before practical systems were built. But, what they envisioned was made a reality by Douglas Engelbart in 1968, when he first designed and built the prototype of a hypertext system, NLS (oNLine System). This system was later named "Augment." Influenced by Bush's concepts of associative links and browsing, Engelbart created a primarily hierarchical system containing text and video images. He also invented the interface device known as the mouse.

Hypertext software first became commercially available in the 1980s. Examples of hypertext systems include Macintosh's HyperCard, Brown University's Intermedia, Xerox Parc's Notecards, and Bolter, Joyce and Smith's Storyspace (1990). Although all these systems achieved their desired ends, a universal system of exchanging information

freely was not made available until the World Wide Web came into being. The advent of

personal computers and workstations made hypertext available to a large audience of

readers and writers.

## 2.2 Hypertext and the World Wide Web

The World Wide Web may be regarded as a fulfillment of Ted Nelson's vision of a

global networked hypertext system. Around 1989, Tim Berners-Lee conceived of the

Web as a research tool for scientists, where they could easily exchange their information

and publications. The Web was originally conceived by Berners-Lee principally as a

textual medium and was first implemented in 1990. In 1993, however, some

programmers at the University of Illinois created Mosaic, the browser by which graphics

could be integrated with text. The Web became popular only after the introduction of this

first graphical browser. Since then, it gave us a new space for graphic design—the

combination of text and static graphics. Also, since then the possibilities for global

hypertext expanded rapidly as business people foresaw recreational, entertainment and

commercial uses that were not apparent when there was only text on the screen. The Web

is rapidly changing and developing richer forms of interaction. Now, the most important

trend is towards increasing use of multimedia forms so that animation, digitized video

and sound are playing a greater role.

In the preface to the second edition of *Writing Space*, Bolter writes, "As a global

hypertext system, the Web has provided the most convincing evidence of the computer's

potential to refashion the practice of writing. For better or worse, the Web is hypertext for

us today; all the earlier applications of stand-alone hypertext seem experimental or

provisional in comparison" (xi). Landow, in his interview with Alt-X correspondent, Lars

Hubrich, says that he welcomes the Web "to act as a lab to test a lot of ideas about

hypertext, digital writing, multi-headed authorship, and the like."

## 2.3 Aspects of Writing

Based on the knowledge that I have gathered, I have identified six aspects of writing that

are applicable to both print text and hypertext: authority, audience, organization,

document design, style and multimedia use. Their commonality is represented in Figure

2.1.
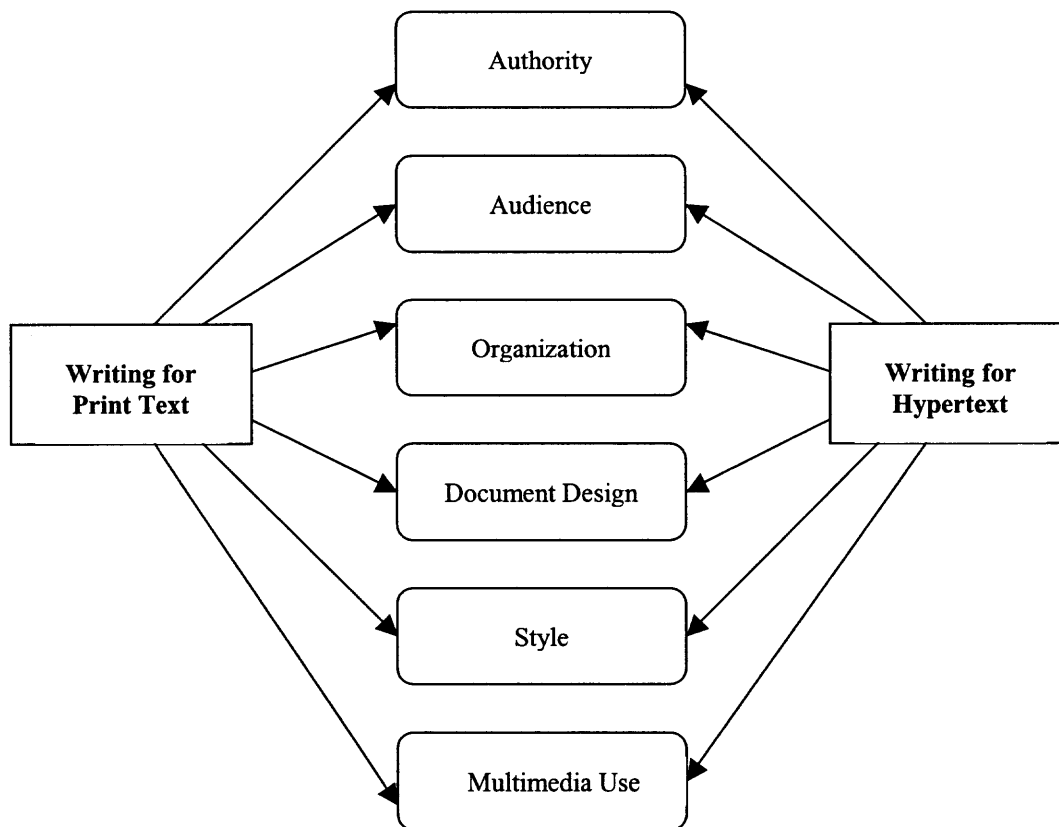
**Figure 2.1** Six aspects of writing common to print text and hypertext.

In the discussion that follows, I delineate the six aspects of writing and suggest if and how they pose challenges to the hypertext writer.

### 2.3.1 Authority

The meaning of authority is explained by Bolter from a historical perspective in his book. Traditionally, literature in the cannon was associated with qualities of stability and monumentality. The works of literature were monuments, and the author or the creator of those monuments was, as the etymology suggests, an authority. The traditional notion of authority is that the views expressed by the author should be respected and nothing or no one can make changes to a document once it is published. This traditional notion of authority, however, can only be applied to print text. Many important hypertext theorists have pointed out that hypertext documents are devoid of this kind of authority. In *Hypertext 2.0*, Landow states, "one relevant characteristic quality of networked hypertext systems is that they produce a sense of authorship, authorial property, and creativity that differs markedly from that associated with book technology. Hypertext changes our sense of authorship and creativity (originality) by moving away from the constrictions of page-bound technology" (110). Bolter, in *Writing Space* says that web sites are "transient, casual, and generally authoritative" in nature (165). He further states that an "authoritative Web site" is an oxymoron. According to him, stability and authority are qualities associated with print, whereas flexibility, interactivity and speed of distribution are associated with hypertext.

Hypertext not only changes the notion of authority, but it also changes the notion of the author that is very closely associated with it. Bolter states that "hypertext writers

have shown how the electronic medium can accommodate a different relationship between author and reader. No longer an intimidating figure, an electronic author assumes the role of a craftsperson, working with prescribed materials and goals. She works within the limitations of a computer system, and she imposes further limitations upon her readers" (168). Towards the end of his chapter, "Reconfiguring the Author," Landow concludes that an important truth about writing within a hypertext environment is that hypertext has no authors in the conventional sense. According to him, "hypertext as a writing medium metamorphoses the author into an editor or developer. Hypermedia, like cinema and video or opera, is a team production" (Landow 114).

In the same chapter, Landow discusses how hypertext reconfigures the traditional concept of author in several ways. First, an active audience and reduced autonomy of text are responsible for this predicament. Second, the de-centered and unbounded nature of hypertext is also responsible for this reconfiguration. The network element in hypertext also reconfigures in the sense that other authors and their works are also simultaneously present in the same system. Landow points out the aspect of collaboration in a hypertext environment by saying that "within a hypertext environment all writing becomes collaborative writing, doubly so" (Landow 104). In the first place, the collaboration occurs when the author or writer collaborates with the active reader, who creates his or her own text by the individual choices that he or she makes. The second form of collaboration takes place when the author's work virtually coexists with the works of all other writers on the system.

Snyder's views on authority in her book *Hypertext* are in keeping with those of Landow and Bolter. She agrees with Bolter that the invention of the printing press has strengthened the authority of the author.

Very closely related to the concept of authority is the concept of authorial control. So, I have grouped them together under the aspect "authority." According to Johnson-Eilola, hypertext results in loss of authorial control. In his essay, "Control and Cyborg: Writing and Being Written in Hypertext;" (1993) in *Journal of Advanced Composition*, he writes that in hypertext,

> control explicitly shifts away from the author, who begins to lose both the need
>
> and the opportunity for the great degree of control an author has in print because
>
> the hypertext writer's task is not to provide a narrow, fixed product but
>
> something closer to a space for conversation with other texts, readers and writers.
>
> (382)

But, Kimberley Amaral, in her essay "Hypertext and Writing: An Overview of the Hypertext Medium," offers a different view regarding the concept of authorial control in hypertext:

> Believe it or not, writers do not have to relinquish all their control over a
>
> document when they enter the realm of hypertext. Rather than handling over the
>
> controls to an inexperienced pilot of information, it is the writer's job to make the
>
> destination extremely clear so that anyone could find it. (4)

This view of Amaral's is in keeping with Bolter's view of the writer who works within the limitations of a computer system, and imposes further limitations upon her readers. It appears that the task of making the "destination extremely clear" to the readers in spite of having limited control can be challenging.

### 2.3.2 Audience

Audience is a very important aspect of any form of writing since it determines to a large extent what should be communicated and how it should be communicated. Just as hypertext redefines the author, it redefines the readers or the audience also in several ways. The qualities of sequentiality and hierarchy that are so important to readers of the print medium cease to be important in the hypertext environment. The readers are much more active here in the sense that, while accessing a hypertext document, they determine which path they will follow by choosing their own links and other interactive devices. The readers in hypertext enter a document at any point they want to and exit from any point they choose to.

In *Hypertext*, Snyder points out that what "readers actually do when they move around in a hypertext web embodies many of the key concepts of reader-response criticism" (Snyder 69). The proponents of reader-response theory, such as Wolfgang Iser and Stanley Fish, emphasized the role of the reader in the construction of textual meaning. They pointed out that the reader responds actively to the words on the page, and this response determines the text, which exists from moment to moment in the act of reading. They also emphasized that the task of the literary criticism was to understand the text through its effect on the reader. But, Bolter points out "the pages of a printed book exist prior to and apart from any reader, and the text as a sequence of words on the page is entirely determined by authors and printers" (173). Yet, he agrees that "the author writes a set of potential texts from which the reader chooses, and there is no univocal text apart from the reader" (Bolter 173). So, he aptly concludes "the role of the reader in

electronic form therefore lies halfway between the customary roles of author and reader in the medium of print" (Bolter 173).

The fact that a hypertext document permits different readers to access it according to their needs and interests suggests that the hypertext writer has to design the site to permit such activities. Besides, the readers may get disoriented or lost in the cyberspace if they are not given proper directions. All these issues point to the fact that the job of addressing audience in a hypertext environment is complex and challenging.

### 2.3.3 Organization

Organization means the way a document is designed on a structural level. Where printed text is essentially linear and hierarchical, hypertext is multilinear, de-centered and associative. In place of a single reading order, the reader in a hypertext document can move through a variety of different reading orders. Information in hypertext is presented not hierarchically, but topically. Many theorists have named the process navigation by which readers move along different sections of a document or among different documents by means of hyperlinks and interactive buttons. The hyperlink is an invaluable and unique tool of hypertext since it imparts to a document the qualities of dynamism, flexibility and interactiveness. So, it is very important that the hypertext writer should use hyperlinks skillfully by placing them at strategic places in a document based upon his or her anticipation of the readers' needs.

In *Hypertext 2.0*, Landow distinguishes between the basic structure and organization of a print text and a hypertext. He writes "whereas print technology emphasizes the capacity of language to form a linear stream of text that moves

unrelentingly forward, hypermedia encourages branching and creating multiple routes to the same point. Hypertextualizing a document therefore involves producing a text composed of individual segments joined to others in multiple ways and by multiple routes. Hypermedia encourages the conception of documents in terms of separate brief reading units. Hypertext permits linear linking, but encourages parallel, rather than linear, arguments" (Landow 157). According to Landow, hypertext writers should properly design hypertext documents in order to prevent disorientation. He suggests that in order to be effective, a hypertext document should be so structured to do the following:

- Orient readers to the site.

- Help readers retrace the steps in their reading path by providing adequate navigation information so that the readers can easily make their ways through the materials.

- Inform the readers where the links are leading them.

- Enable readers to feel at home and provide "arrival and departure information.

The above discussion shows that effectively organizing a hypertext document can be a complex job and hence challenging to its writers.

### 2.3.4 Document Design

Document design is organizing a document—print or hypertext—on a visual level so that it is both visually appealing and user friendly. It is often referred to as screen design in the hypertext environment. According to Carolyn Rude, "screen design refers to the way information will be positioned on the screen and what combinations of type and graphics

will represent the information" (Rude 382). "Effective screen design", writes Rude, "creates a page that supports the purpose of a document, is easy to read, minimizes scrolling, and allows readers to navigate easily" (Rude 382). In order to meet these goals, the writer or the designer should be aware of the users' hardware and software, use legible type, and follow the goals of consistency and simplicity.

According to Bolter, hypertext reading and writing is "primarily visual," and text and graphics are intertwined in hypertext writing. So, it is very important for the hypertext writer to pay attention to the visual elements while designing a document. According to Landow, a fundamental way in which hypertext reconfigures text is by the inclusion of a far higher percentage of non-verbal information than print. He describes the importance of creating various orientation devices to assist readers, such as headers, color schemes, header icons and linked icons that appear at the foot of blocks of text.

The size and shape of the computer screen is different from that of a printed page: it has landscape orientation as opposed to portrait orientation of a typical page. Tay Vaughan in *Multimedia Making It Work* writes, "Studies of surfer habits have discovered that only 10 to 15 percent of surfers ever scroll any page " (Vaughan 193). Thus, according to him, all vital elements and menus on a Web page should be placed in the top 320 pixels. Many standard pages (8.5-by-11-inch page size in the United States or the Internationally designated standard A4 size that is 8.27 by 11.69 inches) are 600 pixels in height (about one-and-a-half screens on a VGA monitor). So, in order to get people's attention, to minimize scrolling, and to ensure that an entire Web page is read, the hypertext writer should make the pages of a document about 400 pixels in height.

Moreover, in order to be an effective screen designer, the hypertext writer should keep in mind the limitations posed by the readers' hardware and software while designing. It is the readers' browsers that determine what the readers see from what is coded. Most browsers display graphics, but some show only text, and some do not see tables. Different browsers for the Internet display the same information with fonts of different types and sizes. Besides, there are discrepancies based on platform. For instance, a 12-point Courier font on a Macintosh will be a 10- or 9-point size in Windows. The operating speed of the computer and modem also determines how quickly the information will load. Low-end equipment will load the information slowly thereby frustrating its readers. Color, graphics, patterned backgrounds, sound, animation, all slow the loading time. Perhaps, this is the reason why discerning hypertext writers often forego bigger, better graphics in favor of smaller, simpler counterparts in their documents.

Another screen design challenge is that type on screens is generally more difficult to read than type in print documents. So, it is very important that a hypertext writer choose appropriate type and size of fonts. In print documents, serif fonts, such as Times New Roman and Palatino, are suitable for body type, while sans serif fonts, such as Arial and Helvetica are more suitable as display types. But, in the computer screen, the reverse is true. Thus, Arial, a sans serif font, is more legible on screen as body type rather than Times New Roman, a serif font. Also, a hypertext writer should be aware that the size of a font on screen should be at least 12 points to be readable except for copyright notes and signature information. Moreover, text on a print document is normally black on white background. But, a wide variety of backgrounds and font colors are available to the hypertext writer. To be effective, the hypertext writer needs to make a proper choice of

color: he or she should choose colors of different intensities for text and background to promote contrast and therefore greater readability.

"Given the challenge of creating readable text and graphics for computer screens, design principles such as consistency and simplicity can be even more important for online design than for print" (Rude 383). By being consistent in the use of type, icons and colors, the hypertext writer can indicate various types of information and structural divisions in a document, thereby increasing its usability. Using different colors to distinguish types of information could enhance comprehension. For instance, all of an organization's research activities can appear on pages with blue banners at the top, and its advocacy activities can appear on pages with green banners.

## 2.3.5 Style

The same principles of good style that apply to print—clarity, consistency, conciseness, good grammar—also apply to hypertext documents. Rude points out that the requirements for conciseness are greater in hypertext documents due to the limitations of screen and window size and the difficulty of reading from screens. She also points out that typos and errors may be more apparent on the screen than a printed page because the reader sees the words straight on rather than at an angle looking down.

Apart from conciseness, another important feature of hypertext documents is that text is broken down into smaller pieces and presented. In *Hypertext 2.0*, Landow explains the reason behind the necessity of having brief text units. A characteristic feature of hypertext documents is linked reading units. So, when writing for the Web, the writer

should conceive of the text units as brief passages in order to take maximal advantage of the linking capacities of hypertext.

Since hypertext is a very visual media, the principles of consistency and should extend to the visual elements as well. So, graphics should be chosen carefully so that they are integral to the document and in keeping with it. Rude suggests that a hypertext writer can use a single style sheet for a site in order to ensure visual consistency. This will ensure consistent use of headings, body text, background colors, icons and layout.

### 2.3.6 Multimedia Use

Multimedia is any combination of text, graphic art, sound, animation and video elements. A print document may only contain a combination of text and static graphics as multimedia. Only hypertext or hypermedia can incorporate all the elements of multimedia—text, graphics, sound, animation and video. The addition of multimedia elements to a hypertext makes it more appealing and memorable.

The fact that Landow does not distinguish between hypertext and hypermedia suggests how much importance he gives to multimedia. Landow distinguishes between static data and dynamic data in *Hypertext 2.0*. Static forms of data are words, images, diagrams, and their combinations. Dynamic data or information includes animation and sound, such as music, human speech or animal cries. Landow points out that the essential difference between dynamic and static data is the former's time-boundedness. One negative impact of dynamic data is that it places the reader in a passive role by turning hypermedia into a broadcast rather than an interactive medium. He suggests the following two solutions to this problem. First, the writer should permit the reader to stop the

reading process and exit the movement easily. Second, the writer should indicate which particular links lead to dynamic data. So, it can be said that although multimedia offers many new exciting advantages, it should be used with discretion. The hypertext writer should use it with caution since it has the capacity to make the audience passive or an overdoing of it might distract the audience.

# CHAPTER 3

# RESEARCH METHOD

The independent or predictor variables in this study are the six aspects of writing that I have discussed in the last chapter: authority, audience, organization, document design, style and multimedia use. The dependent or outcome variable are the challenges faced by the hypertext writer. In this chapter, I will explain how the independent variables have been operationalized in the study.

## 3.1 Structured Interview

Structured interviews are usually conducted on subject matter experts. They enable one to derive an insight into various matters on a topic. Although I initially wanted to interview the three authors, I finally was able to interview only Dr.Bolter and Dr.Snyder since Dr. Landow was not available. The authors were given the choice between a written interview and a telephonic interview and both the authors opted for the latter. I gathered extensive, indispensable information from the structured interviews. I derived an insight into various general and specific issues on writing for the hypertext environment through the interviews. Besides, I came to know first-hand from the authors if and why they consider the job of the hypertext writer to be challenging.

### 3.1.1 Initial Structured Interview Questions

1.  The writer in which medium—print or hypertext—do you think has more authority over his or her work? Why?

2. If your answer is the print writer, then do you think that less authority makes the job of the hypertext writer more challenging?

3. There is no such thing as authorial control in hypertext document. Do you agree with the statement? Why?

4. How do you think the original author manipulates or exerts authorial control over the hypertext?

5. Do you think that addressing audience in a hypertext environment and promoting interactive reading can be challenging to a writer who is used to writing for the print medium and is new to the hypertext medium?

6. In order to effectively address an audience, what skills are most important for the hypertext writer to develop?

7. Do you think that organizing an online document is more complex and challenging than its print counterpart?

8. Is it important for the print writer to pay attention to the visual elements, such as non-verbal cues, graphics and document design? Why?

9. How important is it for the hypertext writer to pay attention to the visual elements in a document?

10. Do you think that the need for conciseness is greater in a hypertext document than its print counterpart? Why?

11. In order to be user-friendly, the hypertext writer should break up text into smaller pieces or present information in chunks. Do you agree?

12. Is it essential for the print writer to possess knowledge of multimedia?

13. How much do you think that the hypertext writer should know how to incorporate and integrate multimedia elements into his or her work?

14. Which is more challenging to the hypertext writer: to be artistic or to provide information?

15. On the whole, do you think that the job of the hypertext writer is more challenging than his or her counterpart in print text?

16. Do you think that a "new rhetoric" is necessary for hypertext writers and will help them?

17. Do you believe this challenge will diminish or can be eliminated in future with technological advancement and with better training and education regarding the hypertext environment?

Although initially I composed these broad questions, I modified them slightly for the interviews based upon my readings of the authors' books. During the interview, my questions for Dr. Snyder were as follows:

### 3.1.2 Interview Questions for Dr. Ilana Snyder

1. The writer in which medium—print or hypertext—do you think has more authority over his or her work? Why?

2. If your answer is the print writer, then do you think that less authority makes the job of the hypertext writer more challenging?

3. There is no such thing as authorial control in hypertext document. Do you agree with the statement? Why?

4. In chapter 4 ("Reconceiving Reading and Writing") of your book, *Hypertext: The Electronic Labyrinth*, you state "through the technology of printing, the author (assisted by the editor and publisher) exercises absolute control over the text. Nothing can be done to it after publication." Later, in this chapter, you say, "the degree of control encountered in a hypertext results partly from the original author's manipulation and partly from the type of software and hardware used." How do you think the original author manipulates or exerts authorial control over the hypertext?

5. Do you think that addressing audience in a hypertext environment and promoting interactive reading can be challenging to a writer who is used to writing for the print medium and is new to the hypertext medium? If yes, why, and if no, why not?

6. In order to effectively address an audience, what skills are most important for the hypertext writer to develop?

7. Do you think that organizing an online document is more complex and challenging than its print counterpart?

8. Is it important for the print writer to pay attention to the visual elements, such as non-verbal cues, graphics and document design? Why?

9. How important is it for the hypertext writer to pay attention to the visual elements in a document?

10. Do you think that the need for conciseness is greater in a hypertext document than its print counterpart? Why?

11. In order to be user-friendly, the hypertext writer should break up text into smaller pieces or present information in chunks. Do you agree?

12. Is it essential for the print writer to possess knowledge of multimedia?

13. How much do you think that the hypertext writer should know how to incorporate and integrate multimedia elements into his or her work?

14. Which is more challenging to the hypertext writer: to be artistic or to provide information?

15. On the whole, do you think that the job of the hypertext writer is more challenging than his or her counterpart in print text?

16. In your book you talk about the necessity of a "new rhetoric" or "silicon rhetoric" for hypertext. How do you think will this "new rhetoric" help the hypertext writers?

17. Do you believe this challenge will diminish or can be eliminated in future with technological advancement and with better training and education regarding the hypertext environment?

I interviewed Dr. Bolter two months after I interviewed Dr. Snyder. Based on my readings of Dr. Bolter's book and my previous experience of interviewing Dr. Snyder, I modified my interview questions for Dr. Bolter. My questions to Dr. Bolter are as follows:

### 3.1.3 Interview Questions for Dr. Jay David Bolter

1. In your book, *Writing Space: Computers, Hypertext and the Remediation of Print*, you say, "our culture seems to have accepted and endorsed the transient, casual, and generally unauthoritative nature of Web sites." Then you say that an "authoritative Website" is an oxymoron. So, do you think that, currently, in general, the hypertext writer has less authority over his or her work as compared to the print writer?

2. Do you think that less authority makes the job of the hypertext writer more challenging?

3. How do you think that the writer exerts authorial control in a hypertext document?

4. Do you think that addressing audience in a hypertext environment and promoting interactive reading can be challenging to a writer who is used to writing for the print medium and is new to the hypertext medium?

5. In your book, you say that in print, the subjectivity of the author was expressed at the expense of that of the reader. But, "in electronic hypertext two subjectivities, the author's and reader's encounter one another on nearly equal terms." Does this make the job of the hypertext writer more challenging?

6. In order to effectively address an audience, what skills are most important for the hypertext writer to develop?

7. Do you think that organizing an online document is more complex and challenging than its print counterpart?

8. Is it important for the print writer to pay attention to the visual elements, such as non-verbal cues, graphics and document design?

9. In the preface to your book, you say that the computer is leading us to an "increased emphasis on visual communication." So, does that mean that it has now become more important for the hypertext writer pay attention to the visual elements in a document?

10. Do you think that the need for conciseness is greater in a hypertext document than its print counterpart? Why?

11. In order to be user-friendly, the hypertext writer should break up text into smaller pieces or present information in chunks. Do you agree?

12. Is it essential for the print writer to possess knowledge of multimedia?

13. How much do you think that the hypertext writer should know how to incorporate and integrate multimedia elements into his or her work?

14. Which is more challenging to the hypertext writer: to be artistic or to provide information?

15. On the whole, do you think that the job of the hypertext writer is more challenging than his or her counterpart in print text?

16. Do you think that a "new rhetoric" is necessary for the hypertext writers and will help them?

17. Do you believe this challenge will diminish or can be eliminated in future with technological advancement and with better training and education regarding the hypertext environment?

18. I have read your interview with Roy Christopher from frontwheeldrive.com. There you have remarked that both hypertexts and linear texts are highly artificial forms of writing since both have to be learned. Among print text and hypertext, which do you think is more artificial and writing for which medium is more difficult to learn?

By comparing the above-mentioned questions to the initial interview questions, you will find that I have made the following modifications:

1. Although the goal of question number 1 remains the same, I have modified it based on my reading of Bolter's *Writing Space*.

2. I have omitted question number 3 from the initial interview question because after interviewing Dr. Snyder, I realized that this question was too absolute.

3. I have added a new question—question number 5—on writer-reader relationship in hypertext environment.

4. I have added question number 18.

Table 3.1 identifies the variables addressed in the initial interview questions and demonstrates how the independent variables are operationalized in the questions. The next two tables--Table 3.2 and Table 3.3 —show the variables addressed in the structured interview questions to Dr. Snyder and Dr. Bolter respectively.

After conducting the interviews, I transcribed them. Then, I coded and analyzed them. The transcripts of the two interviews are located in Appendix A, while their codified versions are located in Appendix B.

**Table 3.1** Variables in the Structured Interview Questions

| Question | Variable | Literature Review |
|:---:|:---:|:---|
| 1 | Authority | Authority in print versus online text |
| 2 | Authority | Does less authority mean more challenge to the hypertext writer? |
| 3 | Authority | Is there authorial control in a hypertext document? |
| 4 | Authority | Presence of authorial control in hypertext |
| 5 | Audience | Addressing audience in a hypertext Environment |
| 6 | Audience | Skills required to address hypertext audience |
| 7 | Organization | Is organization more complex in hypertext documents? |
| 8 | Document Design | Should the print writer pay attention to visual elements? |
| 9 | Document Design | Should the hypertext writer pay attention to visual elements? |
| 10 | Style | Need for conciseness in a hypertext document |
| 11 | Style | Presentation of text in a hypertext document |
| 12 | Multimedia Use | Is knowledge of multimedia necessary for the print writer? |
| 13 | Multimedia Use | Hypertext writer's use of multimedia elements |
| 14 | Challenges | Which is more challenging: to be artistic or to provide information on the web? |
| 15 | Challenges | Is the job of the hypertext writer more challenging than the print writer? |
| 16 | Challenges | Necessity for a hypertext rhetoric |
| 17 | Challenges | Future outlook |

**Table 3.2** Variables in Snyder's Interview Questions

| Question | Variable | Literature Review |
|:---:|:---:|:---|
| 1 | Authority | Authority in print text versus hypertext |
| 2 | Authority | Does less authority mean more challenge to the hypertext writer? |
| 3 | Authority | Is there authorial control in a hypertext document? |
| 4 | Authority | Presence of authorial control in hypertext |
| 5 | Audience | Addressing audience in a hypertext Environment |
| 6 | Audience | Skills required to address hypertext audience |
| 7 | Organization | Is organization more complex in hypertext documents? |
| 8 | Document Design | Should the print writer pay attention to visual elements? |
| 9 | Document Design | Should the hypertext writer pay attention to visual elements? |
| 10 | Style | Need for conciseness in a hypertext document |
| 11 | Style | Presentation of text in a hypertext document |
| 12 | Multimedia Use | Is knowledge of multimedia necessary for the print writer? |
| 13 | Multimedia Use | Hypertext writer's use of multimedia elements |
| 14 | Challenges | Which is more challenging: to be artistic or to provide information on the web? |
| 15 | Challenges | Is the job of the hypertext writer more challenging than the print writer? |
| 16 | Challenges | Necessity for a hypertext rhetoric |
| 17 | Challenges | Future outlook |

**Table 3.3** Variables in Bolter's Interview Questions

| Question | Variable | Literature Review |
|----------|----------|-------------------|
| 1 | Authority | Authority in print versus hypertext medium |
| 2 | Authority | Does less authority mean more challenge to the hypertext writer? |
| 3 | Authority | Presence of authorial control in hypertext |
| 4 | Audience | Addressing audience in a hypertext environment |
| 5 | Audience | Author-audience relationship in hypertext environment |
| 7 | Organization | Is organization more complex in hypertext documents? |
| 8 | Document Design | Should the print writer pay attention to visual elements? |
| 9 | Document Design | Should the hypertext writer pay attention to visual elements? |
| 10 | Style | Conciseness in hypertext document |
| 11 | Style | Presentation of text in a hypertext document |
| 12 | Multimedia Use | Print writer and multimedia use |
| 13 | Multimedia Use | Hypertext writer's use of multimedia elements |
| 14 | Challenges | Which is more challenging: to be artistic or to provide information on the web? |
| 15 | Challenges | Is the job of the hypertext writer more challenging than the print writer? |
| 16 | Challenges | Necessity for a hypertext rhetoric |
| 17 | Challenges | Future outlook |
| 18 | Challenges | Between writing for print and hypertext, which is more artificial and which is more difficult to learn? |

## 3.2 Application of Grounded Theory Methodology

Grounded theory methodology has informed this research. Grounded theory is a general

methodology for developing theory that is grounded in systematically gathered and

analyzed data. It is basically an inductive qualitative method where theory is generated

from data. This methodology was initially presented in 1967 by Dr. Barney G. Glaser and

Dr. Anselm L. Strauss in *The Discovery of Grounded Theory: Strategies for Qualitative*

*Research*. According to this theory, data may be collected from interviews, observations

or documents or from a combination of these sources. The novelty of this theory lies not

in the mode of investigation associated with it, but in the manner in which information is

collected and analyzed. Data collection, coding and conceptual formation is an iterative

process. Figure 3.1 illustrates this process of theory generation.
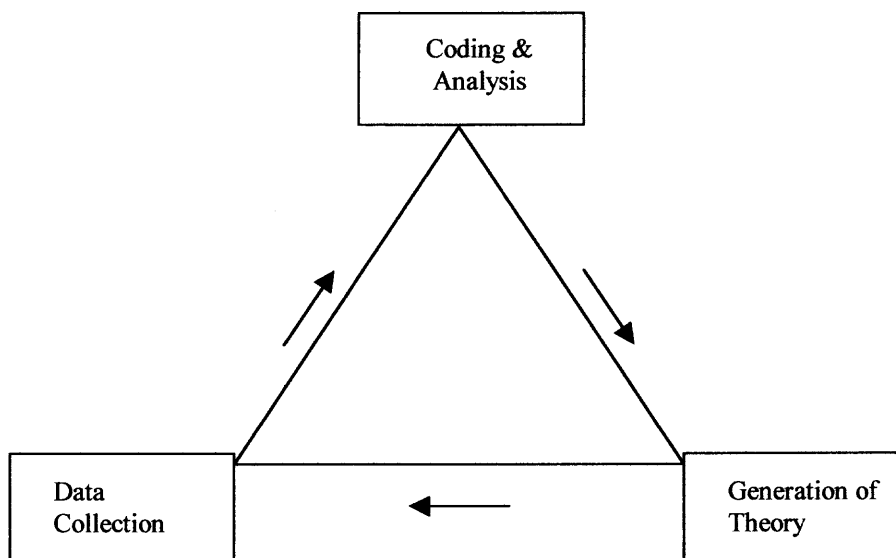
**Figure 3.1** The process of theory generation in grounded theory methodology.

In the given figure, the three corners of the triangle represent the three phases involved in the generation of theory according to grounded theory methodology. The left corner represents data collection. In this study, I have collected data primarily from the three books about which I have discussed in the first chapter and the two structured interviews of Dr. Bolter and Dr. Snyder, respectively. The top corner of the triangle represents coding and analysis. Since coding and analysis are very interrelated, I have grouped them together. This is the next phase after data collection and also central to the process of theory building. In this research, I have coded the structured interviews by identifying and grouping the data according to the six variables and the challenges. Then, I have analyzed the information to examine if the hypertext medium is challenging to writers. The codified transcripts along with my comments are located in Appendix B of this paper and the analysis is presented in Chapter 4. The final stage, generation of theory, is represented by the right corner of the triangle. The theory that are generated or the conclusions that I have arrived at are discussed in the final chapter.

According to Naresh R. Pandit in his essay "The Creation of Theory: A Recent Application of Grounded Theory Method", the three basic elements of grounded theory are concepts, categories and propositions. He says that concepts are the basic units of analysis since it is from conceptualization of data, not the raw data, that theory is developed. When the incidents, events, happenings are considered as potential indicators of phenomena, they are given conceptual labels. In my research, the six aspects of writing—authority, audience, organization, document design, style, multimedia use-- may be regarded as concepts. The second element of grounded theory, categories, is higher in level and more abstract than the concepts they represent. When a researcher

discerns that various concepts are directed toward a similar process or phenomenon, then

he or she groups them under a more abstract heading, the category. The categories in my

research are writing for the print medium and writing for the hypertext medium

respectively. The propositions in my research are the conclusions that I arrive at

regarding the challenges faced by the hypertext writer. The figure that follows, Figure

3.2, shows the application of the three elements of grounded theory—concepts, categories

and propositions—in this research.
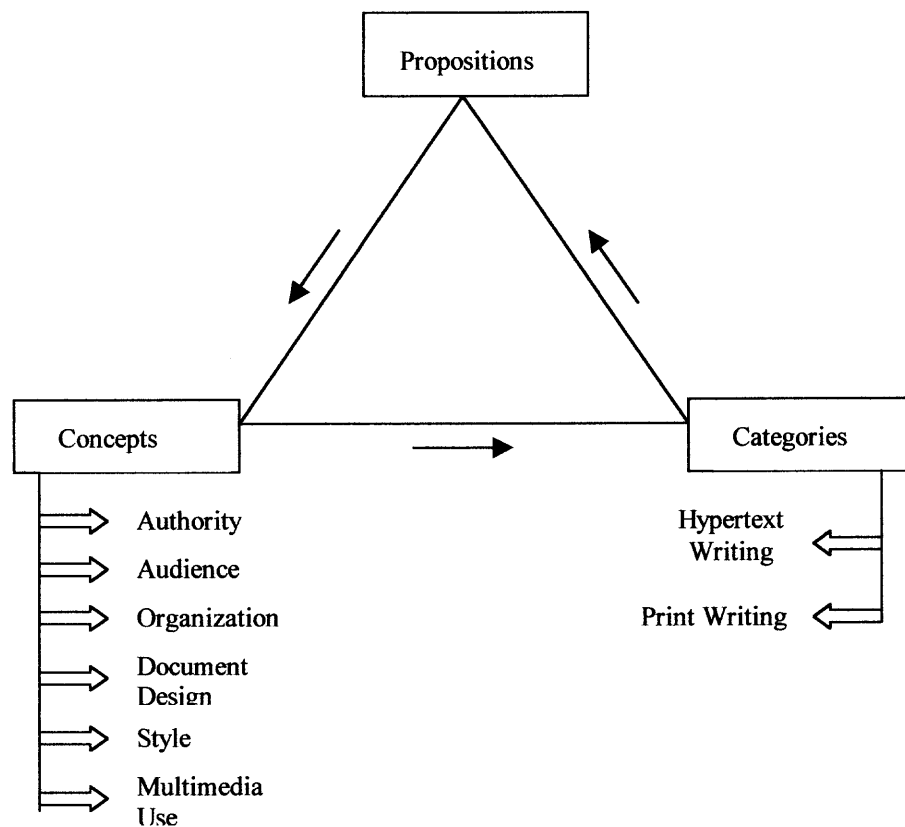


**Figure 3.2** The three elements--Concepts, Categories and Propositions.

In the above figure, the three corners of the given triangle represent the three basic elements of grounded theory. The left corner of the triangle represents concepts; the right corner represents the next element, categories, while the top corner is indicated by propositions. The figure shows the six aspects of writing that are my concepts in this research. The categories are writing for the print medium and writing for the hypertext medium respectively. A close reading of the interviews reveal that two phenomena recur—writing for the print medium and writing for the hypertext medium. The top corner, propositions, is the conclusions that are drawn and discussed in Chapter 5.

# CHAPTER 4

## ANALYSIS

In this chapter, I present an analysis of the relevant views of the three authors, Bolter, Landow and Snyder. The main sources of information are the three books—Bolter's *Writing Space*, Landow's *Hypertext 2.0* and Snyder's *Hypertext*--and two interviews of Dr. Snyder and Dr. Bolter that were conducted on July 22, 2002 and September 29, 2002 respectively. In the following analysis, the challenges of the hypertext writer are examined with respect to the six aspects of writing that were delineated in the previous chapter.

### 4.1 Authority

Bolter states in the interview that the sense of authority is not the same in print and hypertext. The traditional notion of authority in a print text is that the views expressed by the author should be respected and nothing or no one can make changes to a document once it is published. But, hypertext, being changeable, lacks that kind of fixity and hence finality that is present in a print text. So, the sense of authority in the two media is different and cannot be compared. Landow too in his book says that hypertext systems "produce a sense of authorship, authorial property, and creativity that differs markedly from that associated with book technology" (Landow 110).

Like Bolter, Snyder too thinks that fixity of a print document is important to establishing the sense of authority. This is evident in her statements in her interview:"a print text seems to have more authority because it is static. It is there in a particular space

and time and seems unchangeable." According to Snyder, "currently in our culture, because of the hundreds of years of tradition and acceptance of the printed text, it currently does have more authority." Landow explains how hypertext lacks the kind of fixity that is present in a print text. According to him, "unlike the spatial fixity of text reproduced by means of book technology, electronic text always has variation, for no one state or version is ever fixed, it can always be changed. Compared to a printed text, one in electronic form appears relatively dynamic, since it always permits correction, updating, and similar modification. Even without linking, therefore, electronic text abandons the fixity that characterizes print and that provides some of its most important effects on Western culture" (Landow 64).

When asked if less authority makes the job of the hypertext writer more challenging, Bolter answers that this is true only if the hypertext writer is trying to be an author in the printed sense. Here, again he implies that the concept of authority in a hypertext is different from that of a print text. The phrase "if hypertext has other purposes than print" in his comment "if hypertext has other purposes than print, then it is not necessarily more challenging or less challenging," implies that the purpose of hypertext is not to produce texts that are fixed and final, but to produce texts that are dynamic, interactive, ever-changing and easily changeable.

In the interviews, I had one question on authorial control and from Bolter and Snyder's answers it became evident that the hypertext writer does have the opportunity to exert authorial control. When asked how does the writer exert authorial control in a hypertext document, Bolter replies that it can be done rhetorically and also by the way the writer structures the site. Besides, the writer can use other techniques that the print

writers use, such as appeal to his or her expertise or build up the readers' expectations. Both Bolter and Snyder agree that the hypertext writer can exert control by placing appropriate hyperlinks at appropriate places and by giving appropriate choices to the audience.

On the whole, the following conclusions can be drawn from the three authors' views on authority:

- All the three authors agree that the sense of authority in the two media—print and hypertext—is different. It can be further said that owing to this difference in the two media, the two kinds of concepts on authority should not be compared.

- The authors also agree that the fixity of a text is very important in establishing the sense of authority that we associate with print text.

- Less authority makes the job of the hypertext writer more challenging only if the writer tries to be an author in the printed sense.

- Also, the view that the hypertext writer does have the opportunity to exert authorial control is confirmed from the interviews.

- Snyder relates the challenges of the hypertext writer to the fact that we are in a transition point in history. So, according to her, at this point of time culturally the printed text does seem to have more authority.

## 4.2 Audience

In the interview, Bolter agrees that addressing audience in a hypertext environment and promoting interactive reading can be challenging to a writer who is used to writing for the print medium and is new to the hypertext medium because the issue of audience in hypertext is different. In hypertext, the scope of the audience may be wider and the audience is different from that of a print text. Also, its behavior is different in the sense that "they can come to it very casually and leave it very easily." Bolter suggests that a new hypertext writer should understand the fact that, unlike in a printed book, here, he or she has to work very hard to grab and maintain the audience's attention. Another challenge for the hypertext writer lies in the fact that in hypertext, the writer is not just expected to write because, unlike the print medium, hypertext medium is both verbal as well as visual.

In reply to my question on the two subjectivities of the author and the reader in hypertext, Bolter says that part of the challenge for the hypertext writer lies in understanding that the writer in hypertext is not just displaying his subjectivity or expecting the reader to simply participate in it. Here, the implication is that hypertext has a much more active audience, who can create and follow their own paths by their own choice of hyperlinks. Hence, the writer has to structure the web site so that "the user can come to it in a variety of ways and that is harder too." Landow writes that hypertext "permits different readers to traverse it according to their needs and interests." Realizing that this different kind of reading might disorient the readers, Landow points out "writing hypermedia successfully involves finding ways to prevent readers from becoming confused, discouraged or lost when they encounter text in e-space"(Landow 115). He

identifies some problems that readers might have to deal with while using hyperlinks and he explains how the writers can help the readers in this respect.

When asked in order to effectively address audience, what skills are most important for the hypertext writer to develop, Bolter replies that the writer has to develop a whole new set of visual skills. The reason that he gives is that the "web is a very visual medium and it is one in which the author has actually control of the visual expression of the material, which tend not to be true in print." In print, the author typically is just the writer and the layout and the typography are controlled by the publisher. People or readers who visit the web expect a degree of visual specification. Snyder believes that the most important skill to effectively address audience is the ability to identify the needs of the specific audience. While Snyder does not specifically mention what exactly those needs can be hypertext, Bolter does. Bolter states that the audience expects "a degree of visual specification."

Based on the above discussion, the hypertext writer's challenges with regard to audience may be traced due to the following factors:

- The audience for the hypertext medium is different from that of the print medium in their expectations and their behavior.

- In hypertext, the audience expects some degree of verbal specification. Audiences are not interested in pure text anymore.

- A web site needs to be visually attractive in order to grab and maintain the audience's attention.

- Apart from being active, the audience for hypertext is also complex in the sense that a web site often has to cater to a variety of audience with different skills and interests.

On the whole, it can be concluded that the audience for hypertext is complex and to present information to them is an even more complex task.

## 4.3 Organization

Bolter and Snyder differ in their views on organization. According to Bolter, people can visit the web sites with a variety of different levels and specifications. So, that makes organizing a hypertext document more challenging because it has often to be organized in a kind of "layered way" in order to be accessible to different people with different skills, needs and interests. According to Snyder, the process of writing a book is very complex. She does not think that it is necessarily more complex and challenging to organize a hypertext document. She thinks that the organization in hypertext is just slightly different: in hypertext, different devices and conventions are used. She attributes the challenges faced by the hypertext writer to the fact that, unlike the print medium, hypertext lacks the tradition of clearly stated conventions.

Landow points out that unlike the "linear stream of text" in print, hypertext encourages branching and "creating multiple routes to the same point" (Landow 156). Hypertext also encourages the conception of documents in terms of separate brief reading units. Although hypertext permits linear linking, it encourages parallel, rather than linear, arguments. According to Landow, hypertext writers should properly design hypertext documents in order to prevent disorientation. He also identifies four problems that

readers might have to deal with while using hyperlinks and explains how the writers can help the readers to overcome them. While creating web sites, writers should provide adequate orientation, navigation, arrival and departure information to the readers. Firstly, the writers can address the problem of orientation by informing the readers their location within a body of interlinked texts. Secondly, the writers should give the readers navigation information so that they can easily move around within a document and from document to document. The third problem concerns departure information and the writers can address this problem by informing the readers about the destination of the links. The writers can deal with the fourth problem of arrival information by providing the readers with adequate information when they enter a site.

The above discussion reveals that the hypertext writer's challenges with regard to organization are as follows:

- A hypertext document has to be organized in a layered way in order to address a wide variety of people with different skills, needs and interests.

- A hypertext document should be properly designed in order to prevent the readers from getting disoriented. To do this, the writers have to provide adequate orientation, navigation, departure and arrival information to the readers.

## 4.4 Document Design

In his book, Landow points out that there is a considerable presence of visual elements in print text. But, such elements tend to go unnoticed "when contemporary writers contemplate the nature of text in an electronic age"(Landow 60). Visual information in

print is not just limited to the obvious instances, such as illustrations, maps, diagrams, flow charts, or graphs. "The visual components of writing and print technology include spacing between words, paragraphing, changes of type style and size, formatting to indicate passages quoted from other works, assigning specific locations on the page or at the end of sections or of the entire document to indicate reference materials (foot-& endnotes)" (Landow 60).

In the interview, Snyder agrees that it is important for the print writer to pay attention to visual elements. She says that after the invention of the printing press, for hundreds of years books were dominated by the printed word. But, in the twentieth century, we are witnessing "a move away from that to an importance placed on graphics and design, and inclusion of pictures," pictures that are not just illustrations, but are "intrinsic to meaning making." According to Snyder, this phenomenon is evident both in the printed world as well as in the hypertext world. She agrees with and refers to Bolter's view of the very strong interconnections between the print and the hypertext world. In *Writing Space*, Bolter talks about the printed materials' necessity to compete against digital technologies to hold the readers. Bolter states that print is becoming hypermediated as it "incorporates verbal genres and gestures in self-conscious imitation of and rivalry with electronic media, especially the World Wide Web" (Bolter 46).

According to Bolter, the hypertext writer is expected today to create not just plain text, but to integrate the verbal and the visual elements. Writing for the web is much more like graphic design today in that it involves skilful integration of the verbal and the visual elements. According, to him all this happened since 1993, since the first graphical browser for the web was introduced. He states, "It is not just acceptable any more for an

author to write entirely textual content. No one would visit him." To support his view he points out that very few recent web sites are entirely text. The only exceptions are repositories of texts created from print; but they too comprise a small proportion of the total number of available hypertext documents. According to Landow, a fundamental way in which hypertext reconfigures the text is by the inclusion of a far higher percentage of non-verbal information than does print. In his book he also gives various reasons behind this phenomenon. Landow also talks about the importance of creating various orientation devices to assist readers, such as headers, color schemes, header icons and linked icons that appear at the foot of blocks of text.

Both Bolter and Snyder agree that the integration of the verbal and the visual elements are very important to hypertext documents. Snyder's impression is that there is still an emphasis on the verbal in the web. But, she states that the "pages that are probably most successful are those that integrate the visual and the verbal very successfully." It can be said that all three authors agree that proper integration of visual and verbal elements is integral to all hypertext documents.

From the above discussion, the challenges of the hypertext writers can be traced back to the following issues:

- Hypertext writers today are expected not just to write plain text, but also to skillfully integrate the visual and verbal elements in their documents.

- Almost all current writers have been trained to write properly for the print medium. Since they have never been used to pay attention to visual elements before, it is foreign to most of them and therefore harder.

## 4.5 Style

In the interviews, I asked two questions on style: one dealing with conciseness and the other regarding the presentation of text in hypertext. I chose to address these two aspects of style because I realized that these are distinctive features of a hypertext document. Snyder believes that currently the need for a concise style is necessary in a hypertext document because of the current nature of technology and because the audience is unwilling to read too many words. She relates this to the transitional stage that we are in now, where the technology is very much in its infancy. Bolter believes that hypertext documents can be much more expansive and larger compared to their print counterparts, but the style of writing should be much more concise and aphoristic. Like Snyder, he too attributes the need for a concise style to the hypertext readers' unwillingness to read huge pages of "just prose." Landow also agrees with Bolter that a hypertext document can be much more expansive than its print counterpart. He states that the most obvious difference, apart from hyperlinks, between the hypertext and print versions of a document is size. Much more material can be incorporated into a hypertext document than its print counterpart by hyperlinks, which "produce an open-ended, changing, multiply authored Velcro-text" (Landow 158). Hypertext writers can incorporate any number of links while creating a document and thereby expand it. However, he adds that hypertext writers should not unnecessarily expand a document and should include only materials that serve a purpose.

In my next question on style, I asked the authors if they agree with the statement that in order to be user-friendly, the hypertext writer should break up text into smaller pieces of information. Bolter agrees that in hypertext, text should be broken down into

smaller pieces of information because of the difficulty of reading from screen and the unwillingness of the users to read large amounts of text on the screen. He points out that again the only exceptions are the web sites that use the web simply as a repository for existing printed documents. Snyder views that chunks of texts connected by links is a unique feature of hypertext. She adds that whether the text should be broken down into smaller pieces of information depends on the type of hypertext and also on the audience. In his book, Landow writes, "hypermedia encourages the conception of documents in terms of separate brief reading units" (Landow 156). He explains that when constructing web sites, the writer should conceive the text units as brief passages "in order to take maximal advantage of the linking capacities of hypermedia" (Landow 156).

Both Bolter and Snyder agree that a concise style is necessary because the audience for the web is unwilling to read just huge pages of text. All three authors believe that in order to be user-friendly, the hypertext writer should break up text into smaller pieces of information. So, it can be said that for writers who are used to writing for the print medium, the following factors may pose challenges:

- Although hypertext documents can be much more expansive and larger as compared to their print counterparts, their style of writing should be concise and aphoristic.

- In order to be effective, hypertext writers are expected to give up the habit of writing lengthy passages of prose and instead learn to present information in smaller units.

## 4.6 Multimedia Use

I had two questions on multimedia use in my interviews. In response to my question about if it is essential for the print writer to possess knowledge of multimedia, Snyder says that this is going to become increasingly the case. Here, the implication is that she expects it to happen in future. She supports her view by explaining that "when people become more accustomed perhaps even preferring the online technology with the integration of media, may be the print writer is going to be compelled to provide readers with some incentives, some kind of similarity with the online medium." This is in keeping with Bolter's view in his book that in response to multimedia on the web, "print today is continuing to remake itself in order to maintain its claim to represent reality as effectively as digital and other visual technologies" (Bolter 47).

In the interview, Bolter does not agree to the question about whether it is necessary for the print writer to possess knowledge of multimedia. He explains by saying that print is not a multimedia experience except in the sense that it also incorporates static graphics. Bolter says that if by multimedia "we mean the panoply of contemporary media forms that includes digital, then obviously the print writer doesn't need to know that." This view of Bolter can be related to Landow's distinction between static data and kinetic or dynamic data in hypertext documents. Significantly enough, Bolter in his interview with Roy Christopher of frontwheeldrive.com says that the most important trend in the web is toward increasing use of multimedia forms. In this interview, he says "The development of the Mosaic browser in 1993 gave us the Web as a new space for graphic design—the combination of text and static graphics. Now we see animation, digitized video, and sound playing a greater role."

When asked if the hypertext writer should know how to incorporate and integrate multimedia elements in his or her work, Snyder suggests that it would be great if the writer could do so because then the writer would have the independence to do things on his or her own instead of depending on other people, who have the necessary skills. She says that it would be an ideal situation. But, in reality, the writer creates beautiful, professional, multimedia texts by collaborating with other skilled professionals.

Both Bolter and Landow in their books talk about how multimedia elements can heighten the audience's experience of a hypertext document and are therefore very important. The fact that Landow does not distinguish between hypertext and hypermedia suggests how much importance he gives to multimedia elements and how much an integral part of hypertext he considers them to be. It can be said that the aspect of using multimedia in hypertexts can be challenging to writers in the sense that it requires either collaborative effort or it requires the writer to possess multimedia skills. Moreover, in order to be effective, multimedia should be used carefully since it might make the audience passive or an overdoing of it might distract the audience.

With regard to the use of multimedia, the hypertext writer's challenges are as follows:

- With the increasing presence of multimedia in web sites nowadays, the writers have either to learn to use it or to work collaboratively in a team with skilled, multimedia professionals.

## 4.7 Challenges

The last few questions in the interviews deal specifically with the challenges faced by the hypertext writer. I asked both the authors which is more challenging to the hypertext writer: to be artistic or to provide information and I got different answers from them. Snyder gave a very general answer. She said that it depends on the person creating the text and not on the medium as much. Bolter states that there is a big debate about this in web design right now—the artistic approach as opposed to the information architecture approach. He believes that to be effective, a web site needs to be both visually compelling and "well designed in terms of information architecture." He then mentions that many writers today believe that the web should just be an information medium and it should not be a visual experience, but he does not agree with that view.

Both Bolter and Snyder agree that on the whole the job of the hypertext writer is more challenging. Snyder thinks that it is so because of the newness of the medium and lack of a tradition. Bolter states that if the paradigm is that the print writer has to know how to put the words together, then the hypertext writer does have more challenges in the sense of needing more different skills. According to Bolter, the job of the hypertext writer is more challenging in the sense that it requires the writer to possess at least either both visual and verbal communication skills or to work collaboratively in a team. He also distinguishes between the team effort that goes into making a book and a hypertext document by saying that in print clearly the focus is on the writer, while the other members—illustrators, editors—tend to go unnoticed. But, this is not the case in hypertext. Writing for the web, according to him, is rather like making a movie "that requires multiple skills and therefore a team effort."

Both Bolter and Snyder agree that a new rhetoric is necessary to help the hypertext writers. Snyder views this new rhetoric to be a kind of guideline that will not constrain the hypertext writers, but will provide them with a basis. She thinks that the new rhetoric "can be used as a starting point for discussion of ways of thinking about things." Bolter believes that a new rhetoric that is defined by two new dimensions—visual rhetoric and the rhetoric of movement—is necessary. So, hypertext demands a new rhetoric that will address both the visual design and the structural aspect of a document. Paying attention to these two new features can be challenging since print writers have never been used to doing it before.

When asked if the current challenges will diminish in future with technological advancement and better education, both the authors agree that the challenges will always remain. According to Bolter, the nature of the challenge may change as the audience becomes better educated and as the tools advance, but they will always remain. Snyder too believes that the present challenges will be replaced by new ones, but the challenges will always remain.

# CHAPTER 5

# CONCLUSION

In this chapter, I delineate the conclusions that I have drawn from this study and discuss about the future outlook.

## 5.1 Conclusions

It can be concluded that, except for authority, all other predictor variables indicate that the hypertext medium does pose challenges to its writers. Among the six aspects of writing, authority is the most abstract and is highly dependent on the nature of text. The sense of authority is different in the two media—print and hypertext—since the two media are distinctively different with different conventions. We can say that less authority makes the job of the hypertext writer more challenging only if the hypertext writer tries to be an author in the sense of the print medium. Therefore, we discern that the variable authority does not indicate if hypertext is challenging to writers.

Addressing audience in the hypertext environment is complex and hence can be challenging because here the audience is different on the counts of their nature, behavior and expectations. The aspect of organization also poses challenges in the sense that a hypertext document has to be arranged in a layered manner so that a single document can effectively address the needs, interests and skills of a wide variety of people. Besides, the hypertext writer has to take into consideration several new, distinctive features of hypertext, such as hyperlinks and non-linear mode of communication. On the count of document design too, writing for hypertext can be challenging in the sense that here,

unlike in the print medium, the writer is not just expected to write, but to skillfully integrate the verbal and the visual elements in a document. Stylistically, the challenge lies in the fact that the writer is expected to use a concise style and present information in chunks. Since the print writer is expected to use none of these features, they can pose challenges to someone who is a new writer in the hypertext medium. The aspect of using multimedia in hypertext documents can be challenging in the sense that it requires either the writer to possess multimedia skills or a collaborative effort, where the writer works with multimedia professionals in a team.

A closer look, therefore, reveals that the challenges do exist for writers who are used to writing for the print medium and are new to the hypertext medium. These writers have to unlearn several things that they have learnt since childhood and learn a whole set of new skills because, unlike the print medium, the hypertext medium is both visual and verbal. Hypertext writers are expected not just to write but also to skillfully integrate both the verbal and the visual elements in their documents. Hence, the hypertext medium is challenging to writers especially if we try to judge it from the perspective of the print medium. Also, writing for hypertext medium can be challenging in the sense that it requires either an individual writer, who has multiple skills, or collaborative effort.

Most of the challenges are due to the differences in the two media. Hypertext and print are entirely two different media with different conventions. Therefore, it is perhaps illogical to compare which medium is more challenging to writers. An important reason that Snyder provides for the challenges is the fact that we are currently in a transitional point in history, where the hypertext medium is in its infancy, but rapidly evolving. In her introduction to her recent book, *Silicon Literacies*, Snyder writes about our present

predicament: "Now, for the first time in history, the written, oral and audiovisual modalities of communication are integrated into multimodal hypertext systems made accessible via the Internet and the World Wide Web." Bolter refers to this same stage as the late age of print. Almost all current writers of hypertext have been trained to communicate well in the print medium. In order to communicate effectively in the hypertext medium, the basic skills of reading and writing are still very much required. But, besides these skills, the hypertext writers essentially need to be visually literate.

It can be said that a good hypertext writer should move beyond the traditional print literacy and possess other kinds of literacy, such as visual literacy and multimedia literacy. This idea looks forward to Douglas M. Kellner's view of the necessity of cultivating "multiple literacies" in his essay, "Technological Revolution, Multiple Literacies, and the Restructuring of Education", in Snyder's *Silicon Literacies*:

> In regard to reading, writing, and traditional print literacies, one could argue that
> in an era of technological revolution and new technologies, we need to develop
> new forms of media literacy, computer literacy, and multimedia literacies, thus
> cultivating 'multiple literacies' in the restructuring of education. (157)

Interestingly enough, Kellner points out that in today's environment, traditional print literacy, far from ceasing to be important, has become increasingly important since there is a new emphasis on developing reading and writing abilities. The new environment of technological revolution requires people to rapidly process huge amounts of information and to present information with clarity and precision. Kellner justifies the necessity of precise writing by writing that "in this context of information saturation, it becomes an ethical imperative not to contribute to cultural and information overload, and to concisely communicate thoughts and feelings (Kellner 157)."

The interviews reveal that the current challenges will be replaced in future by new ones, but the challenges will always remain. The cause of the challenges can be primarily traced back to the following factors. Unlike the print medium, the hypertext is a new medium where the technology is still in its infancy and there are yet no established conventions. Moreover, we lack the kind of literacy that is essential to write effectively for the new medium. Hence, a new kind of education is necessary where the emphasis will also be on visual literacy and multimedia literacy.

Moreover, a new rhetoric is very much necessary for the hypertext writers. According to Snyder, this rhetoric "can be used as a starting point for discussion of ways of thinking about things." She views the new rhetoric as something that will not constrain the hypertext writers, but will provide them with a basis. Bolter foresees the necessity of a new rhetoric that is controlled and defined by two new dimensions—the visual rhetoric, which deals with visual representation on the page, and the rhetoric of movement, which deals with hyperlinks and linking. Therefore, the new rhetoric will address two new levels, the visual level and the structural level, which will become "important and challenging in a new way." Landow also believes that a new rhetoric that is appropriate for the associative nature of hypertext is very necessary.

## 5.2 Future Outlook

Landow points out that, unlike some other stand-alone hypertext systems, the Web lacks some features, which allow one to easily create rich, interesting hypertext documents. Two such important features that the Web lacks are one-to-many linking and the presence of multiple windows. Let us hope that with technological advancement, these features will be available to the Web in the near future.

Another possible outcome is that the growing presence of multimedia on the web may lead the hypertext theorists to seriously think about the necessity of having rhetoric specifically for multimedia in hypertext. Finally, as the Web becomes more widespread and popular, a new hypertextual style of writing may also gain more acceptances and may even become a norm some day.

# APPENDIX A

## STRUCTURED INTERVIEWS

### Transcript of Interview With Dr. Ilana Snyder

This transcript is from a cassette tape. I interviewed Dr. Ilana Snyder on July 22, 2002.

(Introductory statements)

**Nandita Das:** The writer in which medium—print or hypertext—do you think has more authority over his or her work? Why?

**Ilana Snyder:** By saying that you are concentrating on the World Wide Web as a site for hypertext, I think, even if it is the web, it still depends on whether the user has the capacity to actually alter the website or not just as you do with the stand-alone hypertext systems that you have distinguished, the Storyspace  and the Intermedia. You are not really interested in those, but I think that you are right. ... But, I think, it is whether the degree to which the user or the reader can actually alter. If it is absolutely fixed and there is no kind of capacity to change things, then, I think, the question about who has more authority—in print or hypertext—depends on the kind of hypertext and whether the user has any contact or interaction or the capacity to interact with the person or people who have constructed the hypertext. So, it is all about the degree to which the hypertext is fluid and changeable. So, there is no kind of right or wrong answer. I cannot say either one or the other—that print has more authority. Well, a print text seems to have more authority because it is static. It is there in a particular space and time and seems unchangeable. But, we can do things to a printed text of course as well just as we can do to hypertext. Which has more authority? I think, currently in our culture, because of the

hundreds of years of tradition and acceptance of the printed text, it culturally does have more authority. But, I don't think that that is necessarily permanent. I think that we are in a transition point in history. As online communication expands, becomes more familiar, becomes more widely used and more accepted, particularly not just in the wider world, but also in educational systems, I think that it has the capacity to gain more authority as time proceeds. So, perhaps, the answer at this particular point of time is yes, probably culturally the printed text does seem to have more authority, but this is certainly something that's changeable and not permanent.

**ND:** If currently you think that the print writer has more authority, then do you think that less authority makes the job of the hypertext writer more challenging?

**IS:** That's a good question. It depends; I think, on how much emphasis, how much importance you are placing on authority. That's really something that you have to think about and explain and interpret. Authority...if you are looking at writers such as Roland Barthes, the kind of things that they have said about authority—that it is something that should be explored and opened up and challenged—that notion of authority and I think that's really what you need to do. I think that's what the invention or the availability of hypertext forms of writing is doing more than anything. It is making us think about ideas such as authority.

**ND:** There is no such thing as authorial control in hypertext document. Do you agree with the statement?

**IS:** No, I don't agree with the statement. It is too strong. You know in some kind of situations, the author does have control over the construction of the text. The placing of

the links, what's included and what is not included, which links are there, which links aren't there—these are all parts of the decision making, the control of the hypertext constructor. So, just as the person who writes, constructs or composes the printed text makes similar kinds of decisions…so, the problem with that question is that it is too absolute. It is asking for an either or kind of an answer and I think that setting things up to the binary. An issue that would be interesting to explore is the print text or the print medium as one exclusive way of doing things as opposed to the hypertext medium and something other, something completely different. I think that there is a lot of…I prefer to say that it is almost like a continuum, that there are blurred boundaries. I think that would be a more useful way to think about the differences between the print medium and the hypertext medium.

**ND:** In chapter 4 ("Reconceiving Reading and Writing") of your book, *Hypertext: The Electronic Labyrinth*, you state "through the technology of printing, the author (assisted by the editor and publisher) exercises absolute control over the text. Nothing can be done to it after publication." Later, in this chapter, you say, "the degree of control encountered in a hypertext results partly from the original author's manipulation and partly from the type of software and hardware used." How do you think the original author manipulates or exerts authorial control over the hypertext?

**IS:** I think that the challenge for the hypertext writer is not just a challenge. It is also an opportunity rather than just a challenge. It is also something extraordinarily positive because it is a new medium. It offers the chance for innovation, for problem solving, for creativity, to play with existing conventions, to create new conventions. I think that's really…I think you can look at the challenge as not something that's arduous, as

something that weighs the writer or the constructor of hypertext down, but something that really is very exciting, new and innovative. I see it in a very positive way.

**ND:** That's a very interesting point that you have made. I have never looked at it from this angle before. Now, I would like to ask you two questions regarding audience.

**IS:** Right.

**ND:** Do you think that addressing audience in a hypertext environment and promoting interactive reading can be challenging to a writer who is used to writing for the print medium and is new to the hypertext medium?

**IS:** Well, it's the way, when a writer is creating a text—either in the print or the hypertext medium—and they are thinking about the purpose of the text and also of the audience. But, very often it is not that easy to identify exactly who the audience is and often the text reaches audiences that weren't imagined and weren't predicted by the creator of the text—whether its in print or on hypertext. So, I think that's something that needs to be taken into consideration. The audience is perhaps more unknowable with the hypertext because it can be possibly anybody who has got access to the computer and the Internet. That's although you could also say with a book. It is anybody who has got the capability to either pay for the book or borrow it from the library or borrow it from somebody. Similarly, there is a potentially very, very wide audience. I think when you are constructing a hypertext; you have certain people, certain users in mind with certain value systems, perhaps ways of seeing the world, epistemologies, and you try to construct the text that will meet their needs, their demands, their interests. Probably, I guess that an answer to a lot of your questions is because it is a new medium and the conventions about

how to do things within that medium successfully aren't established lately, that there are not lots and lots of predecessors and earlier texts to model on and to use as there are within the print medium. That makes it more challenging perhaps, especially if you think that writing the way in which we do write. I am talking about the theories about writing, that modeling, that drawing on earlier conventions, that understanding a whole literary tradition helps you to construct something because you are not kind of constructing something in a vacuum. The same with hypertext. You are not constructing something in a vacuum, but there is obviously a tradition to draw upon. So, that affects a lot of your issues, such as writing for a particular audience.

**ND:** Hypertext is still evolving.

**IS:** That's right. Incredibly rapidly! And lots of people are writing in very, very interesting ways about its similarities to earlier media and particularly a book I have just began reading by a guy…I can't think of the name of the guy. The guy is from University of California, San Diego. His book is similar in many ways to Bolter's book, *Remediation*. But, he is much more interested in the influence of films and film theory. It is in many ways arguing that hypertext is really not that new, that it's drawing on a lot of the conventions and understandings of the ways in which we make familiar media, particularly the film. I think that you should take a look at the book. It's a terrific argument. I wish I could remember the name. I am sure that you will find it.

**ND:** Yes, I will. So, this leads me to the next question. In order to effectively address an audience, what skills are most important for the hypertext writer to develop?

**IS:** I find that one hard to…in terms of what skills. Well, it's about, I think its really more about what I have been saying about being able to identify that audience, which is problematic. I don't even know if I could answer that question about a printed book. To have a sense of the audience is something that in a particular kind of writing is easier than in others. If it is an information text of some sort and you are addressing primary school kids, then may be that would be easier if you have a very, very specific audience. But, I don't think that you often do have a very specific audience. It is identifying, I suppose, the needs of the audience.

**ND:** Okay, the next question will be on organization. Do you think that organizing an online document is more complex and challenging than its print counterpart?

**IS:** No, I think that it may be slightly different. But, organizing a print document is a lot like writing a book. The process of writing a book is extraordinarily complex as it is. I don't think that it is necessarily more complex and challenging to organize an online document. It is just slightly different. You are looking at different names. When you are talking about linking and associations, and trying to direct the user to particular things, you are just using different devices and different conventions. That I have already said. Because you don't have the tradition of conventions easily accessible and kind of spelled out as you do in the print medium. Perhaps that makes it more challenging as I have said before and more exciting because you are not constrained by a whole tradition of ways of doing things.

**ND:** The next few questions will address your views on visual design, style and use of multimedia elements. Is it important for the print writer to pay attention to the visual elements, such as non-verbal cues, graphics and document design? Why?

**IS:** Yeah, I think that people in the print medium, of course, pay attention to exactly those things. I think that if you are looking at a printed newspaper as an example of a document, then…I am not sure of what you mean by non-verbal cues in a printed document.

**ND:** You are right. That applies more to hypertext, like use of icons and navigational aides. (Here, I made a mistake. I should have said that by non-verbal cues in a printed document, I mean use of different colors, different typefaces and styles, such as 'bold' and 'italic'.)

**IS:** Yes, absolutely! After the invention of the printing press, for hundreds of years, books were dominated just by the printed word and the verbal dominated. In the 20th century, we are seeing a move away from that to an importance placed on graphics and design, and inclusion of pictures and pictures not just being illustrations, but being absolutely intrinsic to meaning making. We have seen that happening in the print world and I think that's also obviously intrinsic to the hypertext world and the online world. But, I think what is far more interesting is the kind of stuff that Bolter talks about, is the very strong interconnections between the print and the online world. Each is influencing each other. So, the printed newspaper, now in many ways, resembles online documents. The front page of a newspaper very often has what looks like hotlinks to sections later in the newspaper. So, you get a headline often even with an icon. So, you feel like you could almost click on the icon and that would take you to page 10 to get the full text of that particular article. So, there is a lot of kind of transfer and trade between the print medium and the online medium now, the feeding of each other, which, I think, is an extraordinarily interesting crisis.

**ND:** Then, I think, there is also the influence of television.

**IS:** Absolutely! So, the boundaries between different media are becoming more and more blurred and they are all kind of feeding each other and contributing to each other.

**ND:** How important is it for the hypertext writer to pay attention to the visual elements in a document?

**IS:** Very important. I think that so far in online documents, my experience and may be this is incorrect; my impression is that there is still an emphasis on the verbal, that words still dominate the web. But, the pages that are probably most successful are those that integrate the visual and the verbal very successfully, and as we get more experience with doing that, I think, that you are going to see more and more of it in all sorts of extraordinarily exciting and innovative ways.

**ND:** Right. Do you think that the need for conciseness is greater in a hypertext document than its print counterpart? Why?

**IS:** May be that would be true for the moment with the technology developed to the degree that it is. Reading from the screen is still something…it is not as easy as from the printed book and that is because of the resolution and the chunkiness of the technology, but also because we do not have experience of reading from the screen. So, perhaps, you could use the argument that you should minimize the number of words so that people are not going to just leave the space because there are just too many words. But, that's again something that could be explained due to the transitional stage, the period of history that we are in now, where the technology is very much in its infancy and it is developing at a

very rapid rate. It may be that in as little as 10 years, people won't be complaining about reading from the screen as they still do today.

**ND:** Really. In order to be user-friendly, the hypertext writer should break up text into smaller pieces or present information in chunks. Do you agree?

**IS:** Well, that's really the nature of hypertext. It is probably the only really unique feature of the online medium that you have got clearly chunks of text as links are made between them and where the user chooses where to go next. It depends on the type of hypertext, the audience for whom it is being developed. There is no kind of exact answer to give to that.

**ND:** I agree. Is it essential for the print writer to possess knowledge of multimedia?

**IS:** I think that this is going to become increasingly the case. That is coming back to the argument that we discussed earlier and that's because of the very strong connections between the different media and just the fact that online technology integrates the whole range of media in really quite sophisticated ways. When people become more accustomed perhaps even preferring the online technology with the integration of media, may be the print writer is going to be compelled to provide the readers with some incentives, some kind of similarity to the online medium. So, it is again the kind of mutuality, the connections between the two. One of the things that is happening in the print world is that in boutique publishing, you are getting books perhaps more beautiful than they have ever been. It is a way of seducing people into retaining their affiliation for the print medium, and the beauty of the printed text is often achieved through beautiful graphics, extraordinarily attractive cover design, even illustrations within the books

themselves. So, again, you have got the trend, I think, to move away from the exclusively verbal printed book. Anyway, that's again…its all, I am sure, I am certain, I think, as I have said, explaining all of these things in terms of being in a period of transition.

**ND:** How much do you think that the hypertext writer should know how to incorporate and integrate multimedia elements into his or her work?

**IS:** Well, that is always an important question for me as an educator. To what extent? I can just talk about my own experience. I don't have the highly developed technique or skills that allow me to create beautiful, professional, multimedia hypertext. And I think that in the best possible world, it would be great if I could have that independence to do things myself, but I simply haven't got the time to do that kind of development. So, the way I work is with skilled professionals who can do the multimedia through collaboration—two people with different kinds of skills working together. Whether all of the skills could be located in one person in all situations? I don't know. May be that's the ideal. But, I think the reality is people working collaboratively.

**ND:** Now, the last four questions will deal with the challenges faced by the hypertext writer.

Which is more challenging to the hypertext writer, to be artistic or to provide information?

**IS:** Again, it is a very difficult question. It depends on the person, I think, creating the text. I don't think that the medium itself provides barriers to being artistic and being creative. It is up to the individual or the group of individuals working collaboratively in the creation of a website to find ways to be creative.

**ND:** On the whole, do you think that the job of the hypertext writer is more challenging than his or her counterpart in print text?

**IS:** Probably, anyway, you could see that it is more challenging because of the newness of the medium and the lack of a tradition.

**ND:** And also the limitations posed by technology.

**IS:** Absolutely.

**ND:** In your book you talk about the necessity of a "new rhetoric" or "silicon rhetoric" for hypertext. How do you think will this "new rhetoric" help the hypertext writers?

**IS:** Well, it's like having a theoretical underpinning. Explanations of the way things can be done, the way things are being done, even perhaps the way things should be done— that kind of a rhetoric can be really useful as a source or a handbook or something, as a starting point, not necessarily to always to comply with, but, as a starting point to say the way things can be done. But, of course, when you have those ideas written down, you can then depart from them, subvert them, use them in creative ways. But, that rhetoric becomes I guess I am really talking from the point of view of an educator, and I think that codifying stuff, even if it is just criticizing and critiqued, is still an useful exercise because it can help people focus on the issues, on the way things are being done, can be done, should be done. And I think that rhetoric does that. So, it is something that you can, something as I have said, that can be used as a starting point for discussion of ways of thinking about things.

**ND:** So, there is really a need of some kind of guidelines.

**IS:** Yes, it's a guideline. It is not to be seen as something that will constrain hypertext writers, but as something to provide them with a basis.

**ND:** Finally, my last question…Do you believe this challenge will diminish or can be eliminated in future with technological advancement and with better training and education regarding the hypertext environment?

**IS:** I think, of course, things are going to become easier. But, I think that it's the nature of people, that there will always be new challenges, there always will be thinking about ways in which you can subvert what becomes an orthodoxy. And if hypertext becomes an orthodoxy in 10, 20 years, where this is the way that most people are using it, then, there will be a brigade of people, radicals, who will say that "no" this is not the way that things should be. They will come up with a subversion of the new orthodoxy. So, there will be lots of scrambling over the next few years and there will be people positioning themselves and posturing. But, I think, that these will diminish and challenges will continue and new challenges will emerge.

**ND:** This is a very interesting point that you have made. I really like the outlook.

**IS:** You like the outlook (laughs).

(Concluding statements)

## APPENDIX A (CONTINUED)

### Transcript of Interview with Dr. Jay David Bolter

This transcript is from a cassette tape. I interviewed Dr. Jay David Bolter on September 29, 2002.

(Introductory statements)

**Nandita Das:** Shall we begin now?

**Jay Bolter:** Sure.

**Nandita Das:** Okay, the first 3 questions will address your views on authority and authorial control. In your book, *Writing Space: Computers, Hypertext and the Remediation of Print,* you say, "our culture seems to have accepted and endorsed the transient, casual, and generally unauthoritative nature of Web sites." Then you say that an "authoritative Website" is an oxymoron. So, do you think that, currently, in general, the hypertext writer has less authority over his or her work as compared to the print writer?

**Jay Bolter:** Well, yes, obviously in the book I say that because the hypertext writer in the sense of a web page for example just simply doesn't have the sense of the page significance, that fixity, and therefore, the whole communicative act doesn't have the same sense of finality that is very important to establishing authorship and the sense of authority in print.

**ND:** Do you think that less authority makes the job of the hypertext writer more challenging or demanding?

**JB:** Well, only if the hypertext writer is trying to work by the standards of print technology that is if the hypertext writer is trying to be an author in the printed sense,

then, yes, it's challenging because he or she has to assert authority that isn't necessarily assumed by the medium. But, if hypertext has other purposes than print, then it is not necessarily more challenging or less challenging. It is just different.

**ND:** How do you think that the writer exerts authorial control in a hypertext document?

**JB:** Well, you know George Landow talks about the rhetoric of hypertext. You can exert control rhetorically. You can also assert control through the way you structure the site. I other words, depending on the kinds of links, choices that you give your users, you can make the site more or less fixed, more or less rigid, more or less like a printed book. And, that's another way to assert control. Then, you use all the other techniques that authors do in print, that is to say you appeal to your own expertise or you know you build up expectations in the reader about the appropriateness.

**ND:** Now, I would like to ask you a few questions about audience. Do you think that addressing audience in a hypertext environment and promoting interactive reading can be challenging to a writer who is used to writing for the print medium and is new to the hypertext medium?

**JD:** Sure, because the issue of audience is somewhat different. You know the audience for hypertext documents is in fact probably in some ways larger or certainly different from the audience for print. And, also the way that the hypertext audience responds to a hypertext document is different in the sense that they can come to it very casually and leave it very easily. So, it is often contended by hypertext design writers that you have to work very hard to grab and maintain the audience's attention on almost a minute-by-minute or second-by-second basis even more than you have to do in a printed book. And,

a new writer has to understand that. I mean, it is not even just writing because in hypertext, communication is visual as well as verbal. So, that's also challenging.

**ND:** In your book, you say that in print, the subjectivity of the author was expressed at the expense of that of the reader. But, "in electronic hypertext two subjectivities, the author's and reader's encounter one another on nearly equal terms." Does this make the job of the hypertext writer more challenging? (I did not have to ask this question because immediately after replying to my previous question, Dr. Bolter went on to answer this one.)

**JB:** And, in fact, to go on to the next question on subjectivity...part of the challenge is understanding that you are not just displaying your subjectivity or expecting the reader to simply participate in an expression of your point of view in hypertext. But, in fact, you have to structure the web site so that the user can come to it in a variety of ways and that is harder too.

**ND:** Yes right. In order to effectively address an audience, what skills do you think are most important for the hypertext writer to develop?

**JB:** Well, as I think, I have already alluded to it...it takes a whole new set of visual skills. Because, if you are talking about the web here as you are in your set of assumptions at the top, the web is a very visual medium and it is one in which the author has actually control of the visual expression of the material, which tend not to be true in print. In print, the author typically is the writer and then he or she gives the text to a publisher who actually controls you know the layout, the typography. But, that's not true on the web. People or readers or users who visit the web expect a degree of visual specification.

**ND:** The hypertext writer sometimes has to address both laymen and experts in one document.

**JB:** That's true. That's very true. Although you know there is no reason why that couldn't be true for a printed book. The visitors to the web tend to be more eclectic and they are not as tracked as they were as the readers are in print. I mean, in print, you go to a certain book, you go to a certain bookstore, you go to a certain press, you go to a certain section of the library based on not only your needs, but also on your specification; whereas on the web, you can have people coming to web sites with a variety of different levels and specifications. So, that makes organizing a document on the web more challenging than its printed counterpart because it has to be organized in a kind of layered way often. Different audiences can approach the same document.

**JB:** Is it important for the print writer to pay attention to the visual elements, such as non-verbal cues, graphics and document design? (Dr. Bolter himself reads out this question from the list that I sent him before). You mean the web, right!

**ND:** Right. (Here, I made a mistake by overlooking that the question is about the print writer.)

**JB:** Yeah, obviously, as I just indicated, it is very important for the print writer to pay attention to the visual elements. What web site have you seen recently that is entirely print? I mean entirely text. The only web site like that, that I know of, are the ones that are simply repositories of texts created from print.

**ND:** Yes, like electronic versions of theses or dissertations.

**JB:** Yes, academic essays you know that have been essentially translated to the web or I am thinking of textual repositories like Michael Hart's project *Gutenberg*, or the University of Virginia's project or I mean that there are numbers of such textual repositories. But, obviously, there are textual databases in general that might be accessible by the web. But, that is really a very small proportion of the kind of things that are out there.

**ND:** In the preface to your book, you say that the computer is leading us to an "increased emphasis on visual communication." So, does that mean that it has now become more important for the hypertext writer to pay attention to the visual elements in a document?

**JB:** Oh, yeah, I am just echoing what I have already said. In fact, since 1993, since the first graphical browser for the web…that has changed entirely really the definition of what it means to write for the web, to write for this hypertext really, and it means that it is much more like graphic design—the combination of the visual and the verbal. So, authors who don't…I mean, as I have just said before, it is just not acceptable any more for an author to write entirely textual content. No one would visit him.

**ND:** Right. Do you think that the need for conciseness is greater in a hypertext document than its print counterpart?

**JB:** Well, in general, people say "no", that, in fact, hypertext documents can be much more expansive than print because the user can choose to visit certain parts of the site or not. So, you can incorporate much more material. Now, on the other hand, individual pages need to be much more concise in the sense that you have to write text in a more abbreviated fashion because users aren't willing to read huge pages you know of just

prose. So, you need a much more concise or aphoristic style perhaps. But, your whole site can be much larger than a printed book.

**ND:** I agree. In order to be user-friendly, the hypertext writer should break up text into smaller pieces or present information in chunks. Do you agree?

**JB:** Right, I agree. Well, again most web sites does that because of the difficulty of reading from screen and the unwillingness of the users to read large amounts of text on the screen. So, I would agree. Again, the only web sites that don't do that are the ones that use the web simply as a repository for existing printed documents.

**ND:** Right. Is it essential for the print writer to possess knowledge of multimedia?

**JB:** You mean the print writer who is trying to write for hypertext?

**ND:** No, I mean the writer who is writing for the print medium.

**JB:** Oh, no! (Laughs) I mean print is not a multimedia experience. Although I mean except in the sense that it also incorporates static graphics.

**ND:** Photography is a multimedia, right?

**JB:** But frankly, historically, most writers for print have not even been aware of the layout and the visual presentation of their documents. There are enormous exceptions because there are writers who do their own illustrations or take part in the design of their books. But, you know, even the word, multimedia, has changed its meaning because prior to the web, prior to the computer, multimedia meant artworks that contained more than one technique like watercolor and oil or something. That would be multimedia. So, if by multimedia we mean the panoply of contemporary media forms that includes digital, then obviously the print writer doesn't need to know that.

**ND:** Right. (I regret that I overlooked the following question and did not ask it: How much do you think that the hypertext writer should know how to incorporate and integrate multimedia elements into his or her work?)

**ND:** The next few questions will deal with the challenges faced by the hypertext writer. Which is more challenging to the hypertext writer: to be artistic or to provide information on the web?

**JB:** Well, there are a couple of levels to that question I think. You stated in your proviso at the top that you weren't going to include fiction hypertext. You are dealing with non-fiction. So, I am not sure what it means for a non-fiction writer to be artistic unless you mean…it could mean two things—artistic prose or visually enhanced web sites.

**ND:** I mean visually enhanced web sites.

**JB:** There is actually a big debate about this in web design right now—the artistic approach as opposed to the information architecture approach. I think that to be effective a web site need to be both. They need to have visually compelling design and they also need to be well designed in terms of information architecture and the provision of information. But, there are many writers today who say that the web should just be an information medium and it should not be a visual experience. As I said, I don't agree with that.

**ND:** On the whole, do you think that the job of the hypertext writer is more challenging than his or her counterpart in print text?

**JB:** Well, it is more challenging in the sense that it requires at least either knowledge of both visual as well as verbal communication, or working in a team so that you can put

this together. I mean in a certain sense, writing for the web or designing web site is rather like making a movie or some other media form that requires multiple skills and usually therefore a team effort. Whereas, printing a book is in fact a team effort except that there the emphasis is completely placed on one member of the team, the author of the text, and we tend to forget the other members. If that is the paradigm you know, that the print writer has to know how to put the words together, then the hypertext writer does have more challenges in the sense of needing more different skills.

**ND:** Do you believe that this challenge is positive?

**JB:** Well, I mean…I don't think it makes sense to put a judgment on it one way or the other. It is a different medium. It's like saying is it harder to be a photographer than it is to be a playwright? Is it harder to be a painter than it is to be a novelist? This is very different.

**ND:** I understand. Do you think that a "new rhetoric" is necessary for hypertext writers and will help them?

**JB:** Well, yeah again, as what I have been saying…a new rhetoric that is controlled or defined by two new dimensions. One is the visual representation on the page, that is a kind of visual rhetoric, and the second is the rhetoric of movement because with hypertext, with web sites, you have to move from one page to potentially many other pages. So, the structural level, the design, becomes important and challenging in a new way and neither of those have been things that print writers have been used to.

**ND:** Right. Do you believe this challenge will diminish or can be eliminated in future with technological advancement and with better training and education regarding the hypertext environment?

**JB:** No, I don't think the challenges are ever, I mean removed, that is to say to be successful and expressive in any medium is a challenge. So, as your audience becomes better educated, as tools advance, the nature of the challenge changes. But, you still have to work hard and be creative in order to be effective to express yourself.

**ND:** I have one more question, which I thought about this evening. Can I ask it?

**JB:** Yes.

**ND:** I have read your interview with Roy Christopher from frontwheeldrive.com. There, you have remarked that both hypertexts and linear texts are highly artificial forms of writing since both have to be learned. Now, my question is, among print and hypertext, which medium do you think is more artificial and writing for which medium is more difficult to learn?

**JB:** Artificial is not something that is in degree. They are all artificial and neither is more natural, neither is less natural. As far as which is more difficult to learn is concerned, right now, web design is more difficult to learn because it is a newer form that seems to combine a whole set of talents that we are not used to developing. You know one of the things that we do in school, the thing that we do in school most and have traditionally done most is learn how to write well and read obviously. Print literacy in both directions, both dimensions, that is to say. We don't have in school the same kind of training for visual literacy and since web design demands a lot of visual literacy, this is foreign to

most of us and therefore harder. With a new educational approach you know, with changing educational standards perhaps in the future, we might find those skills more common and therefore somewhat easier. But, you know the challenge will remain.

**ND:** This is all very interesting.

(Concluding statements)

**STRUCTURED INTERVIEWS WITH COMMENTS**

**Transcript of Interview With Dr. Ilana Snyder (Codified Version)**

This transcript is from a cassette tape. I interviewed Dr. Ilana Snyder on July 22, 2002.

(Introductory statements)

**Nandita Das:** The writer in which medium—print or hypertext—do you think has more authority over his or her work? Why?

**Ilana Snyder:** By saying that you are concentrating on the World Wide Web as a site for hypertext, I think, even if it is the web, it still depends on whether the user has the capacity to actually alter the website or not just as you do with the stand-alone hypertext systems that you have distinguished, the Storyspace and the Intermedia. You are not really interested in those, but I think that you are right. ... But, I think, it is whether the degree to which the user or the reader can actually alter. If it is absolutely fixed and there is no kind of capacity to change things, then, I think, the question about who has more authority—in print or hypertext—depends on the kind of hypertext and whether the user has any contact or interaction or the capacity to interact with the person or people who have constructed the hypertext. So, it is all about the degree to which the hypertext is fluid and changeable. So, there is no kind of right or wrong answer. I cannot say either one or the other—that print has more authority. Well, a print text seems to have more authority because it is static. It is there in a particular space and time and seems unchangeable[ND1]. But, we can do things to a printed text of course as well just as we

can do to hypertext. Which has more authority? I think, currently in our culture, because of the hundreds of years of tradition and acceptance of the printed text, it culturally does have more authority. But, I don't think that that is necessarily permanent. I think that we are in a transition point in history. As online communication expands, becomes more familiar, becomes more widely used and more accepted, particularly not just in the wider world, but also in educational systems, I think that it has the capacity to gain more authority as time proceeds. So, perhaps, the answer at this particular point of time is yes, probably culturally the printed text does seem to have more authority, but this is certainly something that's changeable and not permanent[ND2].

**ND:** If currently you think that the print writer has more authority, then do you think that less authority makes the job of the hypertext writer more challenging?

**IS:** That's a good question. It depends; I think, on how much emphasis, how much importance you are placing on authority. That's really something that you have to think about and explain and interpret. Authority…if you are looking at writers such as Roland Barthes, the kind of things that they have said about authority—that it is something that should be explored and opened up and challenged—that notion of authority and I think that's really what you need to do. I think that's what the invention or the availability of hypertext forms of writing is doing more than anything. It is making us think about ideas such as authority.

**ND:** There is no such thing as authorial control in hypertext document. Do you agree with the statement?

**IS:** No, I don't agree with the statement. It is too strong. You know in some kind of situations, the author does have control over the construction of the text. The placing of the links, what's included and what is not included, which links are there, which links aren't there—these are all parts of the decision making, the control of the hypertext constructor[ND3]. So, just as the person who writes, constructs or composes the printed text makes similar kinds of decisions…so, the problem with that question is that it is too absolute. It is asking for an either/or kind of an answer and I think that setting things up to the binary. An issue that would be interesting to explore is the print text or the print medium as one exclusive way of doing things as opposed to the hypertext medium and something other, something completely different. I think that there is a lot of…I prefer to say that it is almost like a continuum, that there are blurred boundaries. I think that would be a more useful way to think about the differences between the print medium and the hypertext medium.

**ND:** In chapter 4 ("Reconceiving Reading and Writing") of your book, *Hypertext: The Electronic Labyrinth*, you state "through the technology of printing, the author (assisted by the editor and publisher) exercises absolute control over the text. Nothing can be done to it after publication." Later, in this chapter, you say, "the degree of control encountered in a hypertext results partly from the original author's manipulation and partly from the type of software and hardware used." How do you think the original author manipulates or exerts authorial control over the hypertext?

**IS:** I think that the challenge for the hypertext writer is not just a challenge. It is also an opportunity rather than just a challenge. It is also something extraordinarily positive because it is a new medium. It offers the chance for innovation, for problem solving, for

creativity, to play with existing conventions, to create new conventions. I think that's really...I think you can look at the challenge as not something that's arduous, as something that weighs the writer or the constructor of hypertext down, but something that really is very exciting, new and innovative. I see it in a very positive way[ND4].

**ND:** That's a very interesting point that you have made. I have never looked at it from this angle before. Now, I would like to ask you two questions regarding audience.

**IS:** Right.

**ND:** Do you think that addressing audience in a hypertext environment and promoting interactive reading can be challenging to a writer who is used to writing for the print medium and is new to the hypertext medium?

**IS:** Well, it's the way, when a writer is creating a text—either in the print or the hypertext medium—and they are thinking about the purpose of the text and also of the audience. But, very often it is not that easy to identify exactly who the audience is and often the text reaches audiences that weren't imagined and weren't predicted by the creator of the text—whether its in print or on hypertext. So, I think that's something that needs to be taken into consideration. The audience is perhaps more unknowable with the hypertext because it can be possibly anybody who has got access to the computer and the Internet. That's although you could also say with a book. It is anybody who has got the capability to either pay for the book or borrow it from the library or borrow it from somebody. Similarly, there is a potentially very, very wide audience. I think when you are constructing a hypertext; you have certain people, certain users in mind with certain value systems, perhaps ways of seeing the world, epistemologies, and you try to construct the

text that will meet their needs, their demands, their interests. Probably, I guess that an answer to a lot of your questions is because it is a new medium and the conventions about how to do things within that medium successfully aren't established lately, that there are not lots and lots of predecessors and earlier texts to model on and to use as there are within the print medium. That makes it more challenging perhaps[ND>], especially if you think that writing the way in which we do write. I am talking about the theories about writing, that modeling, that drawing on earlier conventions, that understanding a whole literary tradition helps you to construct something because you are not kind of constructing something in a vacuum. The same with hypertext. You are not constructing something in a vacuum, but there is obviously a tradition to draw upon. So, that affects a lot of your issues, such as writing for a particular audience.

**ND:** Hypertext is still evolving.

**IS:** That's right. Incredibly rapidly! And lots of people are writing in very, very interesting ways about its similarities to earlier media and particularly a book I have just began reading by a guy…I can't think of the name of the guy. The guy is from University of California, San Diego. His book is similar in many ways to Bolter's book, *Remediation*. But, he is much more interested in the influence of films and film theory. It is in many ways arguing that hypertext is really not that new, that it's drawing on a lot of the conventions and understandings of the ways in which we make familiar media, particularly the film. I think that you should take a look at the book. It's a terrific argument. I wish I could remember the name. I am sure that you will find it.

**ND:** Yes, I will. So, this leads me to the next question. In order to effectively address an audience, what skills are most important for the hypertext writer to develop?

**IS:** I find that one hard to…in terms of what skills. Well, it's about, I think its really more about what I have been saying about being able to identify that audience, which is problematic. I don't even know if I could answer that question about a printed book. To have a sense of the audience is something that in a particular kind of writing is easier than in others. If it is an information text of some sort and you are addressing primary school kids, then may be that would be easier if you have a very, very specific audience. But, I don't think that you often do have a very specific audience. It is identifying, I suppose, the needs of the audience[ND6].

**ND:** Okay, the next question will be on organization. Do you think that organizing an online document is more complex and challenging than its print counterpart?

**IS:** No, I think that it may be slightly different. But, organizing a print document is a lot like writing a book. The process of writing a book is extraordinarily complex as it is. I don't think that it is necessarily more complex and challenging to organize an online document[ND7]. It is just slightly different. You are looking at different names. When you are talking about linking and associations, and trying to direct the user to particular things, you are just using different devices and different conventions. That I have already said. Because you don't have the tradition of conventions easily accessible and kind of spelled out as you do in the print medium. Perhaps that makes it more challenging as I have said before and more exciting because you are not constrained by a whole tradition of ways of doing things.

**ND:** The next few questions will address your views on visual design, style and use of multimedia elements. Is it important for the print writer to pay attention to the visual elements, such as non-verbal cues, graphics and document design? Why?

**IS:** Yeah, I think that people in the print medium, of course, pay attention to exactly those things[ND8]. I think that if you are looking at a printed newspaper as an example of a document, then…I am not sure of what you mean by non-verbal cues in a printed document.

**ND:** You are right. That applies more to hypertext, like use of icons and navigational aides. (Here, I made a mistake. I should have said that by non-verbal cues in a printed document, I mean use of different colors, different typefaces and styles, such as 'bold' and 'italic'.)

**IS:** Yes, absolutely! After the invention of the printing press, for hundreds of years, books were dominated just by the printed word and the verbal dominated. In the 20th century, we are seeing a move away from that to an importance placed on graphics and design, and inclusion of pictures and pictures not just being illustrations, but being absolutely intrinsic to meaning making. We have seen that happening in the print world and I think that's also obviously intrinsic to the hypertext world and the online world[ND9]. But, I think what is far more interesting is the **kind** of stuff that Bolter talks about, is the very strong interconnections between the print and the online world. Each is influencing each other. So, the printed newspaper, now in many ways, resembles online documents. The front page of a newspaper very often has what looks like hotlinks to sections later in the newspaper. So, you get a headline often even with an icon. So, you feel like you could almost click on the icon and that would take you to page 10 to get the full text of that particular article. So, there is a lot of kind of transfer and trade between the print medium and the online medium now, the feeding of each other, which, I think, is an extraordinarily interesting crisis.

**ND:** Then, I think, there is also the influence of television.

**IS:** Absolutely! So, the boundaries between different media are becoming more and more blurred and they are all kind of feeding each other and contributing to each other.

**ND:** How important is it for the hypertext writer to pay attention to the visual elements in a document?

**IS:** Very important. I think that so far in online documents, my experience and may be this is incorrect; my impression is that there is still an emphasis on the verbal, that words still dominate the web. But, the pages that are probably most successful are those that integrate the visual and the verbal very successfully, and as we get more experience with doing that, I think, that you are going to see more and more of it in all sorts of extraordinarily exciting and innovative ways[ND10].

**ND:** Right. Do you think that the need for conciseness is greater in a hypertext document than its print counterpart? Why?

**IS:** May be that would be true for the moment with the technology developed to the degree that it is[ND11]. Reading from the screen is still something…it is not as easy as from the printed book and that is because of the resolution and the chunkiness of the technology, but also because we do not have experience of reading from the screen. So, perhaps, you could use the argument that you should minimize the number of words so that people are not going to just leave the space because there are just too many words. But, that's again something that could be explained due to the transitional stage, the period of history that we are in now, where the technology is very much in its infancy and

it is developing at a very rapid rate. It may be that in as little as 10 years, people won't be complaining about reading from the screen as they still do today.

**ND:** Really. In order to be user-friendly, the hypertext writer should break up text into smaller pieces or present information in chunks. Do you agree?

**IS:** Well, that's really the nature of hypertext. It is probably the only really unique feature of the online medium. As you have got clearly chunks of text and links are made between them and where the user chooses where to go next. It depends on the type of hypertext, the audience for whom it is being developed. There is no kind of exact answer to give to that[ND12].

**ND:** I agree. Is it essential for the print writer to possess knowledge of multimedia?

**IS:** I think that this is going to become increasingly the case[ND13]. That is coming back to the argument that we discussed earlier and that's because of the very strong connections between the different media and just the fact that online technology integrates the whole range of media in really quite sophisticated ways. When people become more accustomed perhaps even preferring the online technology with the integration of media, may be the print writer is going to be compelled to provide the readers with some incentives, some kind of similarity to the online medium. So, it is again the kind of mutuality, the connections between the two. One of the things that is happening in the print world is that in boutique publishing, you are getting books perhaps more beautiful than they have ever been. It is a way of seducing people into retaining their affiliation for the print medium, and the beauty of the printed text is often achieved

through beautiful graphics, extraordinarily attractive cover design, even illustrations within the books themselves. So, again, you have got the trend, I think, to move away from the exclusively verbal printed book. Anyway, that's again…its all, I am sure, I am certain, I think, as I have said, explaining all of these things in terms of being in a period of transition.

**ND:** How much do you think that the hypertext writer should know how to incorporate and integrate multimedia elements into his or her work?

**IS:** Well, that is always an important question for me as an educator. To what extent? I can just talk about my own experience. I don't have the highly developed technique or skills that allow me to create beautiful, professional, multimedia hypertext. And I think that in the best possible world, it would be great if I could have that independence to do things myself, but I simply haven't got the time to do that kind of development. So, the way I work is with skilled professionals who can do the multimedia through collaboration—two people with different kinds of skills working together. Whether all of the skills could be located in one person in all situations? I don't know. May be that's the ideal. But, I think the reality is people working collaboratively[ND14].

**ND:** Now, the last four questions will deal with the challenges faced by the hypertext writer.

Which is more challenging to the hypertext writer, to be artistic or to provide information?

**IS:** Again, it is a very difficult question. It depends on the person, I think, creating the text. I don't think that the medium itself provides barriers to being artistic and being

creative. It is up to the individual or the group of individuals working collaboratively in the creation of a website to find ways to be creative.

**ND:** On the whole, do you think that the job of the hypertext writer is more challenging than his or her counterpart in print text?

**IS:** Probably, anyway, you could see that it is more challenging because of the newness of the medium and the lack of a tradition[ND15].

**ND:** And also the limitations posed by technology.

**IS:** Absolutely.

**ND:** In your book you talk about the necessity of a "new rhetoric" or "silicon rhetoric" for hypertext. How do you think will this "new rhetoric" help the hypertext writers?

**IS:** Well, it's like having a theoretical underpinning. Explanations of the way things can be done, the way things are being done, even perhaps the way things should be done— that kind of a rhetoric can be really useful as a source or a handbook or something, as a starting point, not necessarily to always to comply with, but, as a starting point to say the way things can be done. But, of course, when you have those ideas written down, you can then depart from them, subvert them, use them in creative ways. But, that rhetoric becomes because I am basically talking from the point of view of an educator, and I think that codifying stuff even if it is just criticizing and critiqued, is still an useful exercise because it can help people focus on the issues, on the way things are being done, can be done, should be done. And I think that rhetoric does that. So, it is something that you can, something as I have said, that can be used as a starting point for discussion of ways of thinking about things[ND16].

**ND:** So, there is really a need of some kind of guidelines.

**IS:** Yes, it's a ... this is not to be seen as something that will constrain hypertext writers, but ... something to provide them with a basis[ND17].

**ND:** Finally, my last question…Do you believe this challenge will diminish or can be eliminated in future with technological advancement and with better training and education regarding the hypertext environment?

**IS:** I think, of course, things are going to become easier. But, I think that it's the nature of people, that there will always be new challenges, there always will be thinking about ways in which you can subvert what becomes an orthodoxy. And if hypertext becomes an orthodoxy in 10, 20 years, where this is the way that most people are using it, then, there will be a brigade of people, radicals, who will say that "no" this is not the way that things should be. They will come up with a subversion of the new orthodoxy. So, there will be lots of scrambling over the next few years and there will be people positioning themselves and posturing. But, I think, that these will diminish and challenges will continue and new challenges will emerge[ND18].

**ND:** This is a very interesting point that you have made. I really like the outlook.

**IS:** You like the outlook (laughs).

(Concluding statements)

APPENDIX B (CONTINUED)

Transcript of Interview With Dr. Jay David Bolter (Codified Version)

This transcript is from a cassette tape. I interviewed Dr. Jay David Bolter on September 29, 2002.

(Introductory statements)

**Nandita Das:** Shall we begin now?

**Jay Bolter:** Sure.

**Nandita Das:** Okay, the first 3 questions will address your views on authority and authorial control. In your book, *Writing Space: Computers, Hypertext and the Remediation of Print*, you say, "our culture seems to have accepted and endorsed the transient, casual, and generally unauthoritative nature of Web sites." Then you say that an "authoritative Website" is an oxymoron. So, do you think that, currently, in general, the hypertext writer has less authority over his or her work as compared to the print writer?

**Jay Bolter:** Well, yes, obviously in the book I say that because the hypertext writer in the sense of a web page for example just simply doesn't have the sense of the page significance, that fixity, and therefore, the whole communicative act doesn't have the same sense of finality that is very important to establishing authorship and the sense of authority in print[ND19].

**ND:** Do you think that less authority makes the job of the hypertext writer more challenging or demanding?

**JB:** Well, only if the hypertext writer is trying to work by the standards of print technology that is if the hypertext writer is trying to be an author in the printed sense, then, yes, its challenging because he or she has to assert authority that isn't necessarily assumed by the the time. But, if hypertext has other purposes than print, then it is not necessarily more challenging or less challenging. It is just different [ND20].

**ND:** How do you think that the writer exerts authorial control in a hypertext document?

**JB:** Well, you know George Landow talks about the rhetoric of hypertext. You can exert control rhetorically. You can also assert control through the way you structure the site. I other words, depending on the kinds of links, choices that you give your users, you can make the site more or less fixed, more or less rigid, more or less like a printed book. And, that's another way to assert control. Then, you use all the other techniques that authors do in print, that is to say you appeal to your own expertise or you know you build up expectations in the reader about the appropriateness[ND21].

**ND:** Now, I would like to ask you a few questions about audience. Do you think that addressing audience in a hypertext environment and promoting interactive reading can be challenging to a writer who is used to writing for the print medium and is new to the hypertext medium?

**JD:** Sure, because the issue of audience is somewhat different. You know the audience for hypertext documents is in fact probably in some ways larger or certainly different from the audience for print. And, also the way that the hypertext audience responds to a hypertext document is different in the sense that they can come to it very casually and leave it very easily. So, it is a much harder by hypertext designer writers that you have to

work very hard to grab and maintain the audience's attention on almost a minute-by-minute or second-by-second basis even more than you have to do in a printed book. And, a new writer has to understand that. I mean, it is not even just writing because in hypertext, communication is visual as well as verbal. So, that's also challenging[ND22].

**ND:** In your book, you say that in print, the subjectivity of the author was expressed at the expense of that of the reader. But, "in electronic hypertext two subjectivities, the author's and reader's encounter one another on nearly equal terms." Does this make the job of the hypertext writer more challenging? (I did not have to ask this question because immediately after replying to my previous question, Dr. Bolter went on to answer this one.)

**JB:** And, in fact, to go on to the next question on subjectivity…part of the challenge is understanding that you are not just displaying your subjectivity or expecting the reader to simply participate in an expression of your point of view in hypertext. But, in fact, you have to structure the web site so that the user can come to it in a variety of ways and that is harder too[ND23].

**ND:** Yes right. In order to effectively address an audience, what skills do you think are most important for the hypertext writer to develop?

**JB:** Well, as I think, I have already alluded to it…it takes a whole new set of visual skills. Because, if you are talking about the web here as you are in your set of assumptions at the top, the web is a very visual medium and it is one in which the author has actually control of the visual expression of the material, which tend not to be true in print. In print, the author typically is the writer and then he or she gives the text to a publisher who

actually controls you know the layout, the typography. But, that's not true on the web. People or readers or users who visit the web expect a degree of visual specification[ND24].

**ND:** The hypertext writer sometimes has to address both laymen and experts in one document.

**JB:** That's true. That's very true. Although you know there is no reason why that couldn't be true for a printed book. The visitors to the web tend to be more eclectic and they are not as tracked as they were as the readers are in print. I mean, in print, you go to a certain book, you go to a certain bookstore, you go to a certain press, you go to a certain section of the library based on not only your needs, but also on your specification; whereas on the web, you can have people coming to web, ies with a variety of different levels and specifications. So, that makes organizing a document on the web much more challenging than its printed counterpart because it has to be organized in a kind of layered way often. Different audiences can approach the same document[ND25].

**JB:** Is it important for the print writer to pay attention to the visual elements, such as non-verbal cues, graphics and document design? (Dr. Bolter himself reads out this question from the list that I sent him before). You mean the web, right!

**ND:** Right. (Here, I made a mistake by overlooking that the question is about the print writer.)

**JB:** Yeah, obviously, as I just indicated, it is very important for the print writer to pay attention to the visual elements. What web site have you seen recently that is entirely

print" human entirely text. The only web site like that that I know are the ones that are simply repositories of text converted from print[ND26].

**ND:** Yes, like electronic versions of theses or dissertations.

**JB:** Yes, academic essays you know that have been essentially translated to the web or I am thinking of textual repositories like Michael Hart's project *Gutenberg*, or the University of Virginia's project or I mean that there are numbers of such textual repositories. But, obviously, there are textual databases in general that might be accessible by the web. But, that is really a very small proportion of the kind of things that are out there.

**ND:** In the preface to your book, you say that the computer is leading us to an "increased emphasis on visual communication." So, does that mean that it has now become more important for the hypertext writer to pay attention to the visual elements in a document?

**JB:** Oh, yeah, I am just echoing what I have already said. In fact, since 1993, since the first graphical browser for the web...that has changed entirely really the definition of what it means to write for the web, to write for this hypertext really, and it means that it is much more like graphic design—the combination of the visual and the verbal. So, authors who don't...I mean, as I have just said before, it is just not acceptable any more for an author to write entirely textual content. No one would visit him[ND27].

**ND:** Right. Do you think that the need for conciseness is greater in a hypertext document than its print counterpart?

**JB:** Well, in general, people say "no", that, in fact, hypertext documents can be much more expansive than print because the user can choose to visit certain parts of the site or

not. So, you can incorporate much more material. Now, on the other hand, individual pages need to be much more concise in the sense that you have to write text in a more abbreviated fashion because users aren't willing to read huge pages you know of just prose. So, textually, much more in the aphoristic style, perhaps. But, your whole site can be much larger than a printed book[ND28].

**ND:** I agree. In order to be user-friendly, the hypertext writer should break up text into smaller pieces or present information in chunks. Do you agree?

**JB:** Right, I agree. Well, again most web sites does that because of the difficulty of reading from screen and the unwillingness of the users to read large amounts of text on the screen. So, I would agree[ND29]. Again, the only web sites that don't do that are the ones that use the web simply as a repository for existing printed documents.

**ND:** Right. Is it essential for the print writer to possess knowledge of multimedia?

**JB:** You mean the print writer who is trying to write for hypertext?

**ND:** No, I mean the writer who is writing for the print medium.

**JB:** Oh, no! (Laughs) I mean print is not a multimedia experience. Although I mean except in the sense that it also incorporates static graphics[ND30].

**ND:** Photography is a multimedia, right?

**JB:** But frankly, historically, most writers for print have not even been aware of the layout and the visual presentation of their documents. There are enormous exceptions because there are writers who do their own illustrations or take part in the design of their books. But, you know, even the word, multimedia, has changed its meaning because prior to the web, prior to the computer, multimedia meant artworks that contained more than

one technique like watercolor and oil or something. That would be multimedia. So, if by multimedia we mean the panoply of contemporary media forms that includes digital, then obviously the print writer doesn't need to know that[ND31].

**ND:** Right. (I regret that I overlooked the following question and did not ask it: How much do you think that the hypertext writer should know how to incorporate and integrate multimedia elements into his or her work?)

**ND:** The next few questions will deal with the challenges faced by the hypertext writer.

Which is more challenging to the hypertext writer: to be artistic or to provide information on the web?

**JB:** Well, there are a couple of levels to that question I think. You stated in your proviso at the top that you weren't going to include fiction hypertext. You are dealing with non-fiction. So, I am not sure what it means for a non-fiction writer to be artistic unless you mean…it could mean two things—artistic prose or visually enhanced web sites.

**ND:** I mean visually enhanced web sites.

**JB:** There is actually a big debate about this in web design right now—the artistic approach as opposed to the information architecture approach. I think that to be effective a website needs to be both. They need to have visually compelling design and they also need to be well designed in terms of information architecture and the provision of information. But, there are many writers today who say that the web should just be an information medium and it should not be a visual experience. As I said, I don't agree with that[ND32].

**ND:** On the whole, do you think that the job of the hypertext writer is more challenging than his or her counterpart in print text?

**JB:** Well, it is more challenging in the sense that it requires at least either knowledge of both is... the verbal communication, or working in a team so that ... can put it together. I mean in a certain sense, writing for the web or designing web site is rather like making a movie or some other media form that requires multiple skills and usually there are a team effort. Whereas, printing a book is in fact a team effort except that then the emphasis is completely placed on one member of the team, the author of the text, and we tend to ignore the other members. If that is the paradigm you know, that the print writer has to know how to put the words together, then the hyper text writer does have more challenges in the sense of needing more different skills[ND33].

**ND:** Do you believe that this challenge is positive?

**JB:** Well, I mean…I don't think it makes sense to put a judgment on it one way or the other. It is a different medium. It's like saying is it harder to be a photographer than it is to be a playwright? Is it harder to be a painter than it is to be a novelist? This is very different.

**ND:** I understand. Do you think that a "new rhetoric" is necessary for hypertext writers and will help them?

**JB:** Well, yeah again, as what I have been saying…a new rhetoric that is controlled or defined by two new dimensions. One is the visual representation on the page, that is a kind of visual rhetoric, and the second is the rhetoric of movement because with hypertext, with websites, you have to move from one page to potentially many other

pages. So, the structural level, the design, becomes important and challenging in a new way and neither of those have been things that print writers have been used to[ND34].

**ND:** Right. Do you believe this challenge will diminish or can be eliminated in future with technological advancement and with better training and education regarding the hypertext environment?

**JB:** No, I don't think the challenges are ever, I mean removed, that is to say to be successful and expressive in any medium is a challenge. So, as your audience becomes better educated, as tools advance, the nature of the challenge changes. But, you still have to work hard and be creative in order to be effective to express yourself[ND35].

**ND:** I have one more question, which I thought about this evening. Can I ask it?

**JB:** Yes.

**ND:** I have read your interview with Roy Christopher from frontwheeldrive.com. There, you have remarked that both hypertexts and linear texts are highly artificial forms of writing since both have to be learned. Now, my question is, among print and hypertext, which medium do you think is more artificial and writing for which medium is more difficult to learn?

**JB:** Artificial is not something that is in degree. They are all artificial and neither is more natural, neither is less natural. As far as which is more difficult to learn is concerned, right now, web design is more difficult to learn because it is a new form that seems to combine a whole set of talents that we are not used to developing[ND36]. You know one of the things that we do in school, the thing that we do in school most and have traditionally done most is learn how to write well and read obviously. Print literacy in

both directions, both dimensions, that is to say. We don't have in school the same kind of training for visual literacy and since web design demands a lot of visual literacy, this is foreign to most of us and therefore harder. With a new educational approach [ND37]you know, with changing educational standards perhaps in the future, we might find those skills more common and therefore somewhat easier. But, you know the challenge will remain.

**ND:** This is all very interesting.

(Concluding statements)

# Comments on Snyder's Transcript

Page: 80

[ND1] Authority: Snyder thinks that fixity of a print document is important to establishing authority.

Page: 81

[ND2] Authority: She says that currently, culturally the print text seems to have more authority.

Page: 82

[ND3] Authority: Snyder thinks that a writer in a hypertext document can exert authorial control by using appropriate links, their locations and providing selected content matter.

Page: 83

[ND4] Challenge: Interestingly enough, she views the challenge as very positive because it offers a chance to be innovative, creative and to create new conventions.

Page: 84

[ND5] Challenge: Here she talks about the reasons behind the current challenges: hypertext is a new medium and it does not have any established conventions.

Page: 85

[ND6] Audience: Snyder views that the most important skill for the hypertext writer is the ability to identify the needs of his or her audience.

Page: 85

[ND7] Organization: This answer is unexpected because I expected her to say that organizing a hypertext document is more complex. She thinks that organizing a hypertext is not necessarily more challenging than organizing a print text. Organization, in the two

media, is just slightly different. However, she adds that it may be more challenging and exciting to write in a hypertext environment because its conventions are not yet established.

Page: 85

[ND8] Document Design: Snyder agrees that a print writer has to pay attention to the visual elements, such as non-verbal cues, graphics and document design.

Page: 86

[ND9] Document Design: Here, she talks about the growing importance of the visual.

Page: 87

[ND10] Document Design: Snyder thinks that it is very important for the hypertext writer to pay attention to the visual elements in a document. She thinks that there is still an emphasis on the verbal. Like Bolter, she also believes that an integration of the visual and verbal are very important to a hypertext document.

Page:87

[ND11] Style: Snyder thinks that currently a concise style is necessary in a hypertext document because of the current nature of the technology and because the audience is unwilling to read too many words from the computer screen. This is in keeping with Bolter's views on the same question.

Page: 88

[ND12] Style: According to Snyder, presentation of information in chunks is a unique and characteristic feature of hypertext. She says that whether the text should be broken down into smaller pieces depends on the type of hypertext and on the type of audience for which it is being created.

Page: 88

[ND13] Multimedia Use: Snyder believes that it will become increasingly essential for the print writer to possess knowledge of multimedia. The reason for this is the very strong connections between the different media.

Page: 89

[ND14] Multimedia Use: Here, she talks about her own personal experience .She suggests that it would be great if the writer could integrate and incorporate multimedia elements in his or her work because then the writer would not have to depend on other skilled multimedia professionals. But, in reality, professional multimedia texts are normally created by collaborative work.

Page: 90

[ND15] Challenge: On the whole, writing for the hypertext medium is more challenging because of the newness of the medium and the lack of an established tradition.

Page: 90

[ND16] Challenge: She explains why a new rhetoric is necessary for hypertext. She believes that a new rhetoric can be a starting point of the ways things can be done.

Page: 91

[ND17] Challenge: According to Snyder, the new rhetoric should provide the writers with a basis and yet not constrain them.

Page: 91

[ND18] Challenge: Snyder views that the current challenges will be replaced by new ones, but the challenges will always remain. Bolter also says that the challenges will always remain.

# Comments on Bolter's Transcript

Page: 92

[ND19] Authority: The fixity in a print text gives it a sense of finality, which results in the kind of authority according to which nothing or no one can change a document once it is published. But, a hypertext document, being changeable, lacks that kind of fixity and finality that is present in a print text. So, the two kinds of authorities, just like the two media, are different and cannot be compared.

Page: 93

[ND20] Authority: Here, the implication is that the purpose of a hypertext document and its sense of authorship are different from that of a print text. So, only if a hypertext writer tries to assert authority in the printed sense, then his job will appear to be more challenging, otherwise not. Also, there is the implication that, unlike the print text, the purpose of hypertext is not to produce texts that are final and fixed, but those that are dynamic, interactive and easily changeable.

Page: 93

[ND21] Authority: Bolter views that the hypertext writer can assert authorial control rhetorically and through the way that he or she structures the site. He or she can make a site more or less fixed, more or less fixed by using various devices such as hyperlinks and other navigational choices.

Page: 94

[ND22] Audience: Bolter agrees that addressing audience in a hypertext environment can be difficult for someone who is used to writing for the print medium because here the

audience is different on the counts of their nature and behavior. Unlike print text, challenge also lies in capturing and maintaining the audience's attention. Besides, the writer is not expected just to write, but to pay attention to visual communication as well.

Page: 94

[ND23] Audience: The hypertext writer cannot simply expect the audience to participate in his or her point of view. Here, the audience is much more active, who can follow their own paths by their own choice of hyperlinks. Besides, the challenge lies in the fact that the hypertext writer has to skillfully structure the site so as to cater to a wide variety of audience with different needs, skills and interests.

Page: 95

[ND24] Audience: The audience for hypertext expects a degree of visual specification: they are not looking for just plain text.

Page: 95

[ND25] Organization: Challenge lies in the fact that often a hypertext document has to be organized in a layered manner so that different audiences can access the same document and be satisfied.

Page: 95

[ND26] Document Design: It is very important for the print writer to pay attention to the visual elements.

Page: 96

[ND27] Document Design: The hypertext writer today is expected to create not just plain text, but to integrate the visual and the verbal elements in his or her documents.

Page: 97

[ND28] Style: Bolter believes that hypertext documents can be much more expansive and larger than their print counterparts, but their writing style should be concise and aphoristic. The reason behind this is the audience's unwillingness to read pages of just prose.

Page: 97

ND29] Style: Bolter agrees that in hypertext text should be broken down into smaller pieces of information because of the difficulty of reading from screen and the unwillingness of the audience to read large amounts of text from screen at a time.

Page: 97

[ND30] Multimedia Use: According to Bolter, print is not a multimedia experience.

Page: 98

[ND31] Multimedia Use: If multimedia means the combination of media forms that includes the digital, then the print writer does not need to possess knowledge of multimedia.

Page: 98

[ND32] Challenge: Bolter believes that a web site needs to be both visually appealing and informative.

Page: 99

[ND33] Challenge: Bolter regards the job of the hypertext writer to be more challenging in the sense that hypertext requires either an individual writer who is well-versed in both verbal and visual communication or it requires collaboration. Bolter also distinguishes between the team effort that goes into creating a book and a hypertext document.

Although printing a book is also teamwork, there the focus is clearly on the author and the other members are almost left unnoticed. But, in hypertext this is not the case. In order to exemplify this idea, Bolter draws an analogy between creating a hypertext document and movie making.

Page: 100

[ND34] Challenge: Bolter advocates the necessity of a new rhetoric that is defined by two new dimensions—visual rhetoric and the rhetoric of movement. The new rhetoric will address the two new aspects—design aspect and structural aspect of a document. Paying attention to structure and design can be challenging to print writers who have never been used to doing it before.

Page: 100

[ND35] Challenge: The nature of the challenge will change, but the challenges will remain. By saying that "to be successful and expressive in any medium is a challenge" Bolter generalizes the concept of challenge and almost lends a universal dimension to it. Here, he clearly talks about the challenge that is on an individual level.

Page: 100

[ND36] Challenge: Currently, learning to write for the hypertext medium is more difficult because it is a newer form and requires a whole new set of talents that we are not used to developing.

Page: 101

[ND37] Challenge: Here, Bolter advocates a new educational approach where the focus will also be on visual literacy from the very beginning.

# WORKS CITED AND CONSULTED

Aedy, Richard. Interview. *Silicon Literacies.* 21 July. 2002
    http://www.abc.net.au/rn/science/buzz/stories/s554935.htm.

Amaral, Kimberley. *Hypertext and Writing: An Overview of the Hypertext Medium.*
    11 Mar. 2002 http://umassd.edu/Public/people/Kamaral/Thesis/hypertext.html.

*Biographical Information for Ilana Snyder.* Monash University. 1 Mar. 2002
    http://www.deakin.edu.au/~aet/Research/Publications/Idiom/isbio.htm.

Bolter, Jay David. *Writing Space: The Computer, Hypertext, and the History of Writing.*
    New Jersey: Lawrence Erlbaum Associates, 1991.

---. *Writing Space: Computers, Hypertext, and the Remediation of Print.* New Jersey:
    Lawrence Erlbaum Associates, 2001.

---. Homepage. Georgia Institute of Technology. 1 Mar. 2002
    http://www.lcc.gatech.edu/~bolter/.

Converse, Jean M., and Stanley Presser. *Survey Questions: Handcrafting the*
    *Standardized Questionnaire.* Newbury Park, CA: Sage Publications, 1986.

Dick, Bob. *Grounded Theory: A Thumbnail Sketch.* 4 Oct. 2002
    http://www.scu.edu.au/schools/gcm/ar/arp/grounded.html#a_gt_intro.

Glaser, Barney G., and Anselm L. Strauss. *Discovery of Grounded Theory: Strategies for*
    *Qualitative Research.* New York: Aldine de Gruyter, 1967.

*Glaser Interview.* The Grounded Theory Institute. 4 Oct. 2002
    http://www.groundedtheory.com/vidseries1.html.

Hubrich, Lars. Interview. *Hypertext 2.0: An Interview with George Landow.*
    26 Apr. 2002  http://www.altx.com/int2/george.landow.html.

Hueser, Nicholas G. *Grounded Theory Research: Not for the Novice.* 4 Oct. 2002
    http://www.users.qwest.net/~nheuser/grounded.html.

*Ilana Snyder.* Monash University. 15 Mar. 2002
    http://penny.educ.monash.edu.au/allstaff/showrecord.cfm?ID=34.

Johnson-Eilola, Johndan. "Control and Cyborg: Writing and Being Written in
    Hypertext." (1993). *Journal of Advanced Composition* 13 (1993): 381-99.

Joyce, Michael. *Othermindedness: The Emergence of Network Culture*. Ann Arbor,
      Michigan: University of Michigan P, 2001.

Karl, Chuck B. *What is Grounded Theory?* 4 Oct. 2002
      http://gtm.vlsm.org/gtm-27.en.html.

Keep, Christopher, Tim Mc Laughlin, and Robin Parmar. *The Electronic Labyrinth*.
      15 Mar. 2002 http://www.iath.virginia.edu/elab/elab.html.

Landow, George P. *Contemporary Postcolonial and Postimperial Literature in English*.
      National University of Singapore. 5 Apr. 2002
      http://65.107.211.206/post/index.html.

---. Homepage. National University of Singapore. 15 Mar. 2002
      http://65.107.211.206/cv/landow_ov.html.

---. *Hypertext: The Convergence of Contemporary Critical Theory and Technology*.
      Baltimore, Maryland: Johns Hopkins University P, 1992.

---. *Hypertext 2.0: The Convergence of Contemporary Critical Theory and Technology*.
      Baltimore, Maryland: Johns Hopkins University P, 1997.

---. *The Cyberarts Web*. National University of Singapore. 15 Apr. 2002
      http://65.107.211.206/cpace/cspaceov.html.

---. *The Victorian Web*. National University of Singapore. 15 Apr. 2002
      http://65.107.211.206/victorian/victov.html.

Newbold, W. Webster. *A Review of Writing Space: Computers, Hypertext, and the
      Remediation of Print (2$^{nd}$ Edition)*. 29 Apr. 2002
      http://english.ttu.edu/kairos/6.2/reviews/newbold/newbold_main.htm.

Ong, Walter J. *Orality and Literacy: The Technologizing of the Word*. London: Metheun,
      1982.

Pandit, Naresh R. *The Creation of Theory: A Recent Application of the Grounded Theory
      Method*. 4 Oct. 2002 http://www.nova.edu/ssss/QR/QR2-4/pandit.html.

Rosnow, Ralph L. and Rosenthal Robert. *Beginning Behavioral Research: A Conceptual
      Primer*. New Jersey: Prentice Hall, 1999.

Roy, Christopher. Interview. *Future Text: Jay David Bolter*. 20 July 2002
      http://frontwheeldrive.com/jay_david_bolter.html.

Rude, Carolyn D. *Technical Editing*. New York: Longman, 2002.

Snyder, Ilana. *Hypertext: The Electronic Labyrinth.* New York: New York University P, 1997.

---, ed. *Silicon Literacies: Communication, Innovation and Education in the Electronic Age.* London: Routledge, 2002.

Troffer, Alysson. *Writing Effectively Online: How to Compose Hypertext.* 13 Sep. 2002 http://corax.cwrl.utexas.edu/cac/online/01/troffer/htprinter.version.html .

Vaughan, Tay. *Multimedia Making It Work.* CA: Osborne/McGraw-Hill, 1998.

*Veterans History Project.* American Folklife Center. 11 October, 2002 http://www.loc.gov/folklife/vets/transcribe.html.