

CHAPTER 29

The Price of Information

Critical Literacy, Education, and Today's Internet

BETTINA FABOS

ASSISTANT PROFESSOR IN JOURNALISM AND INTERACTIVE MEDIA
STUDIES, MIAMI UNIVERSITY IN OXFORD, OHIO

Perhaps it is worthwhile to state the obvious: Users can find more online information than ever before via innovative blogs; collaborative databases; archives of all shape, size, and objective; news and alternative magazines; corporate and nonprofit annual reports; for-profit and nonprofit encyclopedias; national, regional, and alternative newspapers (some of which are experimenting with the purpose and scope of journalism); public watchdog sites; social networking sites; directories; governmental and business reports; photographs; images; digitized film and video; streaming audio and radio podcasts; fully preserved Web pages from the early days of the Internet; entire books; maps; software services; catalogues; scholarly journals; laboratories; 3-D models; and animation. In the age of convergence (Quinn, 2006), so much of our media is online, accessible at no cost beyond an Internet connection. Indeed, the Internet's current information environment is an extraordinarily rich mixture.

And yet, what exactly is the future of the Internet's information environment, particularly in regards to its relevance to education and schools? Before us now are two scenarios that describe how the Internet will develop.

To some, the Internet of tomorrow will be like the Internet of today, only with more information, more freely shared data, and more breathtaking innovation (e.g., Benkler, 2006; Schuler & Day, 2004). These activists and academics are the champions of open access, open source, and a decentralized Internet. They envision an eternally free, increasingly diverse, and collaborative online space

where ideas compete, where corporate interests exist but do not hamper public discourse, and where people function democratically in an increasingly vital networked public sphere. Yale Law School professor Yochai Benkler (2006) interpreted the advances of peer-to-peer networking and the organic growth of the Web as an indication of a new kind of media and promised more to come. He wrote,

The networked public sphere enables many more individuals to communicate their observations and their viewpoints to others, and to do so in a way that cannot be controlled by media owners and is not as easily corruptible by money as were the mass media. (p. 13)

Thus, the argument goes, this Internet environment—a creative commons—is collectively owned and *different* from all commercial media before it. The peer-to-peer involvement and low cost to entry is what makes the Internet a unique mass medium, fundamentally different from the earlier commercial mass media. This is a hopeful vision of the Internet, that the medium will prevail as a democratic tool for spreading ideas.

At the opposite pole are the very powerful (because money does speak) commercial interests, which intend to centralize and control the Internet for commercial gain. The assertion here is that the Internet is *a continuation* of the existing commercial mass media. Samsung Electronics Senior Advisor Won Kim (2006) wrote about the Internet's future,

This may upset the internet 'purists' who believe that the Internet should be free of everything—free of charge, free of taxation, free of control by the government, free of censorship, free of identity exposure, etc....However, as the Internet is clearly becoming a major communications vehicle and information source, much of the laws and standards that already govern the telecommunications, broadcast, and media industries come into play rather naturally. (p. 57).

In other words, the Federal Communication Commission and other regulating bodies, which have been friendly toward business for years and have pushed a commercialized media model since the radio era, is poised to do the same with the Internet. Today, hugely successful Internet powerhouses such as Google, Yahoo!, Microsoft, the entire telecommunication industry, and the countless businesses that now depend on the Internet for their promotion, marketing, and data collection, would like to continue along a business friendly path of government sanctioned privatization in a way that solidly benefits corporate enterprise. Even though the Internet may be a communication technology unlike any we have yet encountered, it is the way it is being regulated and harnessed for private, not public, gain that makes it similar to all the other mass media before it.

An alternative vision of the Internet comes from people like myself and many other scholars like Robert McChesney (1999) and Lawrence Lessig (2002), who see the bright potential of the Internet and would very much like to see the first scenario prosper. Like Benkler (2006) and most educators, we value democratic access to information and the networked communication possibilities of the Internet. And yet, we are bracing for the impending changes wrought by increasingly powerful and consolidated moneyed interests of the second scenario. We are urging people to become aware of the battles for media control of the past and to prepare for the battle over control of the Internet that is upon us.

For the purposes of this chapter, I define *information access* as democratic access to a vast array of ideas that encompass the spectrum of political thought. Information access—what we access and how we access it—is a critical issue for educators. Information access is also a critical component of literacy. I support the premise that a vast array of ideas is good for education. If we want to see our students using the Web to conduct solid and illuminating research, we need a rich field of information for them to critically evaluate and synthesize. When we consider the way students use and are encouraged to use the Internet in schools—that is, through the portal of commercial search engines—, it is my contention that they are not accessing a vast array of ideas. They may think they are, but they are not. Instead, they are overwhelmingly reliant on an information resource that is, as it is evolving, fantastic for business but not so good for education. This chapter is about information access and the economic and political price of such access. We need to understand what we are up against and provide educators and their students with skills to survive, thrive, and engage in tomorrow's Internet.

In this chapter, I will first establish my research perspective and theoretical approach to the topic of information access, defining key terms in the process such as cultural studies, media studies, political economy, information literacy, Web-page evaluation, and critical literacy. These terms will be discussed throughout this chapter. I will then set the context for our commercial Internet system, providing a brief review of radio, television, and Internet history. Next, I will explain and critique the response among educators and librarians to the Internet's increasing commercialization, outlining a decade's worth of discourse beginning in 1995. Finally, I will offer my recommendations as a literacy educator as to how we can better utilize the Internet as an information resource. In doing so, I will apply critical literacy practices to the Internet.

Perspectives and Terms

My research background represents a cross-pollenization of media studies (a subset of cultural studies) and new literacy studies. I first will define these

three areas, and then explain, in more detail, the perspective I use to join both media studies and new literacy studies together (political economy). In its own right, political economy is allied to radical democracy/critical pedagogy, two discourses based in education. It will be helpful to define all of these areas of inquiry in this section.

Cultural Studies

Drawing upon sociology, cultural anthropology, film/video studies, media theory, social theory, literary criticism, and art, cultural studies research informs us about the power relations across institutions (e.g., the media), language, social representation, cultures, and economic systems (e.g., Hall, 1977). Cultural studies researchers often focus on the way ideology, race, socioeconomic class, and/or gender impact a particular cultural practice or subculture. In this framework, culture is considered to be political and researchers give particular attention to the site of struggle between social groups. According to cultural studies researchers, then, every dominant cultural process tends to stimulate its own critical response. “Cultural studies,” wrote Henry Giroux (1998), “has played an important role in providing theoretical frameworks for analyzing how power works through the popular and everyday to produce knowledge, social identities, and maps of desire” (p. 58).

Media Studies

Media studies is an area of inquiry within cultural studies. Media studies researchers look at the cultural, theoretical, historical, and political/economic influences of the mass media (e.g., radio, television, the Internet, and advertising; e.g., Carey, 1997; Fones-Wolf, 2006). In the last decade, a number of media scholars have increasingly studied the Internet, media economics, media convergence, intellectual property, and virtual communities as cultural phenomena (e.g., Lessig, 2002).

Political Economy

This methodological approach, broadly speaking, analyzes connections between macrolevel power structures (e.g., capitalist enterprise, private ownership of the means of production) and the development of social systems (e.g., education, the Internet). Political economy is based on the understanding that the political and economic context of a social system dramatically influences the system’s makeup (Bagdikian, 2004; Curran & Gurevitch, 2005; McChesney, 1999; Mosco, 1996). Another way of looking at it is that one cannot understand a social system thoroughly without understanding the political and economic forces that influence that social system. In his seminal text, *The Political Economy of Communication*, Vincent Mosco (1996) even more broadly defined political economy as “understanding social change and historical transformation” (p. 27).

For me, this approach has been instrumental in terms of understanding the way the Internet has been historically transformed. There was no natural way for the Internet to grow; its development had been shaped in a particular fashion by powerful forces all along the way. Many educational scholars, I found, have reacted to the changing Internet as if these changes came out of nowhere and have treated the Internet as if it is a neutral space owned by no one. Looking through the political economy lens, one can better investigate the larger political and economic context of the changes taking place in recent communications history. One can make important connections, for example, with the history of radio, a medium that developed in shockingly similar ways, with similar outcomes (see Fabos, 2004; McChesney, 1994). When considering the Internet as a privatized enterprise, the political economy perspective advocates important questions concerning information access, content control, the corporatization of social discourse, and the future of the Internet as an educational and democratic information tool. Sure, there will always be content on the Internet, just like there is content on the radio and television, but what *kind* of content, who controls this content, how much does it cost, and how will this content serve education in the future?

Information Literacy and Web-Page Evaluation

In addition to the approaches just described, I have turned to the discourse of information literacy to better understand how librarians and educators view our evolving information environment. Information literacy practices involve the acquisition of a set of research competencies to be used in a library or online setting. This discourse is about skill acquisition. Rather than a broader understanding of our information environment (who chooses what information resources and who made those information resources, and for what purposes), information literacy works within a given information environment without critiquing it. A foundational set of information literacy skills include understanding a topic area, understanding what information is needed within a topic area, and knowing where and how to find that information. Building on this foundation, information literate people are able to examine their resources and discriminate between fact and opinion, compare like materials, identify competing interpretations, know if more information is needed, and organize ideas and information in a logical manner (Breivik & Senn, 1998; Grassian & Kaplowitz, 2001).

As I will detail, I commend this how-to, skill-minded approach to information as a good first step of information analysis, but I find it limited in terms of our gaining an understanding of the larger context of information access. Within the information literacy discourse, the Internet is neutral, and there is no discussion of the political and economic pressures that impact our educational resources, and ironically, the practice of information literacy. Moreover, the goal of information literacy is to privilege information that is considered

objective and factual. As I will argue in the following section, I see all information as far from objective (i.e., neutral or value free) but constructed within a political, economic, and social framework. Privileging the factual and the objective (just like assuming the Internet is neutral) is to have blinders on with regard to the larger context of ideas. In this chapter, I will advocate a more critical (critical literacy) approach to our information environment.

Critical Literacy

Q1 Since the 1970s and 1980s, it has been commonly advanced that schooling is a political activity. With these notions came an expanded conception of literacy—critical literacy—that positions all discourse within a political, economic, and social framework (Berlin, 1993; Lankshear & McClaren, 1993). With critical literacy (and unlike information literacy), all discourse is considered political. Texts are understood as containing a political perspective and inhabiting a particular place on the political spectrum. Unlike traditional literacy practices, where an apolitical canon is advanced and students are expected to master and imitate these canonical texts, there is no canon in critical literacy. Students are not encouraged, as is common practice, to seek out the various “truths” within a canonical text. Instead, critical literacy students “attain perspective on perspectives” (Lankshear & McClaren, 1993, p. 33). They are taught to understand the relationships between texts, the ideological underpinnings of texts, the struggle behind texts, and all information within a broader cultural context. In the words of Colin Lankshear and Peter McClaren (1993),

Critical literacy uses texts and print skills in ways that enable students to examine the politics of daily life within contemporary society with a view to understanding what it means to locate contradictions within modes of life, theories, and substantive intellectual positions, *and to actively seek out such contradictions*. It means enlisting the literate and intellectual capacities of learners in the task of understanding how theories and practices based upon theories, including education itself, cannot be neutral. And it calls for engaging them seriously in the acts of theorizing and evaluating theory in politically informed ways. (p. 36)

Critical literacy is allied, in many ways, with the project of critical pedagogy and the work of Brazilian educator Paulo Freire. Critical pedagogy educators are committed to expose, through the examination of race, gender, class, and social identity, the relations of cultural domination and ideological hegemony in advanced capitalism (e.g., Giroux, 1987, 1998; Kinchloe, 2006; Livingstone, 1987; Sehr, 1997; Shannon, 1992; Sullivan, 1987). Through an analysis of educational institutions such as schools, mass media, and family, they aim to reveal and deconstruct power relations, help students achieve critical consciousness, and work toward empowering marginalized voices. A significant goal among critical pedagogy educators is to advance democracy,

[A] democracy that can never be reached but is constantly struggled for as part of an ongoing attempt to expand the bonds of meaningful citizenship, boundaries of diverse communities, relations of social justice, and the economic, political, and social conditions necessary for ‘ensuring that ordinary people live lives of dignity.’ (Giroux, 1998, p. 53)

Critical literacy educators, in working with texts and promoting a politically informed understanding of our world, likewise attempt to expose inequalities and advance democratic thought and practice.

Another subset of critical literacy is critical *media* literacy, which applies critical literacy objectives to the mass media (Sholle & Denski, 1993). Critical media literacy, like critical literacy, is interested in exposing the ideology behind the mass media content and understanding the political and economic context of the mass media as a cultural institution. Because media literacy is often driven by the desire to change the commercial media system, media literacy operates from the margins and receives little support from the commercial mass media, other corporations (which rely on the media system to advertise their goods and services), and the incumbent political system, which adeptly uses the mass media and advertising to win elections and sustain power. In short, critical media literacy can be a threat to the entire existing political economy. In other countries, such as Canada and Australia, critical media literacy is better supported with public funds and a regular part of school curricula (CITE). It is important here to distinguish critical media literacy from what is sometimes presented as “media literacy” in the United States. I believe the latter is often a watered-down criticism emerging from conservative religious groups, politicians, and parent groups who seek to eradicate programming they deem too violent, sexual, or offensive. When I talk about the Internet in my classrooms, I engage in genuine critical media literacy practices, although the term critical literacy suits me just as well.

To summarize the previous perspectives and terms, I am investigating the online information environment as it relates to education. My research is situated in the fields of media studies (an offshoot of cultural studies) and literacy studies. I use the political-economy approach to help me contextualize the Internet as an institution in terms of the larger mass media’s pattern of privatization and corporate control. And, I apply my research through the pedagogical and creative practice of critical media literacy. What follows is an analysis of the political economy of the Internet and commercial search engines, the main navigation tools for accessing Internet content. I will then explain why all this history and economic discourse is significant for literacy education.

The Story of Internet Privatization

If educators had been reading books like *Now or Never: How Companies Must Change Today to Win the Battle for Internet Consumers* (Modahl,

1999) or the flurry of business articles that relentlessly championed (and still champion) the Internet as the greatest shopping and marketing platform of all time, perhaps they would have been braced for the online shopping mall that entered classrooms by 2000. In the mid-to-late 1990s, educators were simply happy to have their schools wired, and they tended to overlook the Internet's commercial nature and how it might impact the way students found information online. Indeed, in the 2000–2001 data collection period of my study of K–12 teachers using the Internet, many teachers told me they were not concerned about the commercial messages (mostly banner ads) on their classroom's screens. "I think I'm like everyone else here...I'm immune to it" (Fabos, 2004, p. 99), one teacher said, echoing the comments of colleagues. Many of these teachers understood the privatization of online spaces as a natural and necessary manifestation of the new medium. Many more considered the Internet as a neutral tool developed by the government for the people. They found search engines to be relevant and unbiased. And, they generally felt the Internet, as they were using it, would not be significantly different—in the future. The Internet would serve education. It would be, in Benkler's (2006) words, "a networked public sphere" (p. XX).

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To better understand the Internet's history and future as an educational information resource, I find the political economy perspective helpful in charting the Internet's course. This perspective offers a complex understanding of the workings of social and communication systems. It also offers history as a gauge. To understand the political and economic context of the current information environment within the U.S. communications system is to observe consistent historical patterns of privatization and corporate control (McChesney, 1997; Lessig, 2002; Samoriski, 2000). The Internet may be very different from other mass media in that it enables a networked public sphere, but the dominant economic and political system in which it operates—western capitalism—remains the same as other mass media. Indeed, we can better understand the Internet's recent and current development by looking at the communication technologies of the past in relation to capitalistic forces. By considering the economic and political influences on the development of radio, television, and the Internet—all very different technologies, to be sure—we can see that all had similar outcomes with regards to education and corporate control.

A Glimpse at Radio History

Radio had formidable educational and democratic potential in the late 1920s and early 1930s. The medium emerged, much the same as the Internet, out of the grassroots devotion of hobbyists and college-science students and professors, who saw early radio as an anticorporate alternative to telephone communication. Radio was the e-mail of a different era. How better to outsmart monopolistic telephone companies like AT&T than to communicate, via homemade radio devices, over the public airwaves? The public airwaves

were seen as a public resource available to everyone with a connection (i.e., transmitter). By the early 1920s, radio hobbyists began playing music and news to listening friends, ushering a new era of broadcast radio. Educators, a key group gravitating to early radio, began establishing educational radio stations throughout the country and developing educational radio programs. The popular press celebrated educational radio, and radio in general, as “an autonomous force, capable of revolutionizing American culture” (Douglas, 1987, p. xv). Educational radio advocates envisioned a super radio university that would educate the world (leveling class distinctions and erasing Ivy-league elitism) and engender greater democracy.

This was a time before commercial interests had defined the medium. When it became clear that radio was a perfect vehicle for advertising, early non-profit, public broadcasting efforts were blindsided by the strategic lobbying campaigns of the radio industry. By the late 1920s, two main and highly competitive companies, National Broadcasting Corporation (NBC) and Columbia Broadcasting Service (CBS), were dead set on controlling the public airwaves. To do so, they played into the discourse of democracy and catered to the dreams of educators, in order to, quite intentionally, undermine both.

In the early 1930s, as commercial interests were trying to monopolize educational radio, educators were divided on whether these commercial interests would help or hurt the movement. Some educators trusted commercial broadcasters, who assured them (as well as public officials) that they could produce more legitimate and professional educational radio content than the homespun efforts of teachers working on shoestring budgets at nonprofit radio stations. Commercial radio executives “commitment” to educational radio programming was so persuasive that many educators stopped producing their own more amateurish programs, abandoned their nonprofit radio stations, and stood on the side of commercial radio, which had strategically hired many educators as consultants (Fones-Wolf, 2006). Other educators were distrustful of commercial radio. They complained about losing control of their own content, balked at the presence of advertising embedded in educational radio programming, and prophesied that a deal with commercial interests would result in the radio industry abandoning educational radio objectives in favor of more economically lucrative programming. A considerable public struggle on Capitol Hill ensued over the fate of the public airwaves. Educators were incredibly vocal and eloquent about the threat of commercial radio to the radio medium. However, with educators ultimately divided, and the radio industry presenting a unified front that presented commercial interests as “democratic” and educational interests as “special interests,” they successfully swayed Congress to their position.

As the history of radio panned out, the second, distrustful group of educators turned out to be right. Capitalism trumped democracy. Once the radio industry fully controlled educational radio stations and cornered the market

on content, they ceased school programming completely and instead began producing more profitable daytime soap operas. Perhaps the final blow was the manner in which NBC radio executive David Sarnoff and others cynically positioned all commercial radio as “educational” by introducing the term *lifelong learning*. This interpretation of radio programming thus excused NBC (the largest radio network at the time), and its competitor CBS (and later ABC) of any educational or democratic obligation to the public whatsoever (Fabos, 2004; McChesney, 1994). What began as a promising public movement to serve democracy was turned into a vehicle for commercial enterprise.

Television Mimics Radio

TV continued on the same path commercial radio had established. The television industry advanced a profitable commercial environment and left little room for education. PBS programming was an exception. The establishment of the Corporation for Public Broadcasting in 1967, which later fostered PBS and National Public Radio, marked at least partial support for public interest broadcasting, more than 30 years after Congress initially rejected it.

There have been other attempts to bring education back into the commercial broadcasting environment. After years of public interest group lobbying to get more educational programming on commercial television, the Federal Communications Commission in 1990 finally required the networks to program 3 hours of children’s educational programming a week. “This sounds like a dramatic gain,” McChesney (1999) wrote, “until one realizes that these three hours of kids’ TV are advertising supported and determined by the same business minds that created the current monstrosity that is commercial children’s television” (p. 71). Similar to connecting lifelong learning with soap operas in the age of radio, television executives slyly labeled large portions of their existing programming educational, used youth targeted shows as a branding opportunity, and soundly got away with it.

Channel One is another cynical attempt to use the rhetoric of education as a front for the objective of directly marketing to youths. The 12-minute news programs, played in 40% of schools across the United States each school day, are filled with forgettable magazine-style packages that often promote new technology and 2 minutes of punchy (and memorable) teen-targeted advertising. Channel One schools have no control over the programming content and are contractually required to make their students watch the show each day. When Channel One was first launched in 1989, it caused perhaps the most explosive anticorporate response among teachers since the radio era (Molnar, 1996). And yet, the programming has made amazing inroads into public schools. Many teachers tacitly accept Channel One, as it gives them a built-in, 12-minute break in their hectic schedules.

The biggest lure of Channel One was its promise to give each school a free satellite dish to download the daily Channel One feed, and place free television

monitors in every classroom to show the program. Of course, television is just a technology. How technology is deployed (particularly its content) makes all of the difference. The case of Channel One illustrates much about the relationship of mass media technology in U.S. schools. Many educators want good pedagogical technology. Corporations see the technology as something akin to a trojan horse (bearing the friendly mantle of “public-private partnership” to gain the exclusive attention of young people). Finally, educators have mixed opinions about the appropriateness of commercial media content in schools, and the ability of their students (and themselves) to adequately deal with those messages.

The Internet: Another Education “Bait and Switch”

The Internet is indeed a much different technology than radio, but it did follow a similar developmental path. Like radio, the Internet was closely allied with education in its early years and blossomed in educational circles before it became harnessed for commercial purposes. As with radio, educators could easily produce, disseminate, and control content, making it especially appealing to teachers. And, as with radio, the intensive efforts of a powerful industry, and a lack of government regulation and further investment in educational content have diminished its value as a medium for education.

The Internet’s origins can be traced back to developmental support by the U.S. Defense Department’s Advanced Research Projects Agency (ARPA) in the 1960s. Although the Internet had been used by some members of higher education in the 1970s and 1980s, it did not begin to break through as a mass medium until the arrival of the World Wide Web software and graphical Web browsers in the early 1990s. This is the point when both educators and the corporate sector began to imagine vastly different uses for the Internet.

The process of government sanctioned corporate control of the Internet began in the early 1990s with the Clinton Administration. A handful of public officials, including Vice President Al Gore, had championed the Internet as a government project to aid democratic public life and education. However, by 1993, the heavy lobbying of commercial interests had already converted the Internet into a private sector initiative with government encouragement, well before the Internet became a well-known, Web-driven mass medium (Aufderheide, 1999).

As a media studies scholar, I was first interested in looking at the way the Internet was marketed in the mass media as an educational panacea during this formative period, the mid-1990s. As if someone had turned on a switch, many beautifully edited advertisements, ambitiously marketed by MCI, Microsoft, Oracle, and AT&T, began appearing on prime-time television (Martin & Fabos, 1998). They were placed in high-profile programs such as the Super Bowl and the 1996 Olympics and showed students at school engaged in the breathtaking world of Internet learning, a world of golden sunlight

and ooohing kids. The ads featured children e-mailing astronauts and floating around classrooms, as if in outer space themselves. They showed students peering at images of human hearts (invoking medicine), planets (invoking science), and Martin Luther King, Jr. (invoking democracy).

Even though I was studying advertising messages, this research informed my understanding of the way the Internet was being framed as a cultural tool. I was interested in looking at the telecommunication and computer companies, who was doing the framing, (and why the Internet was being framed as an educational, not a business or e-commerce tool. These industries, I found, strategically framed the Internet as an education tool and played up the rhetoric of democracy in order to get the schools and the homes of school-aged children wired. The strategy tapped into middle class parents' fears that their children would be left behind in the educational abyss if they did not follow suit—what Barbara Ehrenreich (1989) termed “the fear of falling.” The strategy worked. The Internet was connected to the majority of U.S. schools around 2000, and Internet penetration into more than half of the nation's households happened in those same 5 years—more quickly than any media technology to date.

Meanwhile, the major Internet players (including the government) were quietly paving the way toward Internet privatization and commercialization (Fabos, 2004). In other words, the Internet was being set up to serve business while the rest of society was seeing the Internet in the lofty light of education. The ironic part was that no substantial public investment was made toward online educational *content* during this time. However, there was plenty of public (and private) investment toward school and library wiring. By achieving critical mass, the “real” commercial Internet could *stop* being an educational tool and *start* being an advertising medium for products and services. Think commercial radio here; think commercial television. History simply repeats.

While educators were celebrating the new medium in their classrooms, learning HTML, publishing their students' work online, joining support groups, and, especially in the case of librarians, building subject gateways, the consolidating Internet industry was solving their next problem. They needed to get Internet users—suddenly renamed “consumers”—to shop online. Gone was the Internet-for-education discourse. Dot-com became the new buzzword. Print and television ads began showing online shoppers at home, in pajamas and bunny slippers, buying flowers for their mothers from new online flower services. News reports, many in the form of successfully planted press and video news releases, celebrated the ease and convenience of online shopping. These reports were especially noticeable around the Christmas holidays with news anchors offering online shopping tips, taking viewers on virtual shopping excursions, and interviewing spokespeople from Yahoo!

The process of repositioning Internet citizens as consumers (who only buy things) rather than users (who consume but also make Internet content) started in the early 1990s, as the private sector pushed to control the Internet's

backbone of main fiber optics lines—a government-led project until 1995. By the late 1990s, the term Internet “users” in popular discourse was almost categorically replaced with the word “consumers,” a premonition of how the Internet would be shaped in the coming decade (Gray & Brunette, 1999).

A Commercial Highway in Every Classroom

This research on Internet framing led me to question the changing nature of Internet content. Was it becoming excessively commercialized? Since studies showed that students were overwhelmingly using search engines to conduct their research, what were the economic and political forces driving the search engine industry? In turning my attention to the political economy of the commercial search engine industry, I hoped to find out some implications of commercialization and conglomeration on information access and education.

Search Engines: From Syndicators to Ad Brokers

Search engines were initially information navigation services that made their money through syndication (i.e., providing search services for other Web sites). Google had cornered the market in search engine relevance since the company released its first algorithm in 1998. Google’s constantly updated (and somewhat mysterious) PageRank algorithm broadly treats relevance like popularity: the more pages linking to your page, the more relevant (or popular) the page will be in Google’s search result listings. Google also factors in the relative popularity or significance of the pages doing the linking. A link on *USA Today* pointing to your page, for example, carries more weight than a link from a student Web site. The year Google was born, search engines began trying to generate more revenue beyond syndication. Commercial search engines, such as GoTo (renamed Overture), began experimenting with paid placement within search results in 1998. In this enhanced search engine model, advertisers bid to be associated with particular key words, which are then accounted for in any given search. Their Web sites then appear next to (or within, depending on the search engine or search portal) the “organic” search result list, which is presumed to be ranked according to Web site relevance to the key terms typed into the search engine “search” box. By 2003, both Google and Overture had perfected keyword advertising as an essential marketing tool for any business—be it local, regional, national, or global.

With such a successful advertising strategy, Google, then Yahoo!, which acquired Overture, and later Microsoft began investing heavily in the advertising part of their business, acquiring thousands of advertising clients and cross-listing these clients with applicable search terms. Thus, the syndication/content-provider model was replaced by an advertising-broker model (Battelle, 2005). Instead of bringing information to *users* (which was how they continued to market their services), commercial search engines were bringing narrowly targeted *consumers* to their advertiser clients. Every search became

an opportunity for Google, Yahoo!, or Microsoft to cash in on someone's attempt to find information.

Profits, with Google leading the way, have soared beyond analysts' wildest dreams. Keyword advertising clients are delighted to be able to reach extremely targeted audiences directly (e.g., a user looking for answers about horses' tolerance to mosquitoes finds a sidebar link that sells equine bug spray). As one newspaper article explained, "It is vitally important for business people to understand how search engines work, and how to use them....Search is how your business, whatever it is, will market itself" (The Age, 2003).

By 2005, keyword advertising turned search into a multibillion dollar industry, with Google alone posting \$6.1 billion in revenue. The potential of exploiting every search made the value of Google as a company—the most popular search engine—soar. A *Los Angeles Times* technology reporter wrote, "Its \$112-billion market value is almost as much as those of Time Warner and Yahoo combined" (Gaither, 2006, p. X). Moreover, the advertising options of search companies keep expanding. In 2006, Google introduced television-style 15- to 30-second ads into its video service, Google Video (Yahoo!, Microsoft, and AOL had already successfully pioneered the practice; Hansell, 2006). With more "consumers" online in general, other forms of online advertising, including interstitials (which load in between pages) and banner (display) ads have also recently been successful. "The great eyeball chase is back in full swing," *New York Times* technology reporter Bob Tedeschi wrote in 2006 (p. x).

Here is a quick tangent on "eyeballs" (i.e., consumer attention), which, for critical (media) literacy educators, is a key element of discussion when educating students about our commercial media system. It is often a great revelation when we show students how their favorite television programs are not made for them directly (as is their notion) but are instead made for advertisers, who use them to reach their eyeballs. At the outset, bringing advertisers and eyeballs (or ears in the case of radio) together via "free" programming is the way the content/advertising model has worked in commercial radio and television for years. In that model, the content providers (radio and television/cable industry) try to deliver specific audiences to their advertiser clients by programming content they hope will appeal to the right demographic groups (Jhally, 1990). Rates are determined by how many of the right kind of people the programming attracts. Independent ratings companies, like Nielsen Media Research, act as mediators by tracking consumer attention and supplying audience data that it gleans by way of phone surveys, viewer log sheets, and electronic meters. However, because people do not always tell the truth about their media habits, it has been hard to keep this data reliable. Finally, separate media placement services work to link the advertisers to the right programs (e.g., radio, television, or magazine) and thus the right audiences. Today, search engine companies (which we believe are meant to "serve" users), treat users the same way: users are eyeballs for their corporate clients.

Consumer attention is a significant topic to understand in the age of Internet search. Like all media conglomerates, search conglomerates do not really care about the content it provides for us as much as the relationship they have with their advertisers (Tedeschi, 2006). Two things drive this relationship. First, “consumers” do not tend to look beyond the third page of any given search result list. Second, if advertisers do not somehow get on the first three pages of a search list—either inside the “relevant” search results themselves, or in the above, next to, or below “sponsored sections” of those search results—then they will not reach consumers’ eyeballs.

Moreover, companies such as Google, Yahoo!, and Microsoft have become so powerful that they are able to invest in a myriad of advertising-related services, and as such, are transforming *the entire* advertising industry (Battelle, 2005). Google, for example, has been able to combine all of the separate functions of the media industry under one roof. The company provides content, which began with search result lists and now includes a broad range of video, news, map, book, and other services. Then it provides ratings services by tracking search data for its clients. A point of contention, however, is that Google does not actually tell its clients how it rates its clients’ Web-page standings and determines their auction fee; clients are just meant to trust the company’s advanced algorithmic method (Gaither, 2006). Because the company is able to track a consumer’s every move through the Google network, Google’s advertising and direct marketing capabilities surpass anything the advertising world has ever seen.

Google tracks, for example, a consumer’s fascination with World Cup Soccer through a mention of the word “Munich” in a Gmail account, through a downloadable document about soccer rules the consumer has stored under her Google soft-grid account, and through an online news item, the consumer briefly visited about the World Cup. If this person has searched for travel itineraries for a trip to Munich via Google’s search engine or travel directory, this person is identified as a soccer fan and a European traveler, and that data is retained and preserved for marketing purposes later on. The company also supplies advertisers with a sophisticated page-rank algorithm that determines pricing and placement; advertisers who sign up for the system bid for placement in Google’s dynamic auction and also succumb to Google’s ranking system, which somewhat mysteriously determines the final placement of their sponsored link (Gaither, 2006). Yahoo! and MSN have similar capabilities. The search engine industry has thus turned the existing model of advertising on its head by explicitly identifying consumers for advertisers, all without the express permission (nor, perhaps, any awareness) of the consumer.

Implications for Information Access and Education

To summarize the existing state of information on the Internet, our trusted gateways to most of our online information—search engines—have consolidated

and morphed into enormous and powerful advertising and data-mining conglomerates. By 2006, Google, Yahoo! and MSN formed what had become a search engine market oligopoly, with the three corporations respectively controlling 42.7%, 28%, and 13.2% of all Web searches (Graham, 2006). Given, their assets, it is hard for any company to keep up with them. Every month Google, Yahoo!, or Microsoft unveils another impressive-looking content service with which to better understand, profile, and then market to those of us seeking online information. Meanwhile, most of us are generally oblivious to the online advertising environment, and generally trust that Google, Yahoo!, or MSN are the best means for locating relevant information. The Pew Internet and American Life Project (Fallows, 2006) surveyed 2,200 adult users of search engines in 2005. The findings must have buoyed the spirits of search engine executives: 62% of respondents were unaware of the distinction between paid and unpaid results; 70% were nonetheless agreeable with the concept of paid or sponsored results; 68% said that search engines are a fair and unbiased source of information; and 92% were confident about their searching abilities. Thus, the general public's trust in commercial search engines is evident.

In fact, the Big Three are putting their commercial interests front and center, before their commitment to deliver objective and relevant search results, before any firm commitment to a user's privacy, and before ethical considerations to make all information freely available. What incentive does a publicly owned company, committed to bringing profits to its shareholders and in intense competition with like companies, have for offering a democratic selection of information? True, one must deliver some decent content to make search engines *seem* relevant. However, every time a consumer clicks on a sponsored link, the search engine, along with any hosting portal, earns money. Even if there is a supposed firewall between Google's sponsored and organic search results (where there is none with Yahoo! and MSN), commercial (or paying) pages still find a way to artificially influence page rank.

Google, which contends that it has the best, most relevant search results, is the constant target of search engine optimization services (SEOs), which work 24 hours a day to crack the Google algorithm and boost page ranks for their paying clients (Gaither, 2006). In fact, Google would just prefer these clients went through Google's advertising program, and the company spends considerable energy cracking down on these SEO practices. However, another way commercial pages find their way into "organic" search lists is through Google's own contextual linking service, called AdSense, which brokers the sponsored links that appear at the bottom of nearly every online article in a commercial publication and that match the context of the main Web site. Small as they are, contextual links are effective far beyond the advertising spot on a given page. For example, a contextual link for a cat-food company on a *USA Today* page serves as an endorsement of the product. By linking the lesser known cat

food to the popular news site, it increases the sponsor's PageRank standing in Google organic search results. As a result of contextual linking, Google (Yahoo! and MSN have similar services) undermines the relevance of its own search results by allowing a commercial transaction (benefiting Google and its client) to define the "popularity" of a client Web site (see Fabos, 2006b).

Now, consider what these commercial search engine practices mean for the political economy of information. Imagine a public library where, instead of nonjudgmentally serving patrons with a wide array of texts, the library's primary motive was to make money. To do this, the library accepted payments (without the patron's knowledge) from a handful of authors who paid every time their books were checked out of the library. The public library would understandably steer its patrons toward these books, and not others. Search engines operate in much the same way. They have much to gain by bringing consumers to their advertiser client pages rather than to the "poorer" pages that cannot afford the price for access. It is no surprise, then, that a search result list is stacked with commercial pages.

Today, hugely successful Internet powerhouses such as Google, Yahoo!, Microsoft, the entire telecommunication industry, and the countless businesses that now depend on the Internet for their promotion, marketing, and data collection, would like to continue along the same path of government sanctioned privatization in a way that solidly benefits corporate enterprise. At the core of this issue is the question of democratic public space. Should the Internet indeed be for everyone? Or should it serve business? How can we ensure that we have access to the kind of information we need to make informed decisions about our world if this communication medium will supplant public libraries as the foremost information resource? If literacy is a primary goal of education, do we ask students to be literate consumers or literate citizens? And, what does it mean to be literate in this age of information?

Educators Respond to the Commercialized Internet

In the late 1990s, commercial search engines were becoming the first place K-12 and college students would go to find information for their research projects (Fabos, 2004; Griffiths & Brophy, 2005). A number of educators and librarians began to voice concerns. First, they wondered about their students' growing reliance on these services for most, if not all, of their research (e.g., Gibson & Tranter, 2000; Holt, 1995; Kirkwood, 1998). What were the ramifications of students rejecting other forms of information, such as books, online databases, and reference materials found in libraries? Was online searching via search engines detrimentally easy? Second, educators were concerned that students were not finding the "right" kind of information via search engines, which they defined as objective material based on truthful reporting and academic inquiry rather than mere opinion. Numerous reports emerged in education and

library journals stating that students were prone to getting ineffective search results (e.g., Arnold & Jayne, 1998; Blandy & Libutti, 1995; Claus-Smith, 1999). They were becoming overwhelmed by the amount of information they found online and constantly wandered off “into the glitter-paved, hypertext-linked pathways of the Web” (Arnold & Jayne, 1998, p. 43). Perhaps most significantly, observers noted that students were not adequately questioning the validity or context of the material they found online (e.g., Berger, 1998; Carter, 2000 ; Minkel, 2000; Noakes, 1999; O’Sullivan & Scott, 2000)

Applying Information Literacy to the Web

The solution to students’ uncritical search engine wandering, according to most of these educators and librarians, was information literacy. This view recommended that existing information literacy practices be expanded to the Web and students be taught information literacy as part of their overall research orientation. Three main strategies emerged with this kind of information literacy.

Q9 First, teach students about the value of other library holdings, such as books
Q10 and online databases purchased by the library for their use (Cox & VanderPol,
2006 ; Haycock, 2006; Walker & Engel, 2004). One path toward this end
is to advocate far more intense collaboration between students and teacher-
Q11 librarians to help young people develop disciplined and long-lasting inquiry
and research strategies. Cox and VanderPol (2006) , for example, asked their
students to critically reflect upon their research practices and generate discus-
sions about library holdings. Another method is to generate research exercises
Q12 for students to emphasize the relative usefulness of various library resources.
Walker and Engel (2004) developed a series of short research exercises for
their freshman library orientation students at Grinnell College. First, they
asked their students to each tackle the same difficult research question on
their own, such as “Is filtering software (e.g., Net Nanny, CyberPatrol, Surf-
Q13 Watch) effective in restricting access to objectionable Web sites to children?”
(p. 13X). Then they modeled informed and disciplined research practices for
their students based on these questions and exposed their students to library
databases (digital-journal archives), scholarly books, and reference materials
Q14 that took students beyond the world of commercial search engines. In the end,
Walker and Engle l reported that their students unanimously agreed that schol-
arly books contained the highest quality of information for their research pur-
poses, with scholarly journals coming in second. Moreover, working through
the series of exercises with the support of these two instructors, students’ reas-
sessed their faith in search engines. They no longer believed commercial search
engines gave them the wide breadth of ideas and information they needed for
solid research inquiry and preferred to first investigate books and scholarly
journals instead.

A second method was to help students learn advanced (Boolean) search syntax, using terms such as “and,” “or,” and “not,” to narrow down an unwieldy search. A more succinct search meant more relevant results and less chance of students wandering off into the Web’s “glitterpaved pathways” (e.g., Brandt, 1996; Bailey & Lumley, 1999; Kennedy, 1998; Kohut, 2000). Brandt (1996) wrote, “Obviously, the more one knows about Boolean operators and strategies for narrowing a search, the more successful the result” (p. XX). Kohut, for example, referred to the benefits of teaching “advanced search syntax” and pointed to two metasearch engines, MetaCrawler and SavvySearch (now defunct), which responded to such Boolean syntax as quotation marks, and +/- signs.

Q15

Third, information literacy lessons teach students Web-page evaluation skills, so they can better assess the quality of each Web site they encounter. The purpose of Web-page evaluation, according to educational and information science discourse, is to isolate “quality” (objective) information. In other words, in a cluttered search environment containing many biased resources, Web-page evaluations skills allow students to identify what is true. Borrowing from the already established librarian evaluation code for print resources, librarians and educators began to discuss, beginning in the mid-1990s, the necessity of evaluating Web pages according to Authorship, Accuracy, Objectivity, Currency, and Coverage (e.g., Alexander & Tate, 1999; Bailey & Lumley, 1999; Bos, 2000; Salpeter, 2003). Students were instructed, for example, to consider “.edu” pages as generally but not always more trustworthy than “.com” pages; to be suspicious of typos, grammatical, and spelling errors and shoddy page design; to note the date of the page’s last update; and to evaluate the depth or bias of information available on the site. Again, the overarching goal was to help students find *reliable, objective* (i.e., “true”) online information for fact-based educational projects.

Interestingly, the bulk of concern about search engine use in this discourse has had to do with students’ ability to properly evaluate personal home pages. Educators characterized these home pages as unfiltered and, therefore, undesirable. They have no affiliation to any legitimate business or organization, so consequently they are seen as imposters in the online environment (e.g., Safford, 1996; Solock & Wells, 1999). The Web pages that were most suspicious overall were “vanity” pages that were marked by the potentially deceptive tilde symbol (~). Often affiliated with a legitimate university or educational site, these educators warned that tilde pages may also indicate that a single person with little authority is behind the information (e.g., Reynolds & Plucker, 1999; Safford, 1996). Henderson’s (2000) warning was typical: “If you see a tilde (~) as part of the URL, be aware that the website is a personal page likely created by someone who was given space on the Web server in an unofficial, unauthorized capacity” (p. 2). Therefore, suspicious individual pages trumped the abundance of commercial pages as an area of educational concern.

Limitations of Information Literacy

I found the solutions offered by educators and librarians just outlined to be a good first step in understanding—and becoming literate in—our evolving information environment. However, these solutions are hardly enough, and certainly don't penetrate the most urgent question presented by Internet commercialism and confronting our information environment: what is to become of our democratic information environment? Next, I offer some concrete criticisms of information literacy practices, and then offer some alternative critical literacy solutions.

Web-page evaluation strategies are no match for today's Web. Over the past decade, a Web information and design aesthetic has evolved for most professionally crafted Web sites that incorporates all of the check points (Authorship, Accuracy, Objectivity, Currency, and Coverage) to project the aura of believability. This “credibility aesthetic” is, no doubt, a result of the Web-page evaluation discourse, which basically promotes validity guidelines. Any institutional Web site routinely lists its page author, page-update information, and links to other objective-seeming Web sites; they also exhibit decent writing, balanced-*sounding* arguments (to the unaware), and even Web site awards (no matter if they are minor, or perhaps, completely bogus) that may increase the chances of the Web page *appearing* legitimate and objective. The typical Web-evaluation criteria, for example, has done little to prevent a student from thinking a public relations page with a well-crafted design and the aesthetics of objectivity is valid and factual information.

Webpage evaluation practices privilege fact-based assignments and the search for objective truth. Not knowing one's subject is the typical student's research scenario for most class-based research assignments. Students have no or barely any prior knowledge of their subject and are meant to glean “facts” amidst opinions and slick public relations pages (which, I should add, tend to cluster at the top of search engine result lists). They must determine objective information from biased information, and, as Watson (2001) observed, are nervous about evaluating Web pages when they are unfamiliar with the topic they are investigating. As such, I will make a case that Web-page evaluation and the fact-based assignments they support offer students a limited understanding of a student's topic area, as well as our broad world of ideas. First, one can easily argue that all information is biased. However, since “biased” in Web-page evaluation discourse is always interpreted as “bad,” students too easily reject important arguments without understanding the guts of the issue they are attempting to study. Because Web-evaluation discourse privileges fact-based assignments and the replication of an “objective” truth, students are never given a chance to understand the more complex perspectives of their world.

Information literacy dismisses Internet commercialization. Information literacy has scorned tildes and has characterized personal Web pages as *the* major threat to credible online information. And yet, this literature does not attempt to account for the larger, and arguably far more significant, commercial patterns that had begun to dominate online information as early as 1999. According to a piece published in *Nature*, 83% of Web content was dominated by commercial enterprise (Lawrence & Giles, 1999). Worse, these pages are the bulk of what students are finding and using in their research. Communication studies researcher Samuel Ebersole (2000) documented the huge proportion of commercial Web pages that high-school students were clicking on as they conducted their in-school research via search engines. First, Ebersole found that students tended to select commercial Web pages far above any other domain. Second, he found these sites to have no or little relationship to students' academic objectives, and rated these sites the lowest in terms of their educational value.

Despite these problems, which are easily observable in the classroom (Fabos, 2004), educators have focused on Web-page evaluation, not Web evaluation. They have expressed concern about that which is most tangible: how to find individual pages in the current information environment, and then, once found, how to evaluate them, page by page. By focusing on the evaluation of individual pages (Are they biased? Are they credible?), information literacy inherently ignores the larger issues that concern online information access: the overwhelmingly commercial (and problematic) environment of Internet search. It ignores recent Internet conglomeration, the huge success and increasing competition between Google, Yahoo!, and Microsoft, keyword advertising, contextual linking, the drive of SEOs to influence search engine results, the business discourse among advertisers, indeed, the entire political economy of the Internet.

There are reasons for this lack of critique. One is that many librarians and educators continue to see the Internet overall in neutral terms—as a new technology owned by all and free for anyone with Internet access to use (or abuse). In this discourse, technology is always good. It advances society. It simply exists (Carey, 1997). The Internet, they believe, will get better for education in the coming years as the technology improves. Recall also that corporate interests had successfully visualized the Internet in the public imagination as a necessary tool for *education*. Many educators have accepted this notion as well. Apart from concerns about the digital divide (i.e., disparities in Internet access along age, class, race, and geographic lines), the Internet still resonates as a democratic tool for everyone, and a little commercial input “to pay the bills” is fine—we are immune to commercial messages anyway, they seem to conclude. Furthermore, today there are so many good noncommercial sites accessible via search engines that one could effectively argue the Internet's

possibilities for education have already trumped commercial incursions (the Benkler, 2006, argument). The information explosion is real, this position concludes, and we should embrace the huge amounts of information we can now access online (Burbules & Callister, 2000). The fact that search engines are rolling out an array of philanthropic-sounding services such as Google Scholar, Google Book Search, and Google Code seem to point to these companies' commitment to education (Young, 2005).

However, please allow one more tangent here, this time about educators' relationship with big business. Educators' concurrent acceptance and "immunity" from commercial content on the Internet and in public education today has been quite a drastic change from what they were feeling in the 1930s. During that time, educators and the public in general were deeply distrustful of American business, commercial inroads into classroom film archives, and school advertising over the "public airwaves" (Fabos, 2004). Even the national high-school debate topic of 1933 concerned the "American" commercially dominated radio-broadcasting model versus the BBC's publicly funded model (Spring, 1997). However, the public's resistance to commercial encroachment into public life, and its subsequent attention to the political debates in the 1920s and 1930s, gave impetus to a persistent effort by corporate enterprise over the next 30 years to alter the public's perception of business (Fones-Wolf, 1994). It worked. By 1960, Fones-Wolf (1994) wrote, many teachers and students had been successfully "indoctrinated" with "an economic interpretation that taught that the American economy was 'free, competitive, and individualistic' and must be retained without change" (p. 211). This movement is one way to explain why a privatized democratic ideology is now pervasive among our public educators. Commercialization is generally accepted, not questioned. By the mid-1990s, revenue-generating ads were blanketing public spaces, including schools (Molnar, 1996), and teachers, perhaps in a rationalization of the dominant commercial system, felt impervious to online advertisements and corporate investments into the Internet's infrastructure.

Despite widespread acceptance of corporate control as the natural, benign order of the Internet (recall the 2005 survey of search engine users), the fact remains that corporations continue to amass even more power over every exchange of information on this medium. Google, Microsoft, and Yahoo! may be digitizing books, but I must maintain, given the historical precedent of radio, that this process cannot be healthy for education, public libraries, or the democratic access to information. When the direction of educational radio was being hotly debated in the 1930s, recall that many educators were extremely vocal against commercial intrusions into the educational realm, while others thoughtfully considered the usefulness of commercial partnerships and trusted the goodwill of the radio industry. Those who trusted the radio industry witnessed educational radio's complete demise within 5 years. Those who warned

about the need to protect the public airwaves from commercial interests could only say, “I told you so.”

Today, some librarians and educators are wondering if they should trust Google. Many are not sure and are echoing the quandary expressed by radio educators 75 years ago. John McColl (2006), head digital librarian of the Edinburgh University Library, wrote,

Google has put us in a new dilemma which is difficult for us culturally as a controlling profession....Should we collaborate with a service whose limitations we cannot justify, and which we have not evaluated or selected? Or are we being too librarian-like about this? After all, Google Scholar is free, and it gives us much of what we profess to want from a multi-database search tool. In addition, we know that our users are already using it. (p. 4)

If librarians (and educators) persist in trusting Google and ignore the commercial political economy of the Internet, then it is likely that similar developments with regards to the future of information access will come to fruition.

Instructional Recommendations: Critical Literacy

So what does a commercialized search environment mean for education? It means that our students are accessing, via search engines, the most mainstream and popular of online information—privileged information that can afford to be noticed (Ebersole, 2005; Fabos, 2004). It is likely they are not accessing a spectrum of ideas that challenge them and help them make sense of the world (see Hindman, Tsioutsoulouklis, & Johnson, 2003; Introna & Nissenbaum, 2000; Walker, 2005). There are exceptions, of course: A full range of ideas and opinions could be represented in the mainstream (but critical media studies reminds us the commercial mass media do not always facilitate this); our students could already know enough about the topic they are researching to type in additional terms; or they might routinely follow Susan Gerhart’s (2004) advice to include the word “controversy” in every beginning investigation. However, the exceptions prove the rule: a commercialized Internet means that the Internet is serving business far more than education.

Assuming that we would like to see our students exposed to a more democratic information environment, I suggest turning to critical literacy. What students need is the means for arriving at a contextual rather than a fragmented understanding of their world (Kinchloe, 2006). They need to be able to critique the Web as a whole, not on a page-by-page basis. And, they need to understand that all discourses are intrinsically ideological. All texts—including the very complicated text that is the Internet—are built on political and economic foundations. Critical literacy is a means toward this understanding.

Q16 It is about helping students realize that texts do not exist in a vacuum. Texts are interrelated; they are the products of economic and political wrangling. Our students would do well to learn about the ideological nature of texts (including the entire Internet). To quote McClaren and Lankshear (1993) once again, students need understand how to actively seek out the contradictions within our information environment, and develop “perspectives on perspectives” (p.33).

To better illustrate how critical literacy works to get students to develop these “perspectives on perspectives,” what follows is how I apply critical literacy to the Internet. I mainly speak to a college audience (typically, juniors), and it is their lack of knowledge of their political and informational environment that makes me wish they had come in contact with critical literacy much earlier in their schooling.

Step 1: Building an Ideological Framework

One of the core things I establish for my students about the ideological nature of texts is a basic knowledge of the political spectrum. Students, I have found, need this plainly laid out for them—must politics be so unspeakable in a learning environment?—so they can find hooks to hang their concepts on and see how these concepts fit into our ideological social discourse.

I start by laying out the differences between a privatized and a public conception of democracy (Sehr, 1997). Public schools and public libraries, for example, were both movements that emerged out of the enormous struggle between private and public interests (public interests won out). There was a similar struggle, addressed in this chapter, concerning ownership of the public airwaves, where private interests won out. With these two poles established, I continue to help students build a stronger understanding of the more detailed spectrum (from radical liberalism to moderate conservatism to neoconservatism to libertarianism) that undoubtedly shapes every fact our students encounter (see Fabos, 2006b).

Political magazines help my students better visualize the scope of U.S. (and global) political thought. I provide them with a stack of news and political magazines (e.g., *The Weekly Standard*, *Time*, *The Nation*, *The National Review*, *Commentary*, *The New Yorker*, *Newsweek*, *Maxim*, *Z*) and ask them to situate these publications according to their allegiance to certain political discourses. Which magazines portray individualism and free market capitalism in a positive light? Which ones applaud collective action, and champion public interests over business interests? As it turns out, this is a messy operation; some magazines do not fit so neatly into a given slot. And yet, it is important for students to seek out and, with an instructor’s help, make sense of the contradictions. For example, liberal publications are often more open to include articles that are in complete opposition to the magazine’s editorial outlook, whereas conservative publications tend to advance a more unified

political voice (Alterman, 2003). Cultural issues (e.g., homosexuality) and religious issues also muddy the waters of political thought.

Having completed this exercise, I ask students to go online and seek out other publications that present competing political perspectives. This task is typically a new experience for most of them. As we saw with Web-page evaluation practices, the search for factual, objective information is embedded in the research assignments that dominate U.S. school culture. As early as elementary school and well into college, students are asked to discern between facts and opinions, to privilege facts over opinions, and to construct “the truth” based on “factual” expert sources (Boostrom, 2005). Moreover, the U.S. news media presents an aura of objectivity, unlike the *presse d’opinion* in France and other parts of Europe, where a young person is constantly confronted with competing political ideas at every newsstand. What this exercise attempts to advance, then, is a critical understanding—not an evaluation—of a full range of competing political ideas. No wonder so many students describe themselves as “apolitical” or “bored” with the political system: they do not have the means for understanding it.

Step 2: Investigating One Issue

Once the foundations of critical political understanding are established, it is helpful to select an issue for class investigation that defies the liberal/conservative or Republican/Democrat dichotomy. Cushla Kapitzke (2001) suggested that, when constructing assignments, we should ask for a range of theoretical, ideological, and political perspectives, rather than “objective facts.” She used globalization as a potential topic and would have students “focus on the social construction of discourses and practices of economic and cultural integration, which have costs and benefits, advantages and drawbacks, in specific local and global contexts” (p. 453). To turn this project away from a mere assemblage of “truth” and toward a project where students work to construct meaning, Kapitzke suggested that librarians and teachers help students find a range of texts “produced by unionists, transnational corporations, indigenous peoples, feminists, environmentalists, and the World Trade Organization, all of which would present different and often conflicting versions of ‘reality’” (p. 454??).

Q17

A topic that has worked well for me has been “obesity,” which has lately become a major issue both nationally and globally and, as such, a common news topic as health studies are released and new anti-obesity drugs are created. Obesity is a good topic because—like so many topics—it seems so apolitical. And yet, the discourse surrounding the obesity issue is tremendously political. One can find numerous texts that blame big business (i.e., the processed food, snack, and soda industries, corn and soybean industries, and pharmaceutical companies) for their possible role in the obesity epidemic. Other voices cite the commercial media system (so dependent on food, snack, soda, and pharmaceutical advertising revenue), and the U.S. political system

(ever dependent on campaign donations from these same powerful industries) as implicit in obesity rates. Still more voices cite the larger social environment of hypercapitalism and call for drastic social change in terms of public parks, public education, workplace regulations, and taxation to set things right. To greater or lesser degrees, these voices are public interest advocates, and take on a public conception of democracy.

Meanwhile, plenty of competing voices reflect a position of “personal responsibility” and take on a private conception of democracy. Perhaps big business has the most to gain by portraying obesity as an individual and not a social problem. By successfully blaming individuals for making their own “bad” lifestyle choices, Big Food and Big Pharma can more easily avoid culpability for obesity rates and can comfortably continue their highly profitable business as usual. The commercial media system, it turns out, also revealingly skews its “objective” news reports about obesity in favor of personal responsibility. Because the news media are so dependent on advertising revenue, they are far more comfortable spinning stories that champion new drugs, new treatments, and individual responses to obesity rather than conducting investigative reports into the types of larger social issues that would upset the status quo.

With a better understanding of the political nature of the obesity topic, students can begin to question the political bias of all their information sources, including those coming from commercial search engines. Anyone who types in the word “obesity” in Google, for example, will be flooded with sites. Not surprisingly (given the previous analysis on the political economy of the Internet), there are numerous Web sites within the first three pages of a search result list selling health-treatment plans, supersize clothing, and “individual” solutions to the obesity epidemic. However, what about the other legitimate-looking pages that would meet the approval of Web page evaluation guidelines? At number one, two, and three on a recent Google search using the term “obesity” are the “American Obesity Association” (www.obesity.org/) “CDC Overweight and Obesity” (www.cdc.gov/node.do/id/0900f3ec80007302) and “The Obesity Society” (<http://www.obesityresearch.org/>). They seem to provide factual, evenhanded, objective information, offering causes and solutions to the “obesity epidemic.” However, only a student well-versed in the political discourse outlined in Step 1 would recognize that these sites represent only one perspective in the obesity debate (envisioning obesity as a medical issue, which can be addressed only by individual action), and determine the need to search further. The number 6 listing, a link to the nonprofit Wikipedia’s entry on obesity, was the only Web site in the first three pages of the search result list that discussed obesity as a public interest/social issue as well as a medical/personal responsibility issue. The next Web site in the results list to discuss obesity as a public interest/social issue was the Center for Media and

Democracy, which came in at number 99; at the ninth page, this would not be seen by most searchers.

Step 3: Understanding the Political Economy of Information

This step asks students to consider the whole political economy of information. Why is there so little breadth of information in the obesity search? Could it be that the commercial Internet works in the same way as our other commercial media outlets? Money drives content in the world of commercial search. A more complicated way of looking at this is that beyond the many commercial advertisements inundating our search results list, Google gives us the most popular views on the obesity topic. And, in the world outside of Google, the most popular views typically are not the dissenting views. Indeed, Google gives us a world much like the mainstream news media, where commercially controlled and industry sanctioned positions dominate, and dissent is marginalized. That does not mean that dissenting opinions are not valid—they could be the best take on an issue. However, if they are marginalized in the rest of the mass media, they will also be marginalized on Google.

A search result list like the one for “obesity” can be a launching point for a critique of commercial search engines as an information resource. Educators can help students understand the reality of search engine conglomerates as advertising brokers, not information brokers. They can discuss the state of Internet conglomeration and competition, which will surely turn many free services to paid services; the effects of SEOs; and debates over the future of information (e.g., Benkler, 2006; Bollier, 2002; Lessig, 2002).

In our overall discussion of “obesity,” it is no surprise that the fullest range of information comes from university library books, political magazines, and public interest Web sites—all of which are typically off a student’s radar—that advocate alternative views to the usual fare of the mainstream commercial media. Wikipedia is an excellent example of how a *nonprofit* information resource handles information. The open source encyclopedia offers diverse coverage with plentiful updates and a platform that is committed to disseminating many, often competing, views. In a nonprofit information universe, ideas can coexist more easily without economic ramifications.

As McClaren and Lankshear (1993) advised, “[Critical literacy] teachers must themselves be widely enough read to know where to locate content that can help learners investigate curriculum issues from a more critical standpoint than those represented in prescribed texts” (p. 47). Teachers need to point their students to a range of well-argued opinions. That means books (print or online). That also means databases either within the public library or on the Internet. The growing movement of nonprofit digital libraries—a movement that at its core supports critical literacy—should be of paramount interest to all educators and librarians (Fabos, 2004). In the political economy of

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information, where commercial interests are encroaching more and more into the role of librarians, these collaborative, citizen and librarian-driven databases play a critical role in the future of information.

Toward a Critical Literacy Movement

David Bollier (2002), the cofounder of Public Knowledge, an advocacy group for Internet and intellectual property issues, spoke to the need of a public information commons. He advocated an online collaboration-rich sphere teeming with a full range of human expression, as opposed to a centralized, corporate-controlled alternative. The central issue, Bollier argued, is the way information flows in society and who will pay for it.

Because the Internet is clearly the central medium of the new information environment, educators must also confront this issue. We cannot just hope that Google, Yahoo!, and Microsoft will do the right thing—our present experience and history tells otherwise. Critical literacy helps to show us what is wrong with the current information environment. However, it also points the way toward a more ideal information environment, and advocates a growing movement of democratic alternatives to the commercial Internet.

One of the leading alternatives is the digital archiving movement, which is about shaping tomorrow's Internet—at least a portion of it—for public good and education. Thousands of citizens, digital librarians, and subject experts across the world are quietly building nonprofit subject gateways so that potentially marginalized information can be made accessible. Wikipedia, the world's largest open source reference Web site, is one example of this movement, as are INFOMINE (infomine.ucr.edu/), ibiblio (www.ibiblio.org/), the Oaister project (oaister.umdl.umich.edu/o/oaister/), and the Internet Archive (www.archive.org)—all nonprofit initiatives based in the United States but with global implications. In the United Kingdom, across continental Europe and in Australia, in particular, concerted government investment has gone into building digital archives for the purpose of education, such as the United Kingdom's Resource Discovery Network (www.rdn.ac.uk/) and Renardus (www.renardus.org/), a European-Union-funded subject gateway project. Another key to this movement is cross-searching technology, which allows digital archives to combine and become searchable, much like a search engine interface.

It is critical that educators know about these significant initiatives, steer their students toward these databases, and build a broader discourse around the digital archiving movement so that these public interest initiatives become highly valued. Keeping these efforts visible and understanding why they need to be there is a worthy fight. And, it seems that the idea of an “information commons” is gaining ground.

The commercial sphere would like to control information. But there is a price for this, sometimes with actual monetary fees, but always with barriers to the widest possible range of ideas. Critical literacy reveals the truth about

our information environment and leads us to the idea of a networked public sphere. The important condition is that there will always be a struggle if the public wants a stake in controlling it.

References

- Alexander, J. E., & Tate, M. A. (1999). *Web wisdom: How to evaluate and create information quality on the Web*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Alterman, E. (2003). *What liberal media?* New York: Basic Books.
- Arnold, J. M., & Jayne, E. A. (1998, January). Dangling by a slender thread: The lessons and implications of teaching the World Wide Web to freshmen. *The Journal of Academic Librarianship*, 24(1), 43–52.
- Aufderheide, P. (1999). *Communications policy and the public interest: The telecommunications act of 1996*. New York: The Guilford Press.
- Bagdikian, B. (2004). *The new media monopoly*. Boston: Beacon Press.
- Bailey, G. D., & Lumley, D. (1999, January). Fishing the net. *Electronic School*, A20–A23.
- Battelle, J. (2005). *The search: How Google and its rivals rewrote the rules of business and transformed our culture*. New York: The Penguin Group.
- Benkler, Y. (2006). *The wealth of networks: How social production transforms markets and freedom*. New Haven, CT: Yale University Press.
- Berger, P. (1998). *Internet for active learners: Curriculum-based strategies for K–12*. Chicago: American Library Association.
- Berlin, J. A. (1993). Literacy, pedagogy, and English studies: Postmodern connections. In C. Lankshear & P. McClaren (Eds.), *Critical literacy, politics, praxis, and the postmodern* (pp. 247–270). Albany: State University of New York Press.
- Blandy, S. G., & Libutti, P. O. (1995, Fall). As the cursor blinks: Electronic scholarship and undergraduates in the library. *Library Trends*, 44(2), 279–305.
- Bollier, D. (2002, June 15). *Saving the information commons: Remarks by David Bollier*. Paper presented at the ALA Convention, “Pirates on the Commons” Panel, Atlanta, GA. Retrieved July 30, 2006, from <http://www.ala.org/ala/acrlbucket/copyrightcommit/copyrightcommitteepiratesbollier.htm>
- Boostrom, R. (2005). *The foundation of critical and creative learning in the classroom*. New York: Teachers College Press.
- Bos, N. (2000). High school students’ critical evaluation of scientific resources on the World Wide Web. *Journal of Science Education and Technology*, 9(2), 161–173.
- Brandt, D. S. (1996, May). Evaluating information on the Internet. *Computers in Libraries*, 16(4), 44–46.
- Breivik, P. S., & Senn, J. A. (1998). *Information literacy: Educating children for the 21st century* (2nd ed.). Washington, DC: National Education Association.
- Burbules, N. C., & Callister, T. A., Jr. (2000). *Watch it: The risks and promises of information technologies for education*. Boulder, CO: Westview Press.
- Carey, J. (1997). *James Carey: A critical reader*. Minneapolis: University of Minnesota Press.
- Carter, D. S. (1999). Internet public library (IPL). In A. Wells, S. Calcari, & T. Koplow (Eds.), *The amazing Internet challenge: How leading projects use library skills to organize the Web* (pp. 121–143). Chicago: American Library Association. Q19
- Claus-Smith, D. (1999, November/December). Starting small, dreaming big: The OSLIS Project brings resources statewide. *Multimedia Schools*, 6(5), 29–31.
- Cox, J. L., & VanderPol, D. (2004). Promoting information literacy: A strategic approach. *Research Strategies*, 20(1–2), 69–76. Q20
- Curran, J., & Gurevitch, M. (2004). *Mass media and society* (4th ed.). Oxford, U.K.: Oxford University Press.
- Douglas, S. (1987). *Inventing American broadcasting, 1899–1922*. Baltimore: Johns Hopkins University Press.

- Ebersole, S. (2000, September). Uses and gratifications of the Web among students. *Journal of Computer-Mediated Communication*, 6(1). Retrieved May 18, 2003, from <http://www.ascusc.org/jcmc/vol6/issue1/ebersole.html>
- Ebersole, S. E. (2005). On their own: Students' academic use of the commercialized Web. *Library Trends*, 53(4), 530–538.
- Ehrenreich, B. (1989). *Fear of falling: The inner life of the middle class*. New York: Harper Perennial.
- Fabos, B. (2004). *Wrong turn on the information superhighway: Education and the commercialization of the Internet*. New York: Columbia University Teachers College Press.
- Q21 Fabos, B. (2006a). Search engine anatomy: The industry and its commercial structure. In C. Kapitske & C. Bruce (Eds.), *Libr@ries: Changing information space and practices* (pp. XX–XX) . Mahwah, NJ: Lawrence Erlbaum Associates.
- Q22 Fabos, B. (2006b). For the love of facts: Misguided searching on the information superhighway. In J. Lockard & M. Pegrum (Eds.), *Brave new classrooms: Educational democracy and the Internet* (pp. XX–XX) . New York: Peter Lang.
- Q23 Fallows, D. (2005). Search engine users. *Pew/Internet & American life project*. Retrieved July 1, 2006, from <http://www.pewinternet.org>
- Q24 Fones-Wolf, E. A. (1994). *Selling free enterprise: The business assault on labor and liberalism, 1945–60*. Urbana: University of Illinois Press.
- Fones-Wolf, E. A. (2006). *Waves of opposition: The struggle for democratic radio, 1933–58*. Champaign-Urbana: University of Illinois Press.
- Q25 Freepress (2006). *Save the Internet.com*. Retrieved July 4, 2006, from <http://www.savetheinternet.com/=act>
- Q26 Gaither, C. (2006, May 22). The one bit of info Google withholds: How it works. *Los Angeles Times*, p. XX .
- Q27 Gee, J. P. (2001). Forward. In C. Lewis (Ed.), *Literacy practices as social acts* (pp. xv–xix). Mahwah, NJ: Lawrence Erlbaum Associates.
- Gerhart, S. L. (2004, January). Do Web search engines suppress controversy? *First Monday*, 9(1). Retrieved January 23, 2004, from http://firstmonday.org/issues/issue9_1gerhart/index.html
- Gibson, S., & Tranter, J. (2000, Summer). Internet information: the whole truth? *Canadian Social Studies*, 34(4), 77–80.
- Giroux, H. A. (1987, February). Critical literacy and student experience: Donald Graves' approach to literacy. *Language Arts*, 64, 175–81.
- Giroux, H. A. (1998). Education in unsettling times: Public intellectuals and the promise of cultural studies. In D. Carlson & M. W. Apple (Eds.), *Power/knowledge/pedagogy: The meaning of democratic education in unsettling times* (pp. XX–XX) . Boulder, CO: Westview Press.
- Q28 Graham, J. (2006, April 21). Google's quarterly revenue nearly doubles from last year. *USA Today*, p. X .
- Q29 Grassian, E. S., & Kaplowitz, J. R. (2001). *Information literacy instruction: Theory and practice*. New York: Neal-Schuman Publishers, Inc.
- Gray, P., & Brunette, K. (1999, March). *Re: U.S. perspectives on consumer protection in the global electronic marketplace, comment P994312*. Retrieved June 10, 2006, from the Internet Consumers Organization (ICO) Web site: <http://www.ftc.gov/bcp/icpw/comments/ico1.htm>
- Griffiths, J. T., & Brophy, P. (2005). Student searching behaviour and the Web: Use of academic resources and Google. *Library Trends*, 53(4), 539–554.
- Q30 Hall, S. (1977). Culture, the media and the ideological effect. In J. Curran, M. Gurevitch, & J. Woolacott (Eds.), *Mass communications and society* (pp. XX–XX) . London: Edward Arnold.
- Q31 Hansell, S. (2006, June 23). Google is testing ads for video service. *New York Times*, p. XXX.
- Haycock, K. (2006, February) Information literacy programs can foster disciplined inquiry. *Teacher Librarian*, 33(3), 38.

- Henderson, J. R. (2000, June 13). *ICYouSee: T is for thinking*. Retrieved November 7, 2000 from the Ithaca College Library Web site: <http://www.ithaca.edu/library/Training/hott.html>
- Hindman, M., Tsioutsoulouliklis, K., & Johnson, J. (2003). "Googlearchy": *How a few heavily-linked sites dominate politics on the Web*. Retrieved April 10, 2004, from www.princeton.edu/~mhindman/googlearchy--hindman.pdf
- Hobbs, R. (2005). Media literacy and the K–12 content areas. In G. Schwarz & P. I. Brown (Eds.), *Media literacy: Transforming curriculum and teaching* (pp. 74–99). Malden, MA: Blackwell Publishing. Q32
- Holt, G. (1995, September 15). Catalog outsourcing: No clear cut choice. *Library Journal*, 120(15), 32–34.
- Information literacy and the Internet: How to sort "good" online information from the bad. (1996, September). *Classroom connect (The K–12 educator's practical guide to using the Internet and commercial online services)*, 1, 4–5. Q33
- Introna, L., & Nissenbaum, H. (2000). Shaping the Web: Why the politics of search engines matters. *Information Society*, 16(3), 189–186.
- Jhally, S. (1990). *The codes of advertising*. Oxford, U.K.: Routledge.
- Kapitzke, C. (2001, February). Information literacy: The changing library. *Journal of Adolescent & Adult Literacy*, 44(5), 450–456.
- Kellner, D. (2001). Multiple literacies and critical pedagogy in a multicultural society. In P. Shannon (Ed.), *Becoming political, too: New readings and writings on the politics of literacy education* (pp. 31–51): Portsmouth, NH: Heinemann. Q34
- Kennedy, S. D. (1998). *Best bet Internet: Reference and research when you don't have time to mess around*. Chicago: American Library Association.
- Kim, W. (2006, March–April). Trends in the uses of the Internet—2006. *Journal of Object Technology*, 5(2), 55–60.
- Kinchloe, J. (2006). Forward CHECK. In D. Macedo (Ed.), *Literacies of power: What Americans are not allowed to know* (pp. XX–XX). Boulder, CO: Westview Press. Q35
- Kirkwood, H. P. (1998, July/August). Beyond evaluation: A model for cooperative evaluation of Internet resources. *Online*, 22(4), 66–84.
- Kohut, R. (2000, March). MetaSearching the net. *Learning and Leading with Technology*, 27(6), 18–21.
- Lankshear, C., & McClaren, P. (1993). Q37
- Lawrence, S., & Giles, C. L. (1999, July 8). Accessibility of information on the Web. *Nature*, 400(6740), 107–109.
- Lessig, L. (2002). *The future of ideas: The fate of the commons in a connected world*. New York: Vintage.
- Lewis, C. (2001). *Literacy practices as social acts*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Livingstone, D. W. (1987). *Critical pedagogy and cultural power* (D. Livingstone, Ed.). New York: Bergin & Garvey Publishers.
- Martin, C. R., & Fabos, B. (1998, September). Wiring the kids: The TV ad blitz to get the Internet into home and school. *Images: A Journal of Film and Popular Culture*, 6, XX–XX. Q38
- McChesney, R. W. (1994). *Telecommunications, mass media, & democracy: The battle for the control of U.S. broadcasting, 1928–1935*. London: Oxford University Press.
- McChesney, R. W. (1997). *Corporate media and the threat to democracy*. New York: Seven Stories Press.
- McChesney, R. (1999). *Rich media, poor democracy: Communication politics in dubious times*. Urbana: University of Illinois Press.
- McChesney, R. (2004). *The problem with the media*. New York: Monthly Review Press. Q39
- McColl, J. (2006, February 8). Google challenges for academic libraries [Electronic version]. *Ariadne*, 46, 1–6.
- Minkel, W. (2000, October). Burden of spoof. *School Library Journal*, 46(10), 49.

- Modahl, M. (1999). *Now or never: How companies must change today to win the battle for Internet consumers*. Cork City, Ireland: Collins.
- Molnar, A. (1996). *Giving kids the business: The commercialization of America's schools*. Boulder, CO: Westview Press.
- Mosco, V. (1996). *The political economy of communication*. London: Sage.
- Noakes, A. (1999). Argus Clearinghouse (Argus). In A. Wells, S. Calcari, & T. Koplou (Eds.), *The amazing Internet challenge: How leading projects use library skills to organize the Web* (pp. 17–35). Chicago: American Library Association.
- O'Sullivan, M., & Scott, T. (2000, March/April). Teaching Internet information literacy: A critical evaluation (part I). *Multimedia Schools*, 7(2), 40–44.
- Q40 Pungente, J. J., Duncan, B., & Andersen, N. (2005). The Canadian experience: Leading the way. In G. Schwarz & P. I. Brown (Eds.), *Media literacy: Transforming curriculum and teaching* (pp. 140–160). Malden, MA: Blackwell Publishing.
- Quinn, S. (2006). *Conversations on convergence: Insiders' views on news production in the 21st century*. New York: Peter Lang.
- Reynolds, E., & Plucker, J. (1999, May). Panning for gold (creatively) on the new frontier: Locating and evaluating educational resources on the Internet. *NASSP Bulletin*, 83(607), 8–15.
- Safford, B. (1996, November). The problem with the Internet is NOT the information highway. *School Library Media Activities Monthly*, 13(3), 42–43.
- Salpeter, J. (2003). Web literacy and critical thinking: A teacher's tool kit. *Technology & Learning*, 23(8), 22–34.
- Samoriski, J. (2000, Winter). Private spaces and public interests: Internet navigation, commercialism and the fleecing of democracy. *Communication Law and Policy*, 5(1), 93–114.
- Schuler, D., & Day, P. (Eds.). (2004). *Shaping the network society: The new role of civil society in cyberspace*. Boston: The MIT Press.
- Sehr, D. T. (1997). *Education for public democracy*. Albany: State University of New York Press.
- Shannon, P. (1992). *Becoming political: Readings and writings in the politics of literacy education*. Portsmouth, NH: Heinemann.
- Sholle, D., & Denski, S. (1993). Reading and writing the media: Critical media literacy and postmodernism. In C. Lankshear & P. McClaren (Eds.), *Critical literacy: Politics, praxis, and the postmodern* (pp. 297–322). New York: State University of New York Press.
- Solock, J., & Wells, A. T. (1999). Scout report signpost (signpost). In A. Wells, S. Calcari, & T. Koplou (Eds.), *The amazing Internet challenge: How leading projects use library skills to organize the Web* (pp. 203–222). Chicago/London: American Library Association.
- Spring, J. (1997). *The American school, 1642-1996*. New York: McGraw-Hill Companies.
- Q41 Street, B. (2003). What's "new" in new literacy studies? Critical approaches to literacy in theory and practice. *Current Issues in Comparative Education*, 5(2), XX–XX.
- Sullivan, E. V. (1987). Critical pedagogy and television. In D. Livingstone (Ed.), *Critical pedagogy and cultural power* (pp. 57–75). New York: Bergin & Garvey Publishers.
- Q42 Tedeschi, B. (2006, June 26). As online ads grow, eyeballs are valuable again on the web. *New York Times*, p. XXX .
- Q43 *The Age*. (2003, November 4). Melbourne, Australia, p. 16.
- Walker, H. M., & Engel, K. R. (2003). Research exercises: A sequenced approach to just-in-time information literacy instruction. *Research Strategies*, 19(2), 135–147.
- Walker, J. (2005, Spring). Links and power: The political economy of linking on the Web. *Library Trends*, 53(4), 524–529.
- Watson, J. S. (2001, October). Students and the World Wide Web. *Teacher-Librarian*, 29(1), 15–19.
- Won, K. (2006, March-April). Trends in the uses of the Internet—2006. *Journal of Object Technology*, 5(2), 55–69.
- Young, J. (2005, October 7). *Microsoft, joining growing digital-library effort, will pay for scanning of 150,000 books*. Retrieved June 6, 2006, from The Chronicle of Higher Education Web site: <http://chronicle.com/free/2005/10/2005102701t.htm>

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