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Media Literacy and the Challenge of New Information and Communication Technologies

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Within both academic and policy discourses, the concept of media literacy is being extended from its traditional focus on print and audiovisual media to encompass the internet and other new media. The present article addresses three central questions currently facing the public, policy-makers and academy: What is media literacy? How is it changing? And what are the uses of literacy? The article begins with a definition: media literacy is the ability to access, analyse, evaluate and create messages across a variety of contexts. This four-component model is then examined for its applicability to the internet. Having advocated this skills-based approach to media literacy in relation to the internet, the article identifies some outstanding issues for new media literacy crucial to any policy of promoting media literacy among the population. The outcome is to extend our understanding of media literacy so as to encompass the historically and culturally conditioned relationship among three processes: (i) the symbolic and material representation of knowledge, culture and values; (ii) the diffusion of interpretative skills and abilities across a (stratified) population; and (iii) the institutional, especially, the state management of the power that access to and skilled use of knowledge brings to those who are 'literate'.

Renewed Debates Over Media Literacy

The concept of media literacy, like that of literacy itself, has long proved contentious (Luke, 1989). The hugely significant skills of reading and writing have been augmented by the also-significant skill of "reading" audiovisual material from the mid-twentieth century onward. Today, as we witness a further major shift in information and communication technology (ICT), a new form of literacy is emerging, uneasily termed computer literacy or Internet literacy. This new form of literacy, if it is indeed "new," and if it is appropriately labeled "literacy," lies at the heart of a series of lively debates intersecting the academy, the policy community, and the public.

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A casual search of bookshops makes plain the explosion of academic interest in questions of literacy, with titles exploring literacy in the electronic era (Snyder, 1998), the information age (Kubey, 1997), the digital era (Warnick, 2002), the digital world (Tyner, 1998) or even cyberliteracy (Gurak, 2001). These volumes draw together a multidisciplinary mix of specialists in literacy, culture, media education, human-computer-interaction, and social studies of technology (Kellner, 2002; Kubey, 1997; Poster, 2001; Tyner, 1998). Meanwhile, policymakers are determining regulatory frameworks required to produce an ICT-literate population, at times turning to the academy for guidance.

This mix of disciplines and stakeholder interests is perhaps generating more heat than light at present. This is exacerbated by the fact that so far, research has been mainly analytic, for few have explored new literacies empirically. Indeed, only recently has the majority of the public even had the chance to come to terms with the new skills required of them not just in their leisure, as with television, but crucially also at work, in education and in their community (Livingstone, 2002). This brief article takes the opportunity to draw out a series of key intellectual challenges posed by the introduction of new information and communication technologies for our thinking about media literacy.

Is "Literacy" a Useful Term?

History tells us that even the narrow and common sense meaning of the term "literacy"—being able to read and write—masks a complex history of contestation over the power and authority to access, interpret, and produce printed texts (Luke, 1989). Such scope for contestation is magnified as the materiality of symbolic texts increasingly relies on audiovisual and computer-based technologies. In theorizing people's interpretations of media, old and new, are we now dealing with one or many literacies? Are the literacies required for today's communication and information environment an extension of, or a radical break with, past traditions of knowledge and learning? Should the academy be guiding, or critiquing, the implementation of media literacy policy (Sterne, 2002)?

Some might argue that we should leave the somewhat opaque, contested term "literacy" to its origins in high culture (Williams, 1976), rejecting its association with the world of authoritative printed books and its tendency to stigmatize those who lack it. Doubtless the spawning of new literacies—computer literacy, cyber-literacy, Internet literacy, network literacy, digital literacy, information literacy—is infelicitous. And how do these relate to the existing literacy terms—print literacy, audiovisual literacy, critical literacy, visual literacy, oral literacy, cultural literacy, or social literacy (Freire & Macedo, 1987; Hirsch, 1987; Street, 1995)? When the dominant media shifted from print-based to audiovisual media, communication scholars shifted their conceptual vocabulary away from reading and literacy to audience reception and interpretation. So why now, faced with new computer-based media, revert to literacy? I suggest that the terms "audience"

and "reception" do not work so well for media which are socially diversified (rather than mass), technologically converged (rather than distinct) and interactive (rather than one-to-many, with producer and receiver separate).

The crucial point is not that computers are replacing television, just as television did not replace print; rather, people now engage with a media environment which integrates print, audiovisual, telephony, and computer media. Hence, we need a conceptual framework that spans these media. Literacy seems to do the work required here: It is pan-media in that it covers the interpretation of all complex, mediated symbolic texts broadcast or published on electronic communications networks; at the same time, because historically it has been tied to particular media forms and technologies, literacy foregrounds the technological, cultural, and historical specificity of particular media as used in particular times and places.

What is Media Literacy?

When a single term is used across diverse domains, confusions arise. How media literacy is defined has consequences for the framing of the debate, the research agenda and policy initiatives. At present, definitions range from the tautological (computer literacy is the ability to use computers) to the hugely idealistic: "The term literacy is shorthand for cultural ideals as eclectic as economic development, personal fulfillment, and individual moral fortitude" (Tyner, 1998, p. 17). Nonetheless, in a key conference a decade ago, a clear, concise and widely adopted definition emerged: Media literacy—indeed literacy more generally—is the ability to access, analyze, evaluate, and create messages in a variety of forms (Aufderheide, 1993; Christ & Potter, 1998). These four components—access, analysis, evaluation, and content creation—together constitute a skills-based approach to media literacy. Each component supports the others as part of a nonlinear, dynamic learning process: Learning to create content helps one to analyze that produced professionally by others; skills in analysis and evaluation open the doors to new uses of the Internet, expanding access, and so forth.

For the moment, let us agree that this is a useful definition—although I argue later that these are necessary but not sufficient components for literacy—and ask, how far is it possible or desirable to adapt what we know of print and audiovisual media literacy in order to map a research agenda for new forms of literacy in today's changing media environment?

Access

Understanding barriers to access has been long debated in relation to print media (raising concerns about education and social mobility) and telephony (centering on universal service provision to ensure social participation). It has posed fewer problems for audiovisual media, although today the diversification and commercialization of television channels puts universal participation in a shared culture

and the provision of free-to-all public service content back on the agenda. In relation to new media, the digital divide debate examines the challenges of ensuring that ICT provision facilitates rather than undermines equality in education, participation and culture (Kellner, 2002; Norris, 2001; Rice, 2002). As research on the domestic appropriation of ICT has revealed, access is a dynamic and social process, not a one-off act of hardware provision, to be evaluated in terms of the ongoing quality of provision in media contents and services (Facer, Sutherland, Furlong, & Furlong, 2001; Livingstone, 2002; Ribak, 2001). Moreover, while it is becoming clear that media access underdetermines use, a more sophisticated account is required of how the two are linked. Much could be learned here from television literacy, where research shows that the social context in front of the screen frames and directs the nature of the engagement with and learning from what is shown on the screen (Buckingham, 2000; Silverstone, 1994; Singer & Singer, 2001).

Analysis

Questions of equality in knowledge, culture, and participation through media are not simply to be resolved by addressing the question of access. A sustained and satisfactory engagement with symbolic texts rests on a range of analytic competencies (Eco, 1979): Readers and viewers must be literate in the sense of being competent in and motivated toward relevant cultural traditions and values. While the reader-response theorists (Iser, 1980) identified competencies for the reader of literary works, media scholars identified parallel interpretative skills to decode audiovisual media (Hall, 1980; Hodge & Tripp, 1986; Liebes & Katz, 1995; Livingstone, 1998); it is these skills that media education programs teach to children. Buckingham (1998), building on Bazalgette's (1999) work, outlines a six-fold scheme that teaches students to address questions of media agency, media categories, media technologies, media languages, media audiences, and media representations. If we treat this as an initial specification of the analytic competence for effective use of new media, this could offer a valuable framework for new media literacies. On the other hand, it could be argued that our analytic repertoire—genre, narrative, authorial voice, modality, literary merit—is heavily dependent on its historical origins in print, being therefore only poorly applicable to new media.

Evaluation

Evaluation is crucial to literacy: Imagine the World Wide Web user who cannot distinguish dated, biased, or exploitative sources, unable to select intelligently when overwhelmed by an abundance of information and services. Being able to evaluate content is no simple skill; rather, critical evaluation rests on a substantial body of knowledge regarding the broader social, cultural, economic, political, and historical contexts in which media content is produced (Bazalgette, 1999). The challenge is exacerbated for the World Wide Web, produced in an age of

information abundance, even overload. Compare this with print and audiovisual texts, produced in a context of scarcity, with few people having access to the systems of production and distribution. As this maintained the distinction between producers and consumers, with key filters operating to select material to be distributed in accordance with criteria of cultural quality, ideology, market pressure or professional production values, it was the operation and consequences of these filters that formed the centerpiece of critical media literacy teaching. Now that almost anyone can produce and disseminate Internet contents, with fewer—and different kinds of—filters, the basis of critical literacy must alter.

In this fast-changing production context, teaching users to question the authority, objectivity or quality of mediated knowledge becomes ever more crucial. How much contextual and critical knowledge is required? What are the appropriate and legitimate grounds for criticism—aesthetic, political, ideological, and/or economic? How do or should these relate to the values of those providing ICT resources and teaching media literacy? To answer this, media literacy programs must address the broader relation between literacy and critique, particularly given shifting criteria of quality, authority, and standards. Buckingham (1998) argues that throughout the history of media literacy education, differing versions of the tension between a positive approach to education-as-democratization and a defensive or paternalist approach to education-as-discrimination (or cultural demarcation) have been played out, often undermining the media educator. Exactly this tension continues to shape contemporary discussions over the appropriate uses of newly gained ICT literacy, with the vague term, "empowerment," ambiguously open to both democratic and defensive constructions.

Content Creation

Not all definitions of media literacy include the production of symbolic texts. Generally, ordinary people are positioned as receivers but not senders of messages. Indeed, the history of print literacy shows that, while teaching the population to read was itself highly contentious, teaching people to write required yet a further struggle between the elitist interests of the establishment and the democratizing trends of the enlightenment (Kintgen, Kroll, & Rose, 1988). In audiovisual media education, a parallel struggle has been apparent, often argued in terms of pedagogic effectiveness; supposedly children understand the conventions and merits of professionally produced material if they have experience making it themselves (Hobbs, 1998; Sefton-Green, 1999). For others, the argument for content creation is rather that of giving the tools for communication to the "voiceless," furthering the rights of self-expression and cultural participation. In advancing policy, it would clarify matters to disentangle three arguments: the pedagogic argument that people learn best about media through making it; the employment argument that those with new media skills are increasingly needed as the information sector expands;

and the cultural politics argument that citizens have the right to self-representation and cultural participation.

In key respects, content creation is easier than ever: One and the same technology can be used for sending and receiving, with desktop publishing software, easy-to-use web creation software, digital cameras and webcams putting professional expertise into the hands of everyone. Many are already content producers, developing complex literacy skills through the use of e-mail, chat, and games. The social consequences of these activities—participation, social capital, civic culture—serve to network (or exclude) today's younger generation. At present, cementing content creation within media literacy programs requires further research to establish the relation between reception and production in the new media environment, together with further clarification of the benefits to learning, cultural expression, and civic participation.

Beyond a Skills-Based Approach

Thus far I have developed a skills-based approach to new media literacies that applies across all media, relying on media-neutral terms. This has the advantages of generality and historical continuity, focusing on interpretative skills long valued in Western culture. In a media environment characterized by rapid change, a pan-media definition of literacy is surely practical. But problematically, this also implies that the ability to access, analyze, evaluate, and create communication content is common across the book, television, the Internet. If, instead, it seems that new media, especially online media, represent a radically new information and communication environment, then an account of a literate engagement with this environment must encompass the technological interface as well as the user's skills. In other words, to focus solely on questions of skill or ability neglects the textuality and technology that mediates communication. In consequence, it unwittingly supports a universalist, cognitive framework, thereby neglecting in turn the historical and cultural contingency of both media and the social knowledge processes that interpret them. Visualize someone reading a book, watching television, playing a computer game, searching the World Wide Web—evidently there is not only skill involved but also an interpretative relationship with a complex, symbolically-encoded, technologically-mediated text. I suggest that, as people engage with a diversity of ICTs, we must consider the possibility of literacies in the plural, defined through their relations with different media rather than defined independently of them. In the language of audience research, the conceptual shift is from an exclusive focus on the viewer to a focus on the interaction between text and reader or between inscribed and actual viewer/user.

From Print to Screen

So, once we claim that technology makes a difference, then a purely individual, skills-based model will not suffice. Instead we must ask how literacy changes—

and becomes plural—as the technology changes. For the centuries during which literacy meant print literacy, we became accustomed to taking for granted the specificity of this medium and, therefore, the specificity of literacy *qua* print literacy. Nonetheless, being able to read and write has implied familiarity with a set of historically and culturally specific conventions. For example, the author (together with a biography or institutional affiliation), the publisher, and the date of publication are all set out clearly at the beginning of a book, inviting decoding in terms of cultural value, authority, datedness, etc; the layout, including the balance between words and images, sequencing of segments or chapters, use of contents page, subheadings, bibliography and index, similarly invites a conventional interpretation.

What then of literacy today? If one sees the computer as merely requiring a minimal technical proficiency from its users, and if one thinks that the Internet merely makes already-familiar contents accessible online, then literacy would neither be dependent on, or changed by, the technological shift from page to screen. But if, through its mediating role, ICT is seen to transform knowledge and culture, then this minimal conception of literacy is only the beginning of the story. The challenges ahead will extend beyond the promotion of technical proficiency to reconsidering some deeply-entrenched notions of thinking, learning and authority (Poster, 2001; Rice, 2002; Snyder, 1998; Turkle, 1995; Tyner, 1998).

What's New?

Attempts to specify just what is technologically new about the Internet include analyses of multimedia texts, hypertextuality, anarchic organization, synchronous communication, interactivity, cultural diversity and inclusivity, visual aesthetics, use of bricolage, and so forth, all contrasted with the traditional, linear, hierarchical, logical, rule-governed conventions of print and, by and large, audiovisual media (Castells, 2002; Fornas, Klein, Landendorf, Suden, & Sveningsson, 2002; Lievrouw & Livingstone, 2002; McMillan, 2002; Newhagen & Rafaeli, 1996; Poster, 2001). Although advocates of the "changing literacies" view appear to endorse technological determinism, careful reading repudiates simple causal claims regarding the impact of technology on society (MacKenzie & Wajcman, 1999). Rather, they refer to the supposed underlying shift from modernity to postmodernity, with both technology and literacy being shaped by this grander transformation. For example, Johnson-Eilola (1998) posits a generation gap in understanding "a game" thus: "where modernists are compelled to understand the rules before playing a game—or at best, must be able to discern simple, clear rules by trial and error—postmodernists are capable of working such chaotic environments from within, movement by movement" (p. 195). So, are transformations in literacy indeed so dramatic as to contribute to the shift from modern to postmodern culture (Poster, 2001)?

The counterargument holds that claims made for the transformative nature of the Internet are exaggerated, even false. Perhaps, instead, further research will

reveal continuities with the literacies of past decades and centuries. Arguably, much that is now claimed to be intrinsically new to the Internet—heterogeneity of sources, competing authorities, nonlinear or visual forms of representation and so forth—has long applied to libraries, encyclopedias, textbooks, and the like. And the dismay of parents and teachers in contemplating the activities of the younger generation is hardly the sign of a radical break with the past. While the "no change" view ascribes few if any social consequences to the new forms of textuality and technology, it must be acknowledged that the arguments are as yet inconclusive on both sides.

Changing Literacies

These accounts of "what's new" include, implicitly if not explicitly, a series of speculations regarding the nature of the user's engagement with the Internet. Stimulating though these are, they are reminiscent of semiotic analyses of film and television before the advent of audience reception studies, full of assumptions about the interpretative role of the reader (Eco 1979), which are rarely subjected to empirical investigation. Also problematic, at present we lack a sophisticated analysis of the new media environment in terms of text, technology and cultural form, unlike the early days of audience reception studies when a subtle reading of audiovisual texts—whether based on literary criticism, ideology critique, semiotics, and so on—was already in place. So, research must now identify, in textual terms, how the internet mediates the representation of knowledge, the framing of entertainment, and the conduct of communication. And, in tandem with this analysis, it must investigate the emerging skills and practices of new media users as they meaningfully appropriate ICT into their daily lives. How do people variously "read" the World Wide Web? What practices surround the use of the Web, e-mail, chat, and so forth? What literacies are people thereby developing? A top-down definition of media literacy, developed from print and audiovisual media, while a useful initial guide, should not pre-empt learning from users themselves, as was fruitfully the case for audience research (Livingstone, 1998). When considering how the medium matters—is the message, perhaps—the medium must not be understood solely in terms of technology, it must also be "read" in cultural and political terms. Audiovisual media literacy programs have long been concerned to disabuse their students of the myth of technology's neutrality, the favorite exam question being, "Television is a window on the world: Discuss." Yet in today's popular discourse, we are told that the World Wide Web offers a world of information, that the Internet provides an open channel for societal participation. Analogous work to identify the technological characteristics, textual preferences, normative assumptions, biased framing and skewed modes of address of the world wide web is just beginning (e.g., Burbules, 1998). Notwithstanding the optimism, enthusiasm, and even the radical potential of the medium itself, there is also evidence that—online, through attempts of content-providers to re-impose

hierarchical, print-based models of authoritative information (Castells, 2002) and offline, through attempts to perpetuate traditional methods of teaching, learning, and assessment (Loveless & Ellis, 2001)—there is a considerable counterforce holding back socially and technologically-inspired moves towards a radical break in the history of literacy. As critical analysis progresses, we will gain a better idea of whether "the Internet is a window on the world" and, assuming the answer is negative, a better sense of the task of promoting critical media literacy.

Individual and Institutional Uses of Literacy

Not only does a skills-based definition of literacy focus on users to the neglect of text and technology, it also prioritizes the abilities of the individual over the knowledge arrangements of society. Yet, as Hartley (2002) argues, "literacy is not and never has been a personal attribute or ideologically inert 'skill' simply to be acquired by individual persons . . . It is ideologically and politically charged—it can be used as a means of social control or regulation, but also as a progressive weapon in the struggle for emancipation" (p. 136). If literacy is not an end in itself, so what are its social and institutional uses? How are these managed by media, governmental, educational, and commercial bodies? And what kind of critical stance should the academy take as policy is developed (Sterne, 2002)? These questions are currently pressing for those of us in the U.K., for the new Communications Bill (2003) sets a government regulator the unprecedented brief of "promoting media literacy." What does, could, and should this mean?

As we move into an information society, is media literacy increasingly part of citizenship, a key means, a right even, by which citizens participate in society? Or is literacy primarily a means of realizing ideals of self-actualization, cultural expression, and aesthetic creativity? Will these goals be subordinated to the use of media literacy to support the competitive cultural and economic advantages vital in a globalized, information society? This seems plausible insofar as media literacy, in the U.K. at least, is part of a package of measures to lighten top-down media regulation by devolving responsibility for media use from the state to individuals, a move that can be interpreted either as "empowering" or, more critically, as part of a Foucauldian shift from centralized government to individual governance (Foucault, 1991). Perhaps even these economic goals will be undermined by the reproduction of the divisive standards and values of the established cultural elite. Of the research task explored in this article, namely to extend our understanding of access, analysis, critical evaluation, and content creation from familiar to new media, interestingly it is the latter two which have proved more contentious; yet these are the most crucial to the democratic agenda. Only if these are firmly foregrounded in a definition of media literacy will people be positioned not merely as selective, receptive, and accepting but also as participating, critical; in short, not merely as consumers but also as citizens.

Conclusion

This article has argued that literacy concerns the historically and culturally conditioned relationship among three processes, no one of which is sufficient alone: 1) the symbolic and material representation of knowledge, culture and values; 2) the diffusion of interpretative skills and abilities across a (stratified) population; and 3) the institutional, especially, the state management of the power that access to and skilled use of knowledge brings to those who are "literate." As we extend conceptions of literacy to embrace new media, the first process—that of representation—is barely addressed in the research literature: Until we have a robust account of the media in which people might be judged literate, we can say little about the nature or uses of their literacy. The second process—that of skilled interpretation—has much to learn from the well-established traditions of readership and audience reception in two respects. First, media literacy has developed a sophisticated account of the individual skills involved in decoding media texts, although these have yet to be applied to the new media. Second, audience research has developed an interactive view of the relationship between reader and text which, in the context of new ICTs, must also encompass questions of technology. Literacy, by extension, cannot be conceived solely as a feature of the user but must also be seen as medium-dependent, a co-production of the interactive engagement between technology and user. Further, this paper has argued that, to claim that literacy is changing with the widespread introduction of ICT, research must establish that the literacy associated with the new media, especially the Internet, differs significantly from that of print and audiovisual media.

The third process—that of the institutional uses of literacy—invites a more critical take on literacy, particularly insofar as academic research is used to inform policy. Crucially, however, it is the *relationship* among textuality, competence, and power that sets those who see literacy as democratizing, empowering of ordinary people against those who see it as elitist, divisive, a source of inequality. Today's anxieties over the digital divide merely represent the latest steps in a long-standing struggle between critical and enlightenment positions whose outcome will influence who will have the power to benefit from information and communication in a technologically-mediated twenty-first century.

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