

C O M M E N T A R Y

Why Bother Theorizing Adolescents' Online Literacies for Classroom Practice and Research?

Donna E. Alvermann

One indicator of the current interest in adolescent literacy is the number of different attributes that term connotes. For example, think of the last time you received an inquiry about adolescent literacy and the struggling reader or an invitation to address the topic of adolescent literacy in relation to online social networking sites, such as MySpace and Facebook. Maybe you've been asked to speak to a local school board or curriculum committee on the use of graphic novels and comics with students in the middle grades. Or perhaps you're developing a new graduate seminar that will focus on young people and their literacies in informal settings, such as museums and public libraries. In these and any number of other examples that come to mind, adolescent literacy is linked to social practices that involve reading and writing as well as other modes of communication (e.g., still and moving images, sound, embodied performances) in which young people engage.

Of late, these practices are parts of larger conversations going on in fields other than our own. For instance, faculty in the Institute of Creative Technologies at De Montfort University in the United Kingdom are looking to transliteracy as a potential unifying perspective on what it means to be literate in the 21st century (Thomas et al., 2007). A 2010 goal of the Transliteracies Project (2007) is to "produce a 'framework of online reading' that blueprints...recommendations for best practices, and implementation and evaluation procedures for an integrated range of technological, social, and humanistic approaches to 'improving' online reading" (¶1).

Of course, a unifying perspective with umbrella-like recommendations has the potential to legitimate particular, or even generic, teaching practices associated with online literacies—a potential that Lankshear and Knobel (2006) viewed with caution, especially if the notion of transliteracy were to metamorphose into a posttypographic equivalent of "basic literacy" standards from the world of print. That debate aside, literacy practices associated with the Internet (e.g., blogging, gaming, instant messaging, social networking) are topics of discussion at annual conferences that span the globe. Yet theorizing the role of these online literacies and the implications they may have for

classroom teachers, teacher educators, and researchers whose work is focused at the middle and high school level is rarely a topic of discussion in practitioner journals, or at least in the ones I read on a regular basis.

The Point of This Commentary

A proposal such as this one—to theorize how attending to adolescents’ online literacies might inform our work—invites questions. For instance, Why not simply accept those literacies for what they appear to be—something apart from formal schooling and best not co-opted by us, no matter how noble our intent? A reasonable stance, yet one that fails to dampen my interest (as a former junior high social studies teacher, now teacher educator and researcher) in literacies so powerfully motivating that young people are more and more willing to invest a substantial amount of time and effort in creating content to share with others online.

According to a report released in December 2007 as part of the PEW Internet & American Life Project (Lenhart, Madden, Macgill, & Smith, 2007), the use of social media—blogging; working on a webpage for school or for personal use; sharing original content such as artwork, photos, stories, or videos; and remixing online content to create new texts—is central to the lives of many young people living in the continental United States. Of the 935 adolescents between the ages of 12–17 who were interviewed by phone in a nationally representative sample (with the results weighted to correct for known sociodemographic

discrepancies), 93% treated the Internet as a venue for social interaction. Of those young people who identified as having online access, 64% reported participating “in one or more...content-creating activities on the internet, up from 57% of online teens in a similar survey at the end of 2004” (p. i). More than half had created profiles on a social networking site such as MySpace or Facebook.

As impressive as these numbers are, they do not represent all adolescents and certainly not all their literate activities. Neither do they agree completely with findings from studies conducted in the United Kingdom (Livingstone & Bober, 2005) and in the United States with Latino/a youths (Moje, Overby, Tysvaer, & Morris, 2008).

Nonetheless, the PEW Report does raise questions about what we may have overlooked, or failed to consider relevant, in young people’s penchant for creating online content that could have a bearing on how we teach and research adolescent literacy both now and in the future. For instance, What drives young people to create online content? How unique is the culture of online literacies? Do adolescents’ online literacies have implications for the research and teaching of literacy?

These three questions, which I use to structure the rest of the commentary (see Table 1 for brief definitions of some key terms), look to research that has theorized adolescents’ online literacies in relation to classroom practice. Although answers are partial and at best tentative, they suggest a few clues as to why classroom practice and research have been slow

Table 1 Key Terms

Term	Definition
Adolescence/adolescent literacy	Adolescence, as used here, makes use of Lesko’s (2001) sociohistorical deconstruction of arbitrary age categorizations. Thus, rather than viewing adolescents as not-yet-adults, I see them as having at least some degree of agency within a larger collective of social practices. Adolescent literacy, by extension, is more than an embryonic form of reading and writing; it encompasses a vast array of social practices in which communication is central (Hinchman & Sheridan-Thomas, 2008).
Online literacies	The socially mediated ways of generating meaningful content through multiple modes of representation (e.g., language, imagery, sounds, embodied performances) to produce digital texts (e.g., blogs, wikis, zines, games, personal webpages) for dissemination in cyberspace.
Classroom practice	The word <i>practice</i> , as in <i>classroom practice</i> , refers to the cultural ways in which teachers make sense of what they do, including their interactions with students. These ways involve attitudes, feelings, values, and social relationships, which, while not readily observable, nonetheless serve to regulate who gets to produce or access what textual content, at what point, and for what purposes (Barton & Hamilton, 1998; Street, 1995).

to keep pace with the proliferation in young people's online literacies.

What Drives Young People to Create Online Content?

When I was teaching junior high social studies many years ago, one of the surest signs of student engagement would come in the form of a course-related project that had not been previously assigned. Thus, the day a drawn-to-scale blueprint of a Roman banquet hall showed up on my desk, I took it as a clear signal that Jerry [all names are pseudonyms] was trying to tell the rest of the class and me that the school's gymnasium was hardly a suitable venue for the forthcoming Roman banquet—an annual event that marked the culminating point of our unit on the Roman Empire.

Thinking back on that day in 1965, I have to wonder how Jerry would have modified or shared his blueprint had he had a laptop computer with Internet access at his disposal. Would he have linked it to some visuals on his home page? Included sound? Uploaded digital images of it to Flickr.com? Would he have joined, like so many young people today, a virtual community in which creating content for social, aesthetic, and informational purposes is a common literacy practice? And if so, would pooling that community's resources and making connections across multiple media platforms have produced a participatory culture for learning that is difficult, if not impossible, to duplicate offline? From a researcher's perspective, is there merit in studying how learning is accomplished in a participatory culture where young people collectively pool their resources?

I believe there is, and other literacy researchers (Hagood, 2008; Moje, 2007) seem to agree. Although the theories we use to inform our work may differ, the implications we draw for classroom practice and further research are strikingly similar. The message is consistent: Young people are tirelessly editing and remixing multimodal content they find online to share with others, using new tools to show and tell, and rewriting their social identities in an effort to become who they say they are. In a nutshell, adolescents with access to the Internet are developing the literacies that will serve them well in the years to come.

Unfortunately, not all young people are able to participate in this exciting, socially networked world, an issue that is indeed worrisome and one I will address in a later section.

Remixing Multimodal Content to Create New Texts

Texts in cyberspace are well suited for editing and re-making. With a few clicks of the mouse, "old" online texts transform into content that is often fresh and compelling, at least to its creator and to those whose attention the maker hopes to garner and keep. Thus, even the simple act of cutting and pasting from sound clips, images, video games, podcasts, message boards, newsgroups, and blogs (short for weblogs or online journals) could result in a highly refined parody, say, of a particular event or process (e.g., electing a president or prime minister). I chose this example because I can easily imagine such content, especially if student-created, fitting well into a high school civics class or a current events lesson at the middle school level. Yet based on what I know from the research on adolescents' online literacies, few texts of this kind find their way into school classrooms. Why?

One reason, supposedly, is that young people are often fans of content thought to be inappropriate (or irrelevant at best) to most school curricula. Although not trivial, this reason would seem to stem more from an educator's point of view than a student's. From my reading of the research on adolescents' online literacies, I would say that audience appeal (e.g., having a space in which to affiliate with others who share interests or goals) and time for in-depth discussions around a finished text (perhaps one that was collaboratively authored) are the main factors in young people's decisions to create content destined for informal sharing after school.

Increasingly researchers are pointing to the centrality of audience as a major contributor to adolescents' fascination with self-created online content. Using fandom for part of her theoretical lens, Black (2007) conducted a three-year ethnography of female English-language learners (ELLs) who affiliated around a common interest in fanfiction—a term for stories that fans of an original work (e.g., *Harry Potter*) write by using the settings, characters, and plot from

the original to imagine and create different situations that sometimes include curious mixes across genres and media. Thus, the resulting “new” stories could conceivably feature content that has Harry Potter meeting Peter and Edmund from C. S. Lewis. To give some indication of the diversity of the content, people, and literacies involved with sites such as fanfiction.net, where writers review each other’s work and request stories from their favorite fanfiction authors, Black (2007) drew from her ethnographic study:

While writing [fanfiction], the adolescent ELL may be carrying on several conversations at once via instant-messaging programs, chat rooms, and/or discussion boards [with other fanfiction writers] located in her former hometown in China, her new hometown in North America, and other such diverse places.... She also may be drawing from her knowledge of academic forms of writing, different media genres, as well as her knowledge of English, Mandarin Chinese, and perhaps Japanese to construct the text. (p. 386)

An affinity space (Gee, 2003, 2004) such as this one, in which people with common interests spend huge amounts of time discussing content, revising, and requesting more of the same from valued others in their virtual world, exists in sharp contrast to much of the recent research on marginalized and unmotivated ELLs.

Having a space in which to interact around remixed texts with an appreciative audience was also a key finding in Chandler-Olcott and Mahar’s (2003) study of two adolescent girls who shared an interest in fanfiction that featured Japanese animation (anime). Theorized within a multiliteracies perspective, this study provides a concrete example of the major role that visualization, imagery, and the arts play in adolescents’ creation and dissemination of online content. One girl constructed a series of anime-focused homepages, while the other contributed to an online mailing list by scanning copies of her own artwork, inspired by her favorite anime shows, for the express purpose of receiving feedback from knowledgeable others on the list. Both demonstrated they knew the importance of attracting and maintaining other people’s attention in cyberspace, a skill that is far from trivial in today’s attention economy where “attention, unlike information, is inherently scarce...[with some economists like Goldhaber predicting] that the human

capacity to produce material things [will outstrip] the net capacity to consume the things that are produced” (Lankshear & Knobel, 2002, pp. 20–21).

Using New Tools to Show and Tell

Until recently, language (speech and writing) went largely unchallenged as the communicative mode of choice among literate people. While language ruled, schools quite naturally developed core curricula that conditioned students to choose writing as the chief means of representing ideas they wanted to communicate. In cultures where language predominates, it is customary to find a prevalence of tools better suited for telling than for showing (Kress, 2003). Yet, as one reviewer of this commentary noted, size, color, and placement on the screen in the *showing* tells, and it does so using less text than would be the case if there were no visuals. In some ways, then, showing *is* telling.

In this era of page to screen shifts and multimodal texts, new tools for working with various modes of communication are producing a change in the way that young people are choosing to construct meaningful texts for themselves and others in their affinity spaces.

For instance, research coming out of the United Kingdom and Australia, among other places, demonstrates that adolescents with access to the Internet are using downloadable editing tools to assist with sound production and various other design elements (image, gesture, symbol, and color) necessary for creating computer games that range from the fairly complex to a more garden variety. Even in designing games, there is ample attention given to language as a mode of communication. According to Burn (2007), adolescents use “writing in a literal sense, as part of the design process, as an integral element of games, and as forms of interpretive writing of the kind performed by game fans” (p. 50). Because the authoring software for many computer games is narrative based, Burn’s research focused on how the two genres work together and yet retain their separate properties. From this work, he and his colleagues at the University of London theorized a notion of game literacy that took into account peripheral literacies, such as writing a backstory (the history behind a game’s plot), scripts,

and walkthroughs (directions on how to play the game).

Based on her work with Australian youths, Beavis (2007) documented how youth-designed, multimodal computer games were stretching the boundaries of narrative writing, at least as conceptualized within a print-centric mode. Specifically, she asked,

What happens to writing and the tasks it is asked to do in the context of multimodal literacies? The challenge of bringing together written and digital forms of representation and design in the classroom does not mean that the strengths and values of the written form should be cast aside: in particular, its capacity to provide for reflection and inwardness. It does require, however, a rethinking of the relationship between the two, possibilities for combinations of form, an openness towards what young people are trying to achieve, and an exploration together, between teachers and students, of the dimensions and possibilities of both worlds. (p. 42)

During my own work with adolescents in after-school media clubs (Alvermann, Hagood, & Williams, 2001; Alvermann & Heron, 2001; Alvermann, Marshall, McLean, Bishop, & Kirk, 2007), I observed firsthand how designing personal websites, gaming, and downloading songs require decoding and encoding a complex mix of images, words, sounds, symbols, and genre-specific syntax—content that is not taught in the typical language arts classroom. Adolescents who create visually and aurally narrated texts that rely on viewers' and listeners' imaginations for interpretation have had to teach themselves to use technically sophisticated authoring software.

For example, by installing readily available software, such as Fruity Loops Studio 6, and downloading songs from www.limewire.com, Brad (a high school student in one of our studies) essentially transformed his laptop computer into a synthesizer keyboard, a mixing board, and a virtual recording studio. The fact that he shared his newly learned skills with friends (both virtual and real) so that that they, too, could compose songs or other texts rich in multimodal content for online dissemination came as no surprise. What is surprising, however, is the scarcity of research that examines the potential of new tools for showing and telling in the school curriculum.

Rewriting Social Identities

Young people who portray themselves in the virtual world as being someone other than the person that people in the real world perceive them to be may have stories to tell that teachers, teacher educators, and researchers have not been privy to in the past. These portrayals can be accomplished through an avatar (a visual representation of an online role-playing gamer's character), through multimodal self-representations in online social networking sites such as MySpace, and through websites constructed to disrupt images of female activists and punk rockers that falsely typecast them. Examples of all three follow.

In one of her research projects focusing on identity and literacy in a digital age, Thomas (2007) documented at length how the avatars that 30 adolescent girls selected in an online role-playing community were embodied performances of their identities. Of particular interest for this commentary were findings from Thomas's research that point to the centrality of language in online identity construction and perception. For example, the girls' ability to manipulate words in socially constructing alternate identities was every bit as important as experimenting with the avatar's physical features. The storylines through which young people exist in online spaces are highly social as are the literacy skills they employ.

This finding, based in Thomas's research, took on personal relevance for me when, in the course of writing this commentary, I ventured into *Second Life* (SL), an Internet-based virtual world where residents network socially while exchanging ideas, goods, and services. There, my avatar, a female Goth, met a real-life (RL) friend of mine, Achariya Rezak, a doctoral student who has been an SL resident for quite some time and thus has accumulated certain "material" goods (e.g., a light-rail car that makes it easier to get around in SL). When my friend offered my avatar a ride one evening, I learned something about my online literacy and eye-hand coordination skills. Not only was my avatar's response too long (as my fingers nimbly keyed in a paragraph-length, fully punctuated answer in the game's dialogue box), but my avatar also missed jumping aboard when the rail car came to a short stop. The arrows for physically positioning my avatar, the words, the embodied performance, the

lightning speed at which I was expected to respond—suffice it to say, I'm working to improve my *SL* literacy practices these days.

Online social networking communities such as MySpace provide opportunities for young people to write, read, and speak their worlds into existence. They also afford windows into the processes young people use to reinvent themselves, as Kirkland (in press) demonstrated in his portrayal of Derrick, a high school youth who created content in MySpace that belied labels of “disinterested and struggling writer” in his 12th-grade composition class. Working from a critical theory perspective, Kirkland documented over a three-year period how Derrick's online compositions were well received in a virtual world where he interfaced digital audio and video technologies with stylized African American spellings to convey his identity as a socially conscious rapper and poet:

You know I started using MySpace to keep in touch with my friends. Everybody I knew had a MySpace page, except for me. So I had to get one. When I got one, it was like a new world. There wasn't that many rules. There was no teacher telling you what to do, telling you what you could and could not do. You were free to be creative. I mean...you could do and even be anything you wanted. So MySpace changed the game for me. You know I'm a rapper. So MySpace gave me a place to showcase my talent. I am also a poet, and I was like...I can even post my poems on MySpace too. The more I played around with it, the more I wrote because I had somewhere to put my writing that made me feel good about it, you know. (n.p.)

Guzzetti (2006) worked from the perspective of literacy as a social practice to frame her case study of two young women who negotiated their social identities through interactions (surfing, reading, posting their own content) on three different kinds of websites—distros (online distribution centers), sites for do-it-yourselfers (e.g., message boards, electronic discussion lists), and sites for touring underground rock bands. Using data obtained from interviews, observations, and discourse analysis, Guzzetti showed how one girl (a self-identified activist) and the other (a punk rocker) used the interactive cybersites as entry points to gain acceptance and recognition in various affinity groups and to obtain information that produced them

as “tech savvy” and “global citizens” prepared to fend for themselves.

In sum, these young people's penchant for creating online content that was easily distributed and used by others with similar interests was facilitated in part by their ability to remix multimodal texts, use new tools to show and tell, and rewrite their social identities. This capacity, while noteworthy, leaves unaddressed the degree to which adolescents' online literacies have relevance for classroom practice, a topic taken up in a later section of this commentary.

How Unique Is the Culture of Online Literacies?

Virginia Heffernan, a columnist for *The New York Times Magazine*, admitted to feeling somewhat defensive after viewing the PBS documentary “Growing Up Online,” which aired on January 22, 2008. Reflecting on her own coming-of-age in what she called “the Internet before the Internet” (a primitive computer network of the 1970s), Heffernan (2008) asserted that online social networking is

less a walk on life's wild side than it is a game like backgammon.... Successfully “playing the computer,” as [she] used to call it, requires a set of skills: social intuition, inventive self-presentation, speedy and clever writing, discretion, intricate etiquette, self-protection. (n.p.)

Regardless of how much we, as teachers and teacher educators, might agree with Heffernan and admire the writing skills, inventiveness, and social intuitions exhibited by adolescents who create online content, these markers of student expertise are given scant attention in our everyday classroom practices, at the postsecondary level as well as at the middle and secondary levels (Alvermann, 2002; Dressman & Wilder, 2008; Honan, 2008; Wilber, 2008). The main reason for this is the perception that young people are already immersed in the Internet and thus do not need to spend additional time there during school hours.

Another reason has to do with competing discourses. For example, in a three-year study of a fully wired high school, Leander (2007) observed what he described as “dueling discourses,” or the multiple and conflicting ways of doing school in online and offline

social spaces. In that school, where every student had a laptop, teachers' attempts to honor students' online-created content were often in conflict with centuries-old notions of what constitutes "quality" information. As one teacher recalled, somewhat nostalgically,

You know, at first we had to make [students] do certain things with technology.... [It] used to be the kids automatically went to books.... Well now it's the opposite. They immediately go to the online sources and you have to say, "you have to look at so many books or printed articles or things like that." (p. 33)

The predominance of print in academic circles is longstanding and firmly engrained in school curricula. Although it may be the case that images are pushing words off the page and screen in online spaces (Hull & Zacher, 2004; Kress, 2003), in the classrooms where I visit and work (my own included), print-centric practices prevail—to such a degree, in fact, that I sometimes marvel at how young people who are immersed in complex digital worlds tolerate our insistence on reading and writing linear texts devoid of hyperlinked multimodal content and opportunities for social networking.

What unspoken, unexamined assumptions cause us to see as "natural" the dominance of print in a world that is growing more multimodal by the second? If one answer to that question is the fear of losing print literacy, "then we may find ourselves schooling young people in literacy practices that disregard the vitality of their literate lives and the needs they will have for their literate and social futures at home, at work, and in their communities" (Lewis & Fabos, 2005, p. 498). Most likely, as with many dichotomies, it is not a matter of which element in the binary (in this case, print-only text versus multimodal text) will prevail but rather of how we perceive one element in relation to the other.

Participatory Culture and Online Literacies

To understand the culture of online literacies, I find it helpful to review the two mindsets that Lankshear and Knobel (2007b) proposed as a way of accounting for the impact of cyberspace on life as we have known it up to the present time. The first mindset assumes that the contemporary world has undergone

little social, cultural, and economic change since the advent of cyberspace, except for one thing—technologies in use are greater in number and more sophisticated. The second assumes that the world has changed significantly as a result of individuals' eagerness to participate in a networked society in which digital technologies enable new ways of being and accomplishing things. These two mindsets, while engaging dichotomous ways of thinking, are helpful nonetheless in that they highlight some of the creative tensions at the intersection of online literacies and contemporary classroom practices.

Consider, for example, how the first mindset's focus on locating expertise and authority in individuals (e.g., teachers and teacher educators) and institutions (e.g., schools and universities) is challenged by the second mindset, which holds that expertise and authority are collectively distributed, thereby blurring distinctions between teachers and learners—especially when the learners are digital insiders and function more like teachers and producers than simply consumers. It is this latter frame of mind that points to the uniqueness of the culture of online literacies, at least in my opinion. In addressing the notion of collective intelligence, Henry Jenkins (2006c), who is the Director of the Comparative Media Studies Program and the Peter de Florez Professor of Humanities at Massachusetts Institute of Technology, argued that "none of us can know everything; each of us knows something; and we can put the pieces together if we pool our resources and combine our skills" (p. 4).

Of particular note is a white paper that Jenkins (2006a) wrote on the challenges of participatory culture for the express purpose of sparking discussions among educators at all levels about the need to change classroom practices in ways that would recognize young people's interests and expertise in creating online content. In that paper, which appears in serialized form on his blog (henryjenkins.org), Jenkins defined participatory culture as having these five characteristics (¶16):

1. Relatively low barriers to artistic expression and civic engagement
2. Strong support for creating and sharing one's creations with others

3. Some type of informal mentorship whereby what is known by the most experienced is passed along to novices
4. Members believe that their contributions matter
5. Members feel some degree of social connection with one another (at the least they care what other people think about what they have created).

Despite the euphoric ring a participatory culture has for me, I am mindful that, in the midst of celebrating young people's enthusiasm for creating online content, issues of access are sometimes overlooked or minimized. On the other hand, I know teachers who, in an attempt to level the playing field for students without access to the Internet, systematically avoid making assignments that require students to go online.

Who Gets to Participate?

A participatory culture that supports the creation of online content also raises expectations among young people that the necessary technology and related resources will be available for accomplishing the kinds of content they are interested in producing. Access is pretty much taken for granted. In fact, according to Danah Boyd, a fellow at the Berman Center for Internet and Society at Harvard Law School, the younger generation views online culture not as a separate place "but as just a sort of continuation of their existence" (cited in Lee, 2008, n.p.). Although this assumed nexus may be the case for those adolescents fortunate enough to have home access to the Internet, I doubt seriously that it applies to those who must depend on rationed, or even metered, time on a public computer. Such disparity has tangible effects educationally, for as Jenkins (2006b) cogently pointed out,

What a person can accomplish with an outdated machine in a public library with mandatory filtering software and no opportunity for storage...pales in comparison to what [can be accomplished] with a home computer with unfettered Internet access, high bandwidth, and continuous connectivity. (n.p.)

Providing computers, software, and high bandwidth access, however, rarely offsets other limitations

associated with the digital divide. Hardware malfunctions that occur outside the warranty period are often too expensive for families of low income to fix, connectivity problems go unreported (or if reported, they go unattended), and limited leisure time in which to learn from tech-savvy friends is common among young people who need to work part-time jobs on weekends and after school (Alvermann et al., 2007; cf. Guzzetti & Gamboa, 2005). In addition to these logistical concerns, there are issues of access that stem from inadequate exposure to what Lankshear and Knobel (2007b) have termed the right "ethos stuff"—or the set of conditions known to foster participatory and collaborative online learning. When school- or districtwide policies restrict what teachers (who perhaps themselves are high-end users of technoliteracies) can provide in the way of digital learning opportunities, then students with limited Internet access at home fall even further behind their more advantaged peers.

Unique as it is in terms of its participation structures and access requirements, there are other aspects of online literacy practices that resemble more conventional ways of teaching and learning. Students who create online content using various forms of networked media need to know how to integrate print with images, sound, animations, videos, and 3D virtual spaces. If teachers and teacher educators want to fully appreciate and comprehend the different forms of content that their students create, it will be helpful to become familiar with Lemke's (2007) approach to reading online, which he stated in a nutshell in an online forum, "You can't really get at the meaning of [various] forms piecemeal: you have to integrate the text with its fellow-travelers, cross-contextualizing them by one another, to get at the kinds of meanings being made and stored" (see lhc.ucsd.edu/mca/Mail/xmccmail.2007_01.dir/0354.html).

In sum, the culture of adolescents' online literacies is unique to some degree, but it also intersects at various points with the goals of classroom practice and research that target reading and writing as fundamentally important to almost everything that goes on in the name of teaching and learning on a daily basis.

Do Adolescents' Online Literacies Have Implications for the Research and Teaching of Literacy?

I believe they do. Communicating through images, sounds, and digital media, when combined with print literacy, may be changing the way we read certain kinds of texts, but online and offline literacies are not polar opposites; thus, to reify distinctions between them serves mainly to limit understandings of how each informs the other. Because many young people growing up in a digital world will find their own reasons for becoming literate—reasons that go beyond reading and writing to acquire academic knowledge—it is important to remain open to changes in subject matter learning that will invite and extend the literacy practices they already possess and value. Reviews of research (Coiro et al., 2008; Reinking, McKenna, Labbo, & Kieffer, 1998) that take into account the digital literacies that adolescents could potentially bring to academic learning—if they were encouraged to do so in ways that matter to them—are clear on one point: The world is fast becoming so information-driven that students with access to the same resources as teachers often know as much if not more than their teachers about particular topics and subject areas of study, although they may not read with the same critical eye as their teachers (Fabos, 2008).

The implications I draw for research and practice are categorized using a framework that Lankshear and Knobel (2007a) devised in researching new literacies. The first subcategory focuses on what I am calling the “Let’s Think About Implications.” These are ideas that bear further scrutiny before attempting full implementation. The second subcategory focuses on what I am labeling “Classroom- and Research-Ready Implications”; that is, these ideas are worth implementing now, at least on a trial basis.

Let’s Think About Implications

If Luke (2003) is right (and I tend to think she is), the increased availability of hypermediated digital texts is having profound effects on how young people process information (see also Dresang, 2005). The limitations imposed by linear print processing have by now been largely lifted so that readers and writers, with but a few clicks of a mouse, can transport themselves and

others into a world of parallel processing that weds linguistic texts with pictures, moving images, symbols, and sounds. This shift in processing has been accompanied by what Luke describes as a conceptual move in education circles from collection code curriculum to connection code curriculum:

Akin to Freire’s (1970) banking concept of education, collection code curriculum implies that teachers deposit knowledge “bits” in students who, in turn, accumulate, indeed collect, largely disconnected discipline-based facts and figures through skill-and-drill pedagogy. By contrast [in connection code curriculum], digitalized knowledge and networked environments, critical understanding of the *relations* among ideas, their sources and histories, intertextual referents and consequences, are as important if not more so than mastery, reproduction, and recombination of discrete facts or units of information. (p. 400)

These shifts in both processing information and conceptualizing the curriculum have implications for how classroom teachers think about, assess, and make use of young people’s engagements with online content. They also have implications for altering teacher education programs that have traditionally prepared subject matter teachers to think about curricula as discipline-specific silos and literacy as institutionalized school-like reading and writing.

Like the teaching profession, researchers are feeling the effects of digitalized knowledge and networked environments, especially in terms of the questions they ask and the methodologies and analytic tools they choose. As Luke (2003) predicted, generally researchers are finding it necessary to “play catch up with the unprecedented textual and social practices that students are already engaging with” (p. 402) in what we once were able to conveniently package and set aside as informal learning. However, Vadeboncoeur’s (2005) review of research on informal learning suggested that the question that needed asking is not what counts as learning in formal and informal contexts but instead, “How does a particular context contribute to learning?” (p. 272).

In sum, it could be said that young people’s creation of content for online sharing amounts to more than simply producing and distributing their texts; in one sense, they are pushing the boundaries in

classroom practice and research. How we respond as teachers, teacher educators, and researchers may simultaneously shape, and be shaped by, the new literacies. This could mean that we use (and modify) technologies of the new literacies to develop new theories, methodologies, and practices in both teaching and research while at the same time being open to the possibility that the speed with which new technologies evolve may require us to lessen the grip on “any single, static, technology of literacy (e.g., traditional print technology)...[in order to] continuously adapt to the new literacies required by the new technologies that rapidly and continuously spread on the Internet” (Coiro et al., 2008, p. 5).

Classroom- and Research-Ready Implications

Although a reasonable stance, it is not enough to simply point toward potential linkages between online participatory culture and long-established practices in both teaching and research. I want also to offer a set of classroom- and research-ready implications based on what we know from the literature that drives young people to create online content. A commentary seems to provide the kind of latitude needed for going out on a limb, so to speak, in drawing up this set of implications.

In my opinion, the most striking insight to be gained from the research on adolescents’ remixing of multimodal content to create new texts is this: Those who create online content recognize that authorship is neither a solitary nor completely original enterprise. Remixing is basic to how young people go about creating “new” texts. Content area teachers and teacher educators who are open to considering the implications of this finding could incorporate into their regular class assignments opportunities for students to integrate subject matter texts with available online texts. In doing so, they could find, like Black (2008), that adolescents who create derivative texts are “far from being ‘mindless consumers’ and reproducers of existing media, as they actively engage with, rework, and appropriate the ideological messages and materials of the original text” (p. xiii). In fact, I propose that young people’s engagement with these kinds of ideological messages and materials is central to their becoming the critical readers and writers we say we

value. Arguably, some of the websites young people build by using tools that enable them to show and tell are as much about social commentary and critique (Stone, 2007) as they are about do-it-yourself learning for recreational purposes.

When teachers, teacher educators, and researchers tap into young people’s interests in producing online content, they open themselves to appreciating a wide range of competencies that might otherwise go unmarked in the everyday routines of unexamined classroom and research practices. In maintaining a healthy skepticism that theorizing adolescents’ online literacies, alone, is sufficient to the task of improving learning in subject matter classrooms, I propose that we consider a pedagogy of critical literacies as a starting point for analyzing both online and offline texts. This would involve creating “an awareness of how, why, and in whose interests particular texts might work [followed by strategies for developing] alternative reading positions and practices for questioning and critiquing texts and their affiliated social formations and cultural assumptions” (Luke & Freebody, 1997, p. 218). Two pedagogical frameworks that encompass building awareness and taking alternative reading positions are Green’s (1988) three-dimensional model (operational, cultural, and critical; cf. Damico, 2005) and Luke and Freebody’s (1997) four resources model (code breaker, meaning maker, text user, and text analyst; cf. Luke, Freebody, & Land, 2000).

Some Closing Thoughts

As a former social studies teacher, my inclination to look to history to inform the future sent me in search of an article I remembered reading some time ago in *JAAL*. Coauthored by a father–daughter team (Bean, Bean, & Bean, 1999), it tracked the function of print, moving images, sound, and interactive technologies in the young girls’ everyday lives both in and out of school. Among other things, Bean and his two daughters (then 6th and 10th graders) offered this observation: Conventional text-bound teaching in the content areas belies how contemporary youths locate and use information that has relevance for them.

If the point of their message went largely unheeded nearly a decade ago, it is doubtful that the same will be the case today. With an estimated 64%

of young people between the ages of 12 and 17 using the Internet to create their own content (Lenhart et al., 2007), teachers, teacher educators, and researchers cannot turn their backs on the inevitable. When school work is deemed relevant and worthwhile, when opportunities exist for students to reinvent themselves as competent learners (even rewrite their social identities), then literacy instruction is both possible and welcomed. But theorizing adolescents' penchant for creating online content is merely a start—half the task. The other half involves asking the young people whom we teach, conduct research on and with, and teach about in our teacher education classes for their input into *how*, or for that matter *whether* (cf. Beach & O'Brien, 2008), their online literacies should be embraced in the regular curriculum. As Kirkland (in press) so deftly reminded us, “The work of [literacy] instruction [is] as much about listening and learning as it is about telling and teaching” (p. 22).

References

- Alvermann, D.E. (Ed.). (2002). *Adolescents and literacies in a digital world*. New York: Peter Lang.
- Alvermann, D.E., Hagood, M.C., & Williams, K.B. (2001, June). Image, language, and sound: Making meaning with popular culture texts. *Reading Online*, 4(11). Retrieved January 20, 2008, from www.readingonline.org/newliteracies/lit_index.asp?HREF=/newliteracies/action/alvermann/index.html
- Alvermann, D.E., & Heron, A.H. (2001). Literacy identity work: Playing to learn with popular media. *Journal of Adolescent & Adult Literacy*, 45(2), 118–122.
- Alvermann, D.E., Hinchman, K.A., Moore, D.W., Phelps, S.F., & Waff, D.R. (Eds.). (2006). *Reconceptualizing the literacies in adolescents' lives* (2nd ed.). Mahwah, NJ: Erlbaum.
- Alvermann, D.E., Marshall, J., McLean, C.A., Bishop, J., & Kirk, D. (2007, April). *Web identities and digital literacies in an out-of-school program*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- Barton, D., & Hamilton, M. (1998). *Local literacies: Reading and writing in one community*. London: Routledge.
- Beach, R., & O'Brien, D. (2008). Teaching popular culture texts in the classroom. In J. Coiro, M. Knobel, C. Lankshear, & D.J. Leu (Eds.), *The handbook of research on new literacies* (pp. 775–804). New York: Erlbaum.
- Bean, T.W., Bean, S.K., & Bean, K.F. (1999). Intergenerational conversations and two adolescents' multiple literacies: Implications for redefining content area literacy. *Journal of Adolescent & Adult Literacy*, 42(6), 438–448.
- Beavis, C. (2007). Writing, digital culture and English curriculum. *L1 Educational Studies in Language and Literature*, 7(4), 23–44.
- Black, R.W. (2007). Fanfiction writing and the construction of space. *E-Learning*, 4(4), 384–397. Retrieved January 31, 2008, from dx.doi.org/10.2304/elea.2007.4.4.384
- Black, R.W. (2008). *Adolescents and online fan fiction*. New York: Peter Lang.
- Burn, A. (2007). 'Writing' computer games: Game literacy and new-old narratives. *L1 Educational Studies in Language and Literature*, 7(4), 45–67.
- Chandler-Olcott, K., & Mahar, D. (2003). “Tech-savviness” meets multiliteracies: Exploring adolescent girls' technology-mediated literacy practices. *Reading Research Quarterly*, 38(3), 356–385. doi:10.1598/RRQ.38.3.3
- Coiro, J., Knobel, M., Lankshear, C., & Leu, D.J. (2008). Central issues in new literacies and new literacies research. In J. Coiro, M. Knobel, C. Lankshear, & D.J. Leu (Eds.), *Handbook of research on new literacies* (pp. 1–21). New York: Erlbaum.
- Damico, J.S. (2005). Multiple dimensions of literacy and conceptions of readers: Toward a more expansive view of accountability. *The Reading Teacher*, 58(7), 644–652. doi:10.1598/RT.58.7.5
- Dresang, E.T. (2005). The information seeking behavior of youth in a digital environment. *Library Trends*, 54(2), 178–196. doi:10.1353/lib.2006.0015
- Dressman, M., & Wilder, P. (2008). Wireless technology and the prospect of alternative education reform. In J. Albright & A. Luke (Eds.), *Pierre Bourdieu and literacy education* (pp. 113–135). London: Routledge.
- Fabos, B. (2008). The price of information: Critical literacy, education, and today's internet. In J. Coiro, M. Knobel, C. Lankshear, & D.J. Leu (Eds.), *Handbook of research on new literacies* (pp. 839–870). New York: Erlbaum.
- Freire, P. (1970). *Pedagogy of the oppressed* (M.B. Ramos, Trans.). New York: Continuum.
- Gee, J.P. (2003). *What video games have to teach us about learning and literacy*. New York: Palgrave Macmillan.
- Gee, J.P. (2004). *Situated language and learning: A critique of traditional schooling*. New York: Routledge.
- Green, B. (1988). Subject-specific literacy and school learning: A focus on writing. *Australian Journal of Education*, 32(3), 156–179.
- Guzzetti, B.J. (2006). Cybergirls: Negotiating social identities on cybersites. *E-Learning*, 3(2), 158–169. doi:10.2304/elea.2006.3.2.158
- Guzzetti, B.J., & Gamboa, M. (2005). Online journaling: The informal writings of two adolescent girls. *Research in the Teaching of English*, 40(2), 168–206.
- Hagood, M.C. (2008). Intersections of popular culture, identities, and new literacies research. In J. Coiro, M. Knobel, C. Lankshear, & D.J. Leu (Eds.), *Handbook of research on new literacies* (pp. 531–551). New York: Erlbaum.
- Heffernan, V. (2008, February 3). My wired youth. *The New York Times Magazine*. Retrieved February 3, 2008, from select.nytimes.com/mem/tnt.html?_r=1&emc=tnt&tntget=2008/02/03/magazine/03wvln-medium-t.html&tntemail=y&oref=slogin#
- Hinchman, K.A., & Sheridan-Thomas, H.K., (Eds.). (2008). *Best practices in adolescent literacy instruction*. New York: Guilford.
- Honan, E. (2008). Barriers to teachers using digital texts in literacy classrooms. *Literacy*, 42(1), 1–8.

- Hull, G., & Zacher, J. (2004). What is after-school worth? Developing literacy and identity out of school. *Voices in Urban Education*, 3, 36–44.
- Jenkins, H. (2006a). Confronting the challenges of participatory culture: Media education for the 21st century (Part one). Retrieved January 3, 2008, from www.henryjenkins.org/2006/10/confronting_the_challenges_of.html
- Jenkins, H. (2006b). *Confronting the challenges of participatory culture: Media education for the 21st century (Part two)*. Retrieved February 20, 2008, from henryjenkins.org/2006/10/confronting_the_challenges_of_1.html
- Jenkins, H. (2006c). *Convergence culture: Where old and new media collide*. New York: New York University Press.
- Kirkland, D. (in press). Digital underground: Exploring critical composition in the age of MySpace. In S. Selber (Ed.), *20th Penn State conference on rhetoric and composition proceedings*. Carbondale, IL: Southern Illinois University Press.
- Kress, G. (2003). *Literacy in the new media age*. London: Routledge.
- Lankshear, C., & Knobel, M. (2002). Do we have your attention? New literacies, digital technologies, and the education of adolescents. In D.E. Alvermann (Ed.), *Adolescents and literacies in a digital world* (pp. 19–39). New York: Peter Lang.
- Lankshear, C., & Knobel, M. (2006). Digital literacies: Policy, pedagogy and research considerations for education. *Nordic Journal of Digital Literacy*, 1(1), 12–24.
- Lankshear, C., & Knobel, M. (2007a). Researching new literacies: Web 2.0 practices and insider perspectives. *E-Learning*, 4(3), 224–240. doi:10.2304/elea.2007.4.3.224
- Lankshear, C., & Knobel, M. (2007b). Sampling “the new” in new literacies. In M. Knobel & C. Lankshear (Eds.), *A new literacies sampler* (pp. 1–24). New York: Peter Lang.
- Leander, K.M. (2007). “You won’t be needing your laptops today”: Wired bodies in the wireless classroom. In M. Knobel & C. Lankshear (Eds.), *A new literacies sample* (pp. 25–48). New York: Peter Lang.
- Lee, F.R. (2008, January 22). The rough-and-tumble online universe traversed by young cybernauts. *The New York Times Online*. Retrieved February 22, 2008, from www.nytimes.com/2008/01/22/arts/television/22front.html?pagewanted=all
- Lemke, J. (2007, February). *New media and new learning communities: Critical, creative, and independent*. Paper presented at the annual meeting of National Council of Teachers of English Assembly for Research (NCTEAR), Nashville, TN.
- Lenhart, A., Madden, M., Macgill, A.R., & Smith, A. (2007, December). Teens and social media. *PEW Internet & American Life Project*. Washington, DC: Pew Charitable Trusts. Retrieved January 3, 2008, from www.pewinternet.org/PPF/r/230/report_display.asp
- Lesko, N. (2001). *Act your age! A cultural construction of adolescence*. New York: Routledge Falmer.
- Lewis, C., & Fabos, B. (2005). Instant messaging, literacies, and social identities. *Reading Research Quarterly*, 40(4), 470–501. doi:10.1598/RRQ.40.4.5
- Livingstone, S., & Bober, M. (2005). *UK children go online: Final report of project findings*. Retrieved March 16, 2008, from news.bbc.co.uk/1/shared/bsp/hi/pdfs/28_04_05_childrenonline.pdf
- Luke, A., & Freebody, P. (1997). Shaping the social practices of reading. In S. Muspratt, A. Luke, & P. Freebody (Eds.), *Constructing critical literacies: Teaching and learning textual practice* (pp. 185–225). Cresskill, NJ: Hampton.
- Luke, A., Freebody, P., & Land, R. (2000). *Literate futures: Report of the literacy review for Queensland state schools*. Brisbane, Australia: Education Queensland. Retrieved March 28, 2008, from education.qld.gov.au/curriculum/learning/literate-futures/pdfs/lf-review.pdf
- Luke, C. (2003). Pedagogy, connectivity, multimodality, and interdisciplinarity. *Reading Research Quarterly*, 38(3), 397–403.
- Moje, E.B. (2007). Youth cultures, literacies, and identities in and out of school. In J. Flood, S.B. Heath, & D. Lapp (Eds.), *Handbook of research on teaching literacy through the communicative and visual arts* (Vol. 2, pp. 207–219). Mahwah, NJ: Erlbaum.
- Moje, E.B., Overby, M., Tysvaer, N., & Morris, K. (2008). The complex world of adolescent literacy: Myths, motivations, and mysteries. *Harvard Educational Review*, 78(1), 107–154.
- Reinking, D., McKenna, M.C., Labbo, L.D., & Kieffer, R.F. (Eds.). (1998). *Handbook of literacy and technology: Transformations in a post-typographic world*. Mahwah, NJ: Erlbaum.
- Stone, J.C. (2007). Popular websites in adolescents’ out-of-school lives: Critical lessons on literacy. In C. Lankshear & M. Knobel (Eds.), *A new literacies sampler* (pp. 49–65). New York: Peter Lang.
- Street, B.V. (1995). *Social literacies: Critical approaches to literacy in development, ethnography, and education*. New York: Longman.
- Thomas, A. (2007). *Youth online: Identity and literacy in the digital age*. New York: Peter Lang.
- Thomas, S., Joseph, C., Laccetti, J., Mason, B., Mills, S., Perril, S., et al. (2007). Transliteracy: Crossing divides. *First Monday*, 12(12). Retrieved January 2, 2008, from www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2060/1908
- Transliteracies Project. (2007). *Research in the technological, social, and cultural practices of online reading*. Retrieved January 2, 2008, from transliteracies.english.ucsb.edu/category/research-project/definition-of-online-reading
- Wilber, D.J. (2008). College students and new literacy practices. In J. Coiro, M. Knobel, C. Lankshear, & D.J. Leu (Eds.), *The handbook of research on new literacies* (pp. 553–581). New York: Erlbaum.

Alvermann teaches at The University of Georgia, Athens, USA; e-mail dalverma@uga.edu.