

Attention, and Other 21st-Century Social Media Literacies (EDUCAUSE Review)

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by

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If you were the only person on earth who knew how to use a fishing rod, you would be tremendously empowered. If you were the only person on earth who knew how to read and write, you would be frustrated and empowered only in tiny ways, like writing notes to yourself. When it comes to social media, knowing how to post a video or download a podcast—technology-centric encoding and decoding skills—is not enough. Access to many media empowers only those who know how to use them. We need to go beyond skills and technologies. We need to think in terms of literacies. And we need to expand our thinking of digital skills or information literacies to include *social media literacies*.

Social media—networked digital media such as Facebook, Twitter, blogs, and wikis—enable people to socialize, organize, learn, play, and engage in commerce. The part that makes social media social is that technical skills need to be exercised in concert with others: encoding, decoding, and community.

I focus on five social media literacies:

- Attention
- Participation
- Collaboration
- Network awareness
- Critical consumption

Although I consider attention to be fundamental to all the other literacies, the one that links together all the others, and although it is the one I will spend the most time discussing in this article, none of these literacies live in isolation.¹ They are interconnected. You need to learn how to exercise mindful deployment of your attention online if you are going to become a critical consumer of digital media; productive use of Twitter or YouTube requires knowledge of who your public is, how your participation meets their needs (and what you get in return), and how memes flow through networked publics. Ultimately, the most important fluency is not in mastering a particular literacy but in being able to put all five of these literacies together into a way of being in digital culture.

Attention

Attention is the fundamental building block for how individuals think, how humans create tools and teach each other to use them, how groups socialize, and how people transform civilizations. We share highly evolved attentional mechanisms with other species, but *Homo sapiens sapiens* are particularly distinguished by the way we use our attention and other cognitive faculties differently from all other creatures.

Attention is also important in the classroom. This came home to me five years ago when I started teaching and saw what most teachers in the world, at least at the college level, see these days: students who are staring down, looking at their computers, not making eye contact with the teacher. In the Japanese language, one pays attention with *ki*, which means "life energy." Any public speech is an exchange of *ki*. For me, I felt this exchange was broken when students were not looking at me while I was talking to them. Yet for their part, students feel a strong sense of entitlement to the freedom to direct their attention wherever they want. For students, the classroom is a marketplace, with multiple seductive attractions from the online world competing with physical presence. If I can't compete with the Internet for their attention, that's my problem. Because I teach social media, I can neither ignore nor flatly forbid their use of laptops during class. In return for trying to live up to such a demanding standard on my own part, I ask my students to do me the favor of beginning to become aware of how they are deploying their attention, especially with regard to social media, during class. I suggest that they extend their deliberate media mindfulness beyond the classroom, just as an experiment.

Multitasking, or "continuous partial attention" as Linda Stone has called another form of attention-splitting, or "hyper attention" as N. Katherine Hayles has called another contemporary variant,² are not necessarily bad alternatives to focused attention. It depends on what is happening in our own external and internal worlds at the moment. If we don't know enough to turn around when we hear a bicycle or automobile horn, we're not going to survive long. Clearly we have different forms of attention that are appropriate for different ways of doing things. Sometimes we need to "turn on all the lights" in order to be aware of as much as possible. Sometimes we need to be vigilant to information outside our focal area, and at other times we need to block out distractions and narrow our attention to a spotlight.

To complicate the issue in my own mind, some of the multitaskers in my classes are A students and passionately defend the value of Googling me to see if I really know what I'm talking about, while other students readily admit that multitasking in the classroom means they spend less attention on the teacher and on the other students. I looked around to see what other professors were doing. Harvard Business School and the University of Chicago Law School outraged students when they banned web access in classrooms. Web surfing during lectures had gotten out of control, to the point that the faculty felt an intervention was necessary.³ Michael Bugeja, a journalism professor at Iowa State University, conducted an online survey of several hundred students and found that a majority had used their cellphones, sent or read e-mail, and gone onto social network sites during class time.⁴ The kicker was that a quarter of the survey respondents admitted that they completed his survey while attending another class.

So maybe it's simply that many students have not yet learned how to exercise their attention. Because of the attentional demands of wirelessly webbed always-on media, they need to learn to turn on the high-beam light of *focused attention* when necessary and recognize when it is truly beneficial to task-switch. I decided to conduct some ongoing probes with my students into the dynamics of the literacy of attention. The first thing I do in my class now is ask the students to turn off their cellphones, shut their laptops, and close their eyes. I tell them that I will let them know when 60 seconds have gone by, and I ask them to just do nothing but notice what happens in their minds, to observe where their attention would go without any external distractions. Of course, anybody who meditates knows that your mind is pretty much out of control. Your attention can go anywhere: to yesterday, to tomorrow. It will free-associate without any real volition on your part. I simply want the students to start from the zero state, before the seductive distractions start building up—and to begin to experience a kind of internal observer that wakes up and notices when the student's attention is wandering. After they open their eyes, I ask them to keep their laptops closed, and I add that I will upload my notes for that first lecture so they shouldn't have to worry about taking notes. But because my intention is to probe, not control, and ultimately to instill in students an experience of some reflection

about their media practices, I did not outright ban the use of laptops.

Another probe that I conduct with my classes involves student teaching teams, who co teach the class with me. Those three students can keep their laptops open and take notes for everyone else in the class, using the course wiki. The rest of the students can fill in the wiki after class. Many students object that they can't learn unless they are able to take notes, and I agree that taking notes is an important way to learn. But I'm not sure it's the only way. After these first probes, I don't put restrictions on whether or not their laptops are open, but I ask them to make note of where their attention goes during the class session—and I ask the co-teachers to note how it feels when their fellow students aren't looking at them while they are talking.

In a third probe, I tell a class of about forty students that five of them can keep their laptops open at any one time but that when a sixth laptop opens, they all have to close their laptops for the rest of the class time. I leave it up to them to figure out how that will work. In both this and the previous type of probe, I stress to the students from the beginning that the idea is simply to develop some mindfulness about where they put their attention, about how to pay attention to what they're doing.

As students become more aware of how they are directing their attention, I begin to emphasize the idea of using blogs and wikis as a means of connecting with their public voice and beginning to act with others in mind. Just because many students today are very good at learning and using online applications and at connecting and participating with friends and classmates via social media, that does not necessarily mean that they understand the implications of their participation within a much larger public.

Participation

Participation is a broader literacy. 1.5 billion people are on the Internet. The number of mobile phone subscriptions is expected to reach 5 billion this year, with about 100 million of those phones including cameras. We're seeing the results of this connectivity all the time. And even though many excruciatingly boring blogs and Facebook/MySpace/Twitter accounts attest to the fact that there is something to be learned about how to participate in a way that's valuable to others as well as to yourself, I agree with Yochai Benkler, Henry Jenkins, and others that participating, even if it's no good and nobody cares, gives one a different sense of being in the world. When you participate, you become an active citizen rather than simply a passive consumer of what is sold to you, what is taught to you, and what your government wants you to believe. Simply participating is a start. (Note that I am not guaranteeing that having a sense of agency compels people to perform only true, good, and beautiful actions.)

The technologies that we have in our pockets today are powerful engines for participation. My students and I carry computers that are literally millions of times more powerful than what the U.S. Department of Defense had a couple decades ago, networked at speeds millions of times faster than the first online networks. We are seeing a massive adoption of an attitude of active participation simply through the use of these technologies. According to a 2005 report from the Pew Internet and American Life Project, 87 percent of U.S. teenagers, across all class and ethnic boundaries, are online in some way. Over half of U.S. teenagers not only consume but also create and author online, whether that's by customizing their MySpace page, or running a blog, or running a YouTube channel.⁵ That doesn't mean, however, that all forms of participation are beneficial to the participant or others.

I don't believe in the myth of the digital natives who are magically empowered and fluent in the use of social media simply because they carry laptops, they're never far from their phones, they're gamers, and they know how to use technologies. We are seeing a change in their participation in society—yet this does not mean that they automatically understand the rhetorics of participation, something that is particularly important for citizens. The whole notion of the public sphere is that we have sufficiently well-educated citizens who are free to access information about workings of the state so that they will be able to govern themselves. Implicit in the notion that ordinary people can shape policies of state is the assumption that they know how to communicate their opinions in concert with other citizens in a productive manner—a literacy of participation.

Today's media enable people to inform, persuade, and influence the beliefs of others and, most important, help them to organize action on all scales. In doing so, people move from the literacy of participation to the literacy of collaboration.

Collaboration

Using the technologies and techniques of attention and participation allows people to work together collaboratively in ways that were too difficult or expensive to attempt before the advent of social media. Though *collaboration* has a slightly different definition from *cooperation* and *collective action*, in general doing things together gives us more power than doing things alone.

Collaboration among secondary school students in Chile in 2006 led to the "Penguin Revolution," so called because of the students' black-and-white school uniforms. What started as a relatively small walk-out and protest calling for education reform soon grew as the students, fourteen to seventeen years old, used social media such as text-messaging and YouTube to spread their message. They chained the doors of public schools in Chile and organized rallies with as many as 800,000 attendees, leading the Chilean government to increase spending on education and reexamine the country's educational system.⁶

But it's not just young people who are collaborating via social media. In January 2007, Jim Gray, a computer scientist with Microsoft Research, took his sailboat out on San Francisco Bay but did not come back that evening. His friends at Microsoft, Google, Amazon, and elsewhere joined together. They got the latest photos of that area of the ocean from NASA and from Google, and Microsoft engineers divided these into half a million images, which they posted on Amazon's Mechanical Turk. Approximately 12,000 volunteers searched through those half a million images in a couple of days. Although there is no "look for your missing friend at sea" infrastructure or formula, Gray's friends put together various web technologies and organized an effort involving thousands of volunteers. Sadly, they never found Jim Gray.⁷

Volunteers are also collaborating in response to natural disasters. People always rush into burning buildings. People always give first aid. But now we are seeing a global emergent collective response to disasters, before the official emergency responders arrive on the scene. Within hours of the Asian tsunami, for example, the *South-East Asia Earthquake and Tsunami Blog* had been set up.⁸ After the Katrina hurricane in the United States dispersed people from New Orleans, their relatives didn't know where they were. The various notices posted on Craigslist, on Usenet, and on half a dozen different sources were consolidated into a uniform database through the KatrinaHelp Wiki, implemented by thousands of volunteers.⁹

A final example from hundreds that I have identified is Twestival (or Twitter Festival). The first Twestival Global, held in 2009, supported the nonprofit organization charity:water. Approximately 1,000 volunteers and 10,000 donors raised more than \$250,000—enough money to drill 55 wells in Uganda, Ethiopia, and India, bringing clean water to more than 17,000 people. A network of volunteers were mobilized to get things done for the social good without going through official channels—which moves us toward the next literacy.¹⁰

Network Awareness

Collaboration phases into network awareness, which is a bit more complicated.¹¹ Whereas we lived in an industrialized society in the 19th century and in an information society in the 20th century, we live in a networked society today in the 21st century. Social networks are an essential part of being human, but in the past there were physical limitations on which people and how many people we could include in our network. For example, if we were speaking, we could communicate only with the people who could hear us directly. Now, technological networks ranging from the telephone to the Internet have vastly expanded the number and the variety of the people we can contact. These networks multiply our innate human capacity for social networking and lower the thresholds for organizing with others, allowing us to contact people on the other side of the world in a matter of seconds.

"Reed's law" explains the connection between these computer networks and our social networks. David P. Reed noted: "There are really at least three kinds of value that networks can provide: the linear value of services that are aimed at individual users, the 'square' value from facilitating transactions, and the exponential value for facilitating group affiliations. What's important is that the dominant value in a typical network tends to shift from one category to another as the scale of the network increases." As Reed explains, content (e.g., published stories and images, consumer goods) is king when a network is dominated by linear connections. As the scale of the network shifts upward, transactions (e.g., e-mail, voice-mail, securities, services) become central. Finally, at the group-forming level, the value lies in joint construction (e.g., newsgroups, virtual communities, gossip, auctions, organizing get-out-the-vote campaigns).¹²

The technical networks amplify and extend the fundamental human capability of forming social networks. Understanding the nature of networks—technical and social—is essential. Doing so is not just a matter of engineering but also a question of freedom. When it comes to the underlying code that moves the bits around, the structure of the Internet is about not only programming but also the location of control. Whether you look at the issue as a citizen, an entrepreneur, a scientist, a journalist, or a cultural producer, what you know or don't know about how networks work can influence how much freedom, wealth, and participation you will have in the rest of this century. (The commercial and political debates about "net neutrality" are directed at these issues: who will control the freedom to innovate online?)

I think that much of this is understood by some of the people who post on blogs and on Facebook and on Twitter. They understand how small-world and long-tail networks function. They also understand the notions of reputation and diffuse reciprocity, which are increasingly important online. Both educators and learners use these notions to tune and feed their networks, to build their personal learning networks. Online, you have to decide which people you are going to allow into your attention sphere. Who is going to take up your mind, your space? Is the person trustworthy? Entertaining? Useful? An expert? Answering these questions leads to the final literacy: critical consumption.

Critical Consumption ("Crap Detection")

Critical consumption, or what Ernest Hemingway called "crap detection," is the literacy of trying to figure out what and who is trustworthy—and what and who is not trustworthy—online. If you find people, whether you know them or not, who you can trust to be an authority on something or another, add them to your personal network. Consult them personally, consult what they've written, and consult their opinion about the subject.

The authority of the text that goes back at least a thousand years has been overturned. In the past we could go to the library and take out a book to read; we might disagree with the book, but probably somebody, or several somebodies, had been paid to check the factual claims in the book. When we get information online today, there is no guarantee that it's accurate or even that it's not totally bogus. The authority is no longer vested in the writer and the publisher. The consumer of information has to be a critic and has to inquire about the reality of the information presented.

How do we do that? The first step isn't that hard. We ask the primary questions: Who is the author, and what do other people say about that author? We put the author's name in a search engine, keeping our critical glasses on. So step one is knowing how to ask that question, knowing how to query the search engine. Next, who are the people who give opinions about the author? What are the author's sources? Who links to the author? This second step is trickier. Basically, how do we know that what we find is accurate? We all have to be detectives these days.¹³

Finally, crap detection takes us back, full circle, to the literacy of attention. When I assign my students to set up an RSS reader or a Twitter account, they panic. They ask how they are supposed to keep up with the overwhelming flood of information. I explain that social media is not a queue; it's a flow. An e-mail inbox is a queue, because we have to deal with each message in one way or another, even if we simply delete them. But no one can catch up on all 5,000 or so unread feeds in their RSS reader; no one can go back through all of the hundreds (or thousands) of tweets that were posted overnight. Using Twitter, one has to ask: "Do I pay attention to this? Do I click through? Do I open a tab

and check it out later today? Do I bookmark it because I might be interested in the future?" We have to learn to sample the flow, and doing so involves knowing how to focus our attention.

Interconnection

Just as the print technologies and literacies shaped the Enlightenment, the social media technologies and literacies will shape the cognitive, social, and cultural environments of the 21st century. As Jenkins and his colleagues have emphasized, education that acknowledges the full impact of networked publics and digital media must recognize a whole new way of looking at learning and teaching. This is not just another set of skills to be added to the curriculum. Assuming a world in which the welfare of the young people and the economic health of a society and the political health of a democracy are the true goals of education, I believe modern societies need to assess and evaluate what works and what doesn't in terms of engaging students in learning.

If we want to do this, if we want to discover how we can engage students as well as ourselves in the 21st century, we must move beyond skills and technologies. We must explore also the interconnected social media literacies of attention, participation, cooperation, network awareness, and critical consumption.

Notes

1. These broad outlines of digital literacies are necessarily condensed, especially network awareness. I am working on a book for MIT Press, scheduled for Spring 2012 publication, and continue to report on these issues via <<http://twitter.com/hrheingold>> and <<http://howardrheingold.posterous.com>>.
2. Linda Stone, "Continuous Partial Attention," <<http://lindastone.net/qa/continuous-partial-attention/>>; N. Katherine Hayles, "Hyper and Deep Attention: The Generational Divide in Cognitive Modes," *Profession* 2007, pp. 187–199, <<http://www.mlajournals.org/doi/pdf/10.1632/prof.2007.2007.1.187>>.
3. Josh Waitzkin, "7 Habits Essential for Tackling the Multitasking Virus," *Zen Habits*, June 9, 2008, <<http://zenhabits.net/7-habits-essential-for-tackling-the-multitasking-virus/>>.
4. Samuel G. Freedman, "New Class(room) War: Teacher vs. Technology," *New York Times*, November 7, 2007, <<http://www.nytimes.com/2007/11/07/education/07education.html>>.
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6. Monte Reel, "Chile's Student Activists: A Course in Democracy," *Washington Post*, November 25, 2006, <<http://www.washingtonpost.com/wp-dyn/content/article/2006/11/24/AR2006112401362.html>>.
7. Steve Silberman, "Inside the High Tech Hunt for a Missing Silicon Valley Legend," *Wired*, July 24, 2007, <http://www.wired.com/techbiz/people/magazine/15-08/ff_jimgray?currentPage=all>.
8. *South-East Asia Earthquake and Tsunami Blog*, <<http://tsunamihelp.blogspot.com/>>.
9. Pamela LiCalzi O'Connell, "Internet Matchmaking: Those Offering Help and Those Needing It," *New York Times*, November 14, 2005, <<http://www.nytimes.com/2005/11/14/giving/14oconnell.html>>.
10. Milo Yiannopoulos, "Twestival Raises over \$250,000 for charity:water (and They're Still Counting)," *Telegraph.co.uk*, February 18, 2009, <http://blogs.telegraph.co.uk/technology/miloyiannopoulos/8614447/Twestival_raises_over_250000_for_charitywater_and_theyre_still_counting/>.
11. For more on network awareness, see <<http://howardrheingold.posterous.com/a-min-course-on-network-and-social-network-li>>.
12. David P. Reed, "That Sneaky Exponential: Beyond Metcalfe's Law to the Power of Community Building," <<http://www.reed.com/dpr/locus/gfn/reedslaw.html>>.

13. An entire curriculum could be based around this process. For more of my thoughts on this literacy, see "Crap Detection 101," *San Francisco Chronicle*, June 30, 2009, <http://www.sfgate.com/cgi-bin/blogs/rheingold/detail?blogid=108&entry_id=42805>.


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