

New Media and New Media Literacy

The horizon has become the landscape – new media are here

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by Neil Andersen

In the one-room schoolhouse my father attended, information access involved schoolbooks and periodicals. Information processing involved reading, writing, speaking, listening, and drawing. The teacher controlled most of the information flow. Homework was done on paper using pencils or pens dipped into inkwells.

My father had to complete grade 11 by correspondence because his teacher had completed only grade 10. While his mother was keenly interested in and supportive of her children's education, she was not well educated and so deferred to the teacher's judgments.

Within three generations, the world has changed dramatically. My teaching colleagues hold several degrees, and in their classrooms, students can gather information from print, video, and the Internet. After school, many students are chatting with each other online and on cell phones. They're doing homework; visiting websites; trading pictures, music, and data files electronically; watching television; going to movies; and playing video games – often doing several of these things simultaneously. They have access to information and entertainment from almost anywhere at almost any time. The environments created by these technologies have redefined education so profoundly that teachers and parents must rethink their roles in children's learning.

Because many 21st-century homes are equipped with more robust technology than most schools, there is often a significant disconnect between students' thinking and classroom demands. Students emerging from home electronic environments have experienced multimedia immersion, participating on many cognitive levels and in many media languages simultaneously. The dominant design of many classroom curricula, however, is to isolate a few senses and concentrate on them in depth, while ignoring others.

Reading print, for instance, is antithetical to processing electronic information in that it invokes one visual skill (the act of decoding and understanding icons that represent abstract sounds) while suppressing others (hearing, smell, and touch). Reading requires skills involving concentration, linearity, sequence, and abstraction that may be unnatural to children who are adept at attending to multiple messages and languages simultaneously. A print environment could be as challenging to these children as a rave environment, with its booming music, physical movement, strobing light, and large crowds, could be to their grandparents. Students often signal their discomfort with the single-medium classroom by wearing their headphones, whether they are listening to them or not. They attempt to import some of their preferred multimedia environment into the foreign territory of the classroom.

Just as they do their homework while listening to their favorite tunes, they try to mediate the single-focus, single-medium classroom task with their headphones.

Despite, or perhaps because of, the fact that media are ubiquitous and technologies are constantly changing, many people still struggle with the full implications of media literacy. “Media” include all environments that contain and communicate information: not only television, the Internet, and newspapers, but also shopping malls, summer camps, neighborhoods, and classrooms. Thinking critically about the behaviors and values communicated by these environments can help children be more successful in their evolving world. Media literacy – the ability to analyze and create messages, as well as analyze the media themselves – is THE most critical skill because it underpins all other learning. In the Information Age, information processing skills are the most important skills a person can learn.

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The Characteristics of New Media

Examining the characteristics of new technologies can help us understand their effects. Seeing them as new and very different environments might help us understand our own roles and reactions when operating within them.

The Dazzle Factor

While children undergo a form of culture shock in focused classroom activities, their parents and teachers may have similar feelings when experiencing new multimedia, and especially their content. New technologies almost always put sensibilities into a state of imbalance, often as a result of their bedazzling qualities. Humans can concentrate on one communication or many, but one is easier. Because we descend from hunters whose survival depended on seeing animals moving in a forest, we find movement especially compelling. Reading a book requires one level of concentration, while experiencing a website requires several: simultaneous sensitivities to words, images,

sounds, color, and especially movement. The multiple messages, each demanding its own cognitive space, can overwhelm the mind and reduce its ability to make sense of what is presented.

Coupled with this imbalance may be an adult’s concern for the new media’s content, which is often challenging to social mores. Unfortunately, a preoccupation with content obscures the form, making it difficult for some people to perceive the true nature of the new media. Adults feel an understandable urge to shield children from what they consider inappropriate influences. Unless, these influences are clearly dangerous, however, withholding judgment may allow both children and adults to understand the media better. The speed of technological change is not likely to slacken, and it may hold us in a state of constant bedazzlement. Meeting its challenges will require us to avoid snap judgments while seeking more objective points of view.

Beyond Hardware and Software

“Technology” is not merely the cell phone and the game controller but, more profoundly, the thinking required to create and use them. In other words, technology resides in the mind – the gadgets are only the physical manifestations of technological thought. It is the mind’s uses of and reactions to the technology that are important to consider. The mind is where attitudes, values, and practices develop and where social practices reside. Television may be an interesting appliance, but it is our reactions to the experience of viewing television, in the form of behaviors and attitudes, that define its social impact. The following questions might help us to understand how we use technologies to extend our actions and influence our relationships: How do we place technology in our homes? How do we arrange our lives around its schedules? How do we use it to build and maintain relationships with family and friends? How do we incorporate it into our political processes?

I wouldn’t want to pay the long-distance telephone fees to speak to my friend in France, and buying correct postage for my New Zealand friend is just too much trouble, but emailing them is easy and fun. The Internet has extended my conversational reach in profound ways. Students can easily compare homework or angst by instant messaging, and the support and knowledge they gain may be significant. Conversely, the new media might also become vehicles for the age-old childhood

problems of peer pressure or bullying. For example, the apparent anonymity of the Internet may tempt a child to create a website that makes fun of a classmate. The Internet can be used as readily to spread rumors and false information as to bring people together for political action. In the new media environment, we should examine not only how we use technology to influence relationships and behavior but also how the technology changes the way we behave and relate to others.

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New Media, New Interactivity

Exploring our uses of technology provides one opportunity for increasing media literacy. Another opportunity may arise from exploring the degree of a technology's interactivity, which places it on an interesting continuum. Print is interactive in that readers can invest words with personal meanings. On the other hand, print is a one-way communication in that readers usually are forced to read in a linear sequence, following lines of text and considering each idea as the author presents it. Television, radio, and newspapers are similarly one-way communications, with sequence and pace largely determined by the creator of the message. Television and radio are also very ephemeral experiences, with new messages constantly pushing past messages into the background, making it hard to reflect on what has been experienced.

By contrast, many of the new technologies are relatively more interactive and user-controlled. The remote control allows television viewers some degree of editing control, in that they can pop from one channel to another at will, but they are still constrained by the scheduling and availability of programming. Video games, and especially the Internet, are much more user-controlled; users can move freely among their selections at their own pace. Thus, many new media users create their own media messages by controlling the sequence and duration of their experiences. This increased level of user control helps to explain why many new media appear to be more compelling than their predecessors, and it offers parents and teachers a clue on how to help children use thinking skills that let them make sense of the new media messages.

The multilayered, ephemeral, and fast-paced qualities that are the hallmarks of new media messages place great mental demands on users. We are required to make sense of more complex messages in less time. Parents and teachers can help students understand these messages by providing time and an open forum within which to examine the messages and the range of audience reactions. Such opportunities rarely arise naturally within a child's day, but scheduling some "timeout" to reflect in the classroom or home will support the growth of media literacy.

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Synchronicity

The evolution and effects of new media are especially influenced by synchronous trends. One involves miniaturization, portability, and speed. The second involves access. The third results from two different, but symbiotic, convergences.

The synchronicity of miniaturization, portability, and speed

Computers once as large as buildings have become the size of paperbacks. Combined with efficient batteries, this miniaturization results in portability that allows us to take them anywhere. Faster processors and storage devices complete sophisticated tasks in a blink, accelerating all attendant activities.

The synchronicity of access

Wireless connectivity offers us instant access to information, movies, songs, and news. We no longer need to wonder, but can obtain precise information from multiple sources at will.

Synchronicity and convergence

While one form of convergence combines computers, cameras, and cell phones, another, much more profound convergence occurred in the 1980s: digitization of information. The integrating and involving effects of this convergence are still unappreciated. When

information was recorded as a variety of dissimilar analog codes, integrating it was awkward: to be integrated into a TV broadcast, a graphic had to be created on paper, then photographed by an analog camera and edited into other images. Many TV messages were originally movies, which had to be projected into a video camera. Merging information was expensive, awkward, and sometimes impossible. When all information forms became digital, the numbers could be converted handily by applying mathematical formulas. Integrating a graphic into a TV broadcast became as easy as identifying its format (JPEG or TIFF), then inserting it into another collection of numbers (video). Consider how easy, fast – and consequently contentious – it is to rip CD music files.

The impact of these synchronous trends on learning is profound. Consider, for instance, how a school field trip might change when students, carrying a device about the size of a sandwich, can record sound and image while simultaneously accessing Internet libraries and laboratories. The sequence of primary experiences processed later with other secondary experiences is telescoped into simultaneous experience. When experiences and responses are no longer punctuated by time and written reflection but occur almost simultaneously, students must be able to organize their thoughts and process information on multiple channels in what has been called multitasking. Students can create a report that mixes sound, images, video, and text and immerses the receiver in information. They share it in the real classroom and with an expanded audience on the Internet. The information processing demands placed on students by their interactions with such technologies require new cognitive and metacognitive skills.

Citizenship and news reporting will be redefined when the kind of grassroots journalism and social response that resulted from videotaping Rodney King's assault is available to anyone carrying a video cell phone. To operate successfully in these new environments, students need a thorough understanding of how communications technologies influence thinking and behavior – media literacy. They also need time and guided reflection to develop that literacy. Just as space has been opened up in the curriculum for scientific awareness, time must be provided regularly to support media literacy.

Control

Controlling access to information proves a challenge in the Information Age. Censorship is really possible only in a closed system, in which one agency (e.g., adults) can control access to information (e.g., books in a library). In an open system such as ours, and with the plenitude of new information offered by the new media, attempts at censorship become futile. Television and the Internet offer children easy access to varied messages, and the hundreds of channels and millions of websites are impossible to monitor. Even totalitarian governments are no longer able to control the flow of information. So what is one to do?

The most effective way to help children understand and deal with messages of racism, sexism, or consumerism is not censorship but education. This is not to say that censorship should be abandoned, but that it is naive to think that it is sufficient.

Computer networking has “outed” neural networks of the mind, allowing us to process information and ideas collectively in that extension of our brain called the Internet. This open flow of information and ideas has shifted the onus of information management from the state to the individual. Media literacy is not a stylish hobby for an affluent few but an essential skill for all citizens. If students are to assume the responsibility for their own information access and processing, they must be provided the cognitive tools and opportunities to develop and refine those tools.

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Helping Children Respond to Multimedia Environments

What can parents and teachers do to minimize their anxieties and maximize children's learning while using these new technologies? What new thinking and social skills are called for?

- **Build prior knowledge.**

New information can make sense only within the context of existing information. More prior knowledge will improve this process. Encourage children to read, surf, view, visit casual educational facilities such as museums and science centers, and travel, even within their own locales. Encourage them also to access information via different media, such as newspapers, television, the Internet, and radio.

- **Observe before interpreting: delay judgments.**

Making snap judgments can activate prejudices that prevent further analysis and deeper understanding. Avoid a rush to judgment by separating and examining your perceptions. Here are some useful questions: What do I see and hear? What is it similar to? What is my reaction? What about me might account for that reaction? What about the text might account for that reaction? How might other people react differently? Why?

- **Actively pursue information processing technologies and strategies.**

Keep up to date on what new technologies are coming, how existing technologies are evolving, and how they can be used efficiently and appropriately. It is not necessary to acquire the technologies so much as to learn how to use them, so that you are ready when the opportunities come. Reading about new communications technologies, visiting trade shows or electronics stores, or even renting an appliance will support student learning.

- **Create a continuum of learning between home and school.**

Discover what technologies and skills are being used at school, then support those uses at home. Alternatively, many homes have technologies that are not yet available, or commonly used, in the schools. Encourage students to use the school technology, but also to take advantage of home-based technologies.

- **Help students create a plan.**

Recognize processes, languages, and forms. The mediated world is often seamless, even though different experiences might invoke different thinking skills. Recognizing that detailed, linear thinking is

required when reading, while holistic perceptions work better when viewing, can help students process information more effectively. Knowing the differences between narrative and documentary structures will help them recognize and retain information. Take a few moments to examine the "big picture" that surrounds a particular project or technology, specifically labeling which language forms and thinking skills are appropriate to the activities. Once students understand which skills are required, they will be likelier to succeed in practicing them. One way to do this is to create a plan for how a project will be done, breaking down and labeling the processes and skills for each step. Creating a metacognitive level at the beginning will make it easier to access and build upon it as the experience proceeds.

- **Create reflective opportunities.**

Students' lives are filled with experiences, but they do not always have time and strategies for reflecting on those experiences. "Intentional" students who are aware of their own learning processes, strengths, and weaknesses are more effective learners. Parents and teachers can help students pause to reflect on their new learnings and on their own learning processes. Such reflections might take the form of informal dialogue between student and parent or teacher. Or, they might take the form of written journal entries or debriefing discussions between groups of students who were all involved in a project.

Ask students what they thought of a new media experience, how they felt, whether their first impressions were accurate, or whether they think it is an experience worth repeating or recommending. Ask them to describe memorable qualities. Be a learner, genuinely interested in understanding the experience from their point of view.

- **Consider both local and global implications.**

Multimedia messages may be experienced individually, but they are shared by many. In addition to reflecting on their personal reactions, children might imagine how others might react to the messages, or how the messages need to be modified for other audiences. Such musings can help students to understand their relationship to communications and technologies.

- **Expand discussions of learning beyond the school experience.**

Children learn at the playground, on family vacations, at the mall, and while doing household chores. Don't try to make everything an object

lesson, but do help them take a moment to see the skills and learnings that might have resulted from some everyday mediated experiences.

- **Remember to have fun.**

There is pleasure in using media, just as there is pleasure in learning. Allow the pleasure to happen and celebrate it when it does. Everything we do in media literacy doesn't have to be hard, serious work.

- **Create whenever possible.**

People in the Information Age have great opportunities to participate in information flow, and communications technologies are within reach of many. Children can attend workshops, studios, and production classes. They can document family events, trips, birthdays, weddings, or graduations and participate in family projects, creating videos, websites, newsletters, collages, or posters. It is unnecessary to buy all the technology. Families without production equipment might rent or borrow it or use community resources. Creative activities help students see themselves as producers as well as consumers of information, which is a crucial quality in the new media environment.

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Media Literacy Is Life Literacy

If we expect Information Age children to function effectively as workers and citizens while enjoying their lives, we have to provide them with the opportunities and supports to discover and develop their information processing skills. Media Literacy – the ability to understand, appreciate, and communicate within multimedia environments – must become part of all learning, at home and at school. It takes a village to raise a child, and in the Global Village, governments, businesses, parents, and teachers share the collective responsibility.