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The effects new literacy and digital learning have on our youth

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The effects new literacy and digital learning have on our youth

Abstract

This review explores the effects new literacy and digital learning has on our youth. It is empowering to students to be able to create while learning in the 21st century. One of the purposes of this review was to discover the greatest minds trying to understand the changing role of new media in education. A major resource used for this review was the Digital Media and Learning Research Hub supported by the MacArthur Foundation. This resource contained many articles that pertained to new literacy and digital learning. The articles led the reviewer to believe that a growing field of academics and public scholars contend that we must cultivate multiple literacies in addition to traditional "print" literacy in order to meet the needs of our high tech, multicultural society, and global culture. This review mentions three stages ("Hanging out," "messing around," and "geeking out") that define youth culture in our digital age, and show how students are modeling new literacy practices without even knowing it. This review highlights this research, and identifies video production as an ideal way to promote multiple literacies. This review then outlines a number of digital media programs targeted at youth that combine digital creativity and literacy. Finally, this review offers some suggestions towards arriving at helping young people get to a greater and more creative "digility."

THE EFFECTS NEW LITERACY AND DIGITAL LEARNING

HAVE ON OUR YOUTH

A Graduate Review

Submitted to the

Division of Instructional Technology

Department of Curriculum and Instruction

In Partial Fulfillment

Of the Requirements for the Degree

Master of Arts

UNIVERSITY OF NORTHERN IOWA

by

Joshua L. Mitchell Sr.

December 2012

This Review by: Joshua L. Mitchell Sr.

Titled: New Literacy, Digital Learning, and Our Youth

has been approved as meeting the research requirement for the

Degree of Master of Arts.

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Abstract

This review explores the effects new literacy and digital learning has on our youth. It is empowering to students to be able to create while learning in the 21st century. One of the purposes of this review was to discover the greatest minds trying to understand the changing role of new media in education. A major resource used for this review was the Digital Media and Learning Research Hub supported by the MacArthur Foundation. This resource contained many articles that pertained to new literacy and digital learning. The articles led the reviewer to believe that a growing field of academics and public scholars contend that we must cultivate multiple literacies in addition to traditional "print" literacy in order to meet the needs of our high tech, multicultural society, and global culture. This review mentions three stages ("Hanging out," "messing around," and "geeking out") that define youth culture in our digital age, and show how students are modeling new literacy practices without even knowing it. This review highlights this research, and identifies video production as an ideal way to promote multiple literacies. This review then outlines a number of digital media programs targeted at youth that combine digital creativity and literacy. Finally, this review offers some suggestions towards arriving at helping young people get to a greater and more creative "digility."

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Introduction

We are awash with new technology and digital content. Industry analysts predict that Apple will sell 66 million iPads in the 2012, growing to 176 million in 2015 (Hughes, 2012). Fifty percent of Americans' own smartphones; with that number jumping to 78 percent of Americans aged 18-54 (*Business Insider*, 2012). According to *New York Times* technology analyst Nick Bilton, people are using their smartphones to play a seemingly infinite number of new mobile games. "Mobile gaming will grow "from 15 percent in 2010 to 20 percent in 2015," he writes, with "game-related spending reaching $112 billion by 2015" (Bilton, 2012, p. 2). This number becomes more staggering if we compare it to the book industry; Book spending reached a mere $27.7 billion in 2011 (Milliot, 2012). Even so, the area where the book industry is actually experiencing the most growth is in *digital publishing*. Not surprisingly, Americans are reading more and more books on their smartphones.

With this fast pace of technological change come online media devices that are pushing literacy into unique and unforeseen directions from text novels to video mashups, new literacies are being created everyday. According to media critic and *Wired Magazine* contributor Clive Thompson, "The brevity of texting and status updating teaches young people to deploy haiku-like concision. At the same time, the proliferation of new forms of online pop-cultural exegesis—from sprawling TV-show recaps to 15,000-word video game walkthroughs—has given them a chance to write enormously long and complex pieces of prose, often while working collaboratively with others" (Thompson, 2009, p. 1).

Thompson (2009) mentions and quotes Andrea Lunsford, a professor of writing and rhetoric at Stanford University and the organizer of a 2008 project called the *Stanford Study of Writing,* According to Lunsford "we're in the midst of a literacy revolution the likes of which we haven't seen since Greek civilization." (p. 1) Thompson persuasively argues that people are writing more than ever because of our rapid embrace of social media platforms such as Twitter, Facebook, and the blogosphere, and that we are also expressing ourselves more with video (e.g., YouTube) and images (e.g., Flickr, websites, etc.). Instead of being secondary, insignificant communication platforms that encourage a kind of writing reduced to emoticons and curt, "inexpressive" writing styles, researchers (Clive Thompson among them) are finding a breathtaking flowering of creativity with a myriad of writing styles (Buckingham, 2003; Kellner, 2004; Lewis & Fabos, 2005; Thompson, 2009).

The Need for "Digility"

My two sons, Daniel (9 years old) and Joshua Jr. (8 years old), are digital natives who are receptive to these changes, and who have already proven their abilities to adapt to new technology in a different way from people and myself my age. There was a time, not so long ago, when people learned a certain set of skills that lasted them a lifetime. They worked as factory workers and they learned their jobs inside and out, and did not have to worry about anything even remotely like *digility*. We are in a culture now where technology is moving tremendously fast, and we have to learn to use it for very specific purposes and at very specific times. If we need to create a cutting-edge presentation that shows off your *digility*, we learn Prezi because we heard it was the latest communication tool for presentations. When we have to drive to a new city, we have to learn the new

GPS interface on the rental car. Communicating with people far away requires us to learn how to hook up our computers and download the correct software so we can carry on a digitally- mediated video conversation.

Witnessing my sons, Daniel and Joshua Jr., fearlessly familiarize themselves with a new technological interface--like a video game platform--by merely just looking at it and immediately adapting to it, almost without hesitation--like it's an automatic gesture. They are not confused or frustrated. They do not have to backtrack or fix a mistake. It just comes naturally to them. With all the research done about neuroplasticity (Schwartz and Begley, 2003), I wonder about the plasticity of their brains. I also wonder what books will look like in 10 years by the time my sons graduate from high school. Companies like IDEO are bound to alter the way we read, making reading itself a social, critically dynamic experience, rather than an individual experience that puts the reader solely with an individual author. I also wonder what schools will look like in 10 years? What will literacy look like in 10 years? How is new literacy changing, how is it affecting digital learning, and how will it affect our youth, like my two sons?

The Purpose of this Review

The purpose of this review to aggregate and synthesize the solid educational research that has emerged in the past decade or so that suggests new media technology has a strong role in education pertaining to our youth. This review is a synthesis of multiple threads of discourse in education and media studies about new literacy that have emerged over the past 15 years. My discussion and analysis section will reveal the substantial amount of quality thinking that has evolved as scholars have researched and analyzed the role of digital media technology in the classroom and in afterschool

programs.

There is a growing consensus in our professional discourse about our educational system, whether it is during school or in after-school programs, that our society demands increasing "digility." This word does not appear yet in the dictionary, nor does it yet appear in the academic discourse I will describe below. Perhaps this paper will change that, because educators have been describing "digility" for a while now without using this particular term. Indeed, University of Northern Iowa Marketing instructor Matthew Wilson at a recent conference coined "digility". Wilson defines it as:

> "DIGILITY: an extreme agility with digital technology to innovate, create, plan, and produce digital experiences of all types. THAT is what digital technology does – connects and enhances ideas, thereby creating new ideas. It is creative tech-driven synthesis." (Wilson, 2012, p. 1)

Along with other educators who have researched various aspects of new literacy, I will argue in this paper that we need to become active participants in our increasingly digital culture.

Finally, this paper will offer some suggestions towards arriving at helping young people arrive at a greater and more creative digility.

Research Questions

The following research questions will dictate the following pages of this literature review:

1. What are the effects of new media in the 21st century as it pertains to students and to what extent--in the age of digital media--should students be learning how to create with digital media tools?

2. How empowering is learning and creating within these highly social, digital environments tools, especially towards students' own literacy?

3. How do afterschool programs, libraries, and museums use digital media to support extracurricular learning, and what is it that is distinctive about the quality of learning in these "not-school" settings??

In pursuit of these questions, I offer you an explanation of my methodical approach to this literature.

Methodology

In approaching the topic of new literacy and youth, my goal with this project has been to discover the greatest minds trying to understand the changing role of new media in K-12 education. I first turned to the library and researched scholarly books under terms such as "new literacy," "media education," and "digital youth," locating such titles as David Buckingham's powerful *Media Education: Literacy, Learning and Contemporary Culture* (2003) and *Youth, Identity, and Digital Media* (2007); Tara McPherson's *Digital Youth, Innovation, and the Unexpected*, (2008); and the edited volumes by Julian Sefton-Green, *Digital Diversions: Youth Culture in the Age of Multimedia* (1998) and *Young People, Creativity and New Technologies: The Challenge of Digital Arts*, (1999). In examining these texts, all authors immediately proved to be established scholars in the field of new literacy.

These books, while somewhat dated (1990s and early 2000s), gave me a sense of who was writing about digital youth and new media 10 and 20 years ago. Using the same terms, I then researched journal articles in the Education Resources Information Center (ERIC) database, Google Scholar, ScienceDirect, and ERIC (EBSCO). The gathered data suggested (not surprisingly), that many authors repeatedly make reference to Buckingham's, McPherson's, and Sefton-Green's publications. With this triangulation, I knew I was zoning in to the right group of scholars.

My research started coming together when I began to notice that a number of texts (e.g. Buckingham and McPherson) were published by the same organization, "The John D. and Catherine T. MacArthur Foundation series on digital media and learning." This led me to the Digital Media and Learning Research Hub supported by the MacArthur

Foundation. The foundation addresses critical questions such as "Are young people fundamentally different because of their exposure to technology?" and "What environments and experiences capture their interest and contribute to their learning?" (MacArthur Initiative 2006).

I also relied on the journal articles and book chapters written by Bettina Fabos, who, along with her collaborator Cynthia Lewis, has contributed to the new literacy, media literacy, and critical literacy discourse, and further led me to the works of Douglas Kellner and Lawrence Lessig, who are more known in the area of media studies. Interestingly, these scholars also referenced the same concrete stable of scholars that I identify above. All of these scholars have informed this review.

Analysis and Discussion

The Relationship Between Youth and New Media in the 21st Century

When the pen was invented in 1000 AD, it took another 500 years before humans invented the pencil (Martini, 2001). Then when radio was invented at the turn of the 20th century, it took a much shorter 38 years for the communication technology to reach a mass audience of 50 million people; and when television was invented in the 1940s, it took only 13 years to accomplish the same (World Bank, 1999). This trend of speedier and speedier adoption of mass media communication tools has not stopped, but increased in speed. The Internet became a mass medium between 1990 (when the first browsers were released) and 1995 (when the Internet became a commercial medium)--just five years. Facebook became a mass medium in *only two years*, and has reached an unprecedented audience of 1 billion in only 8 years (Campbell, Martin, and Fabos, 2012). Indeed, the rate of technological change now is faster than at any other time in history. Young and old people alike find themselves being introduced to a new media tool or device on a yearly basis, and this is on top of every other thing young people have to learn in school, including traditional literacy.

In the words of Mizuko Ito and her collaborators, "Today's youth may be engaging in negotiations over developing knowledge and identity, coming of age, and struggling for autonomy as did their predecessors, but they are doing this while the contexts for communication, friendship, play, and self-expression are being reconfigured through their engagement with new media" (Ito, et al., 2009, p. 1). New media and communication technologies are thus defining our youth as a generation that is different from the ones that came before them. Not only is this dividing generations, it is also

dividing "in-school" and "out-of-school" learning, which David Buckingham (2007) describes as a "digital divide" (p. 96).

Besides identifying how new technology is increasingly defining young peoples' lives, education scholars have identified how young people are developing new kinds of communication practices. Ito, et. al (2009) describe some of these new practices as "deliberately casual forms of online speech, nuanced social norms for how to engage in social network activities, and new genres of media representation, such as machinima, mashups, remix, video blogs, Web comics, and fansubs" (Ito et al., p. 25). According to Eckert (1996), these cultural forms are often tied to certain linguistic styles identified with particular youth cultures and subcultures. These burgeoning subcultures are not surprising. Scholars have noted how, since the post-war era and the emergence of a distinct youth culture, young people like to get together, and in doing so integrate new media--whether it's transistor radios in cars, boom boxes on the street, social media get-together on Facebook or a gaming session around *Call of Duty*--and they use and integrate communication technology products that are targeted to their demographic. (Cohen 1972; Corsaro 1985; Frank 1997; Gilbert 1986; Hine 1999; Snow 1987) As stated by these authors, while popular culture (as displayed in movies, music, fashion, television, and Internet sites like YouTube) changes, the foundational exercises of youth engaging with media to hang out with their friends remains a part of their culture. In studying this youth culture, Ito et al. (2008) have identified a progression of social norms that youth tend to exhibit when they interact with digital and social media: "hanging out," "messing around," and "geeking out." Each stage is a step towards a greater and greater comfort level with--and then a full-fledged embrace of-- digital media, and these

three stages define youth culture in our digital age.

Hanging Out

  Hanging out is a term Ito and her colleagues use to describe young people simply spending time socially, either during or outside of school. Hanging out can occur between any range of social relationships-- between friends, parents, siblings, and classmates. For example, a teenager coming home from school today may log onto the internet to check various status updates and create some of his own, then get on some kind of game like *World of Warcraft* with numerous online peers, get bored because he could not reach another level, and then begin texting friends and finally ending up going to sleep. This teen is hanging out, while tapping into a variety of new media.

  Some educators, parents, public officials and pundits may associate "hanging out" with a lack of productivity, even laziness, hanging out can be extremely misunderstood as a colossal waste of time. However, some educators note that when teens "hang out" with digital media, like engaging in some kind of digital game and/or social network, they are actually multitasking in interesting and even productive ways. Ito uses the term *hypersocial* to define the process through which young people use specific media as tokens of identity, taste, and style to negotiate their sense of self in relation to their peers (Ito et al, 2009, p.28). In the process of hanging out with their friends, young people are forming their own tastes and identities with regard to music, television, movies, YouTube channels, cool websites, and video games. They also take part in an assortment of new media practices, such as searching for information online (independently or directly in front of peers) or showing off their video game expertise with friends. Furthermore, social media can easily break down barriers and allow young people to interact more

easily with their friends without the pressure of "performing" one's self face to face (Lewis and Fabos, 2005). As Ito et al (2008) write, "Today's youth may be coming of age and struggling for autonomy and identity as did their predecessors, but they are doing so amid new worlds for communication, friendship, play, and self-expression" (Ito et al, 2008, p. 1).

Messing Around

    Messing Around is Ito et al.'s second term, a stage that takes young people deeper into their creative digital worlds. Ito et al. define "messing around" as "Looking around and searching for information online and experimentation and play with gaming and digital media production" (p. 42). A transitional stage between "hanging out" to "geeking out" (described below), "messing around" is when students are beginning to identify particular talents and expressing, through social media, what deeply matters to them. For example, a fourteen-year-old girl may have a fascination with Pinterest, and begin setting up boards and collecting aspects of her identity on these boards (her favorite clothing items; her favorite interior decoration ideas; her favorite "fun sayings" on the web; her favorite items that have to do with the color orange), which she shares with her friends. She develops a solid knowledge of Pinterest's functions, and begins to see how her Pinterest fascination builds social relationships. She is using this new media for expression instead of using it just to be in touch with people.

    In other words, "messing around" becomes really interesting when a youth transitions from using the Internet as a social place to a means of forming interests and doing research on the things that they're interested in and passionate about. The Pinterest example above has to do with social media, but young people also tap into gaming and

digital media production. They can learn something new without being judged, all while being in the comfort of their own home. In Ito et al.'s words, "Messing around with new media requires an interest-driven orientation and is supported by access to online resources, media production resources, as well as a social context for sharing of media knowledge and interests. Online and digital media provide unique supports for tinkering and self-exploration" (Ito et al, p. 43).

Geeking Out

Geeking out is the last stage of digital media experimentation, when young people build huge levels of expertise based on their passion and desire to share and/or perform in front of their peers (either virtually or face to face). I have personally geeked out, staying up into the wee hours of the morning learning as much information as I could about Photoshop or *AfterEffects*, to the point where I became so excited I couldn't get enough of it. Geeking out is also what my two sons Daniel and Joshua Jr. do whenever they get a new game on the Wii and play it to the point where they become masters of the game, ignoring everything around them. Some of the games they play are seemingly too "advanced" for their grade level, and yet they manage to work out every detail, learning an arsenal of impressive skills because they want to, not because they have to. Geeking out involves the many young people (and adults) involved in *World of Warcraft,* or those kids who discover open source software tools like *Gimp* or *Blender*, and join communities of learning and watch and create "how to" videos on YouTube. When kids (or adults) geek out, they lose themselves in the art they build, either alone or with friends, and become unafraid of the technology, and unafraid to learn.

Digital Natives and Altered Brains

The three stages outlined above define young peoples' experiences with digital media today, both in and outside of school. According to Ito and his colleagues however, hanging out, messing around, and geeking out with digital technologies is also altering their brains--reorganizing their actual brain cells as they engage with the rich environments brought on by hypertext and highly engaging digital media content. Prensky originated the terms "digital native" and "digital immigrant," terms widely used today to separate the newest generation of technology users from their parents. He has argued for the last decade that the neurological patterns in kids' brains today show that youth raised with computers (digital natives) actually *think differently* than the people who were not raised with computer technology (digital immigrants) (Prensky, 2001; Prensky, 2012). Describing digital natives as having developed "hypertext minds," Prensky notes how young learners leap around from idea to idea and are constantly aware of some other link beyond a particular piece of information:

> If a digital native is not interested something, they move on to something else. This can come off as having short attention spans in the realm of the old ways of learning. As for something that interests a Digital Native, paying attention is not an issue. Take a video game or even YouTube for example, digital natives are known for spending hours at a time non-stop on either one of these tools. I believe that they choose not to pay attention to things that don't pique their interest. (Prensky, 2001, p.18).

Many believe that technology is not helping our youth but in actuality we cannot make that call because our thought processes are not the same as the youth of today. At

the end of the day, I believe that the youth will be "all right" in this digital age. The youth's developing brains can become more easily habituated than adult brains to constantly switch tasks and be less able to sustain attention. People from past generations were taught to focus on one thing at a time and *master that craft.* Today's generation succeeds on multi-tasking their brains enjoy jumping from one thing to the next thing. "The worry is we're raising a generation of kids in front of screens whose brains are going to be wired differently" (Richtel, 2010, p. 1). The Richtel article was saying that being wired differently is resulting to a negative outcome. Tapscott believes the opposite as he states in his article, "Rather than creating dysfunctional brains that can't focus, the evidence is just as strong that experience being "bathed in bits" is pushing the human brain beyond conventional capacity limitations. So-called multitasking may in fact result from better switching abilities and better active working memory. Young people are likely developing brains that are more appropriate for our fast paced, complex world" (Tapscott, 2010). The youth of today are faster at switching tasks and blocking out background noise. They can work successfully while listening to music and receiving news coming in from Facebook. They have learned to live in a world where they are inundated with information, so that they can block out other distractions, like the TV, while they focus on the task at hand.

The youth that have *grown up digital* want to be able to interact with their peers. The youth want choice in their education, what they learn, when they learn it, where, and how. They want this control. They want real world scenarios in the classroom. They want learning to be interesting, and even fun.

...there is no actual evidence to support the view that this generation is distracted,

performing poorly or otherwise less capable than previous generations. In fact the evidence suggests that on the whole, this is the smartest generation ever. IQ is up year over year for many years, university entrance exam scores are at an all time high and it has never been tougher to get into the best universities. Furthermore, volunteering amongst high school and university students is at an all time high and in the US the percentage of kids that are clean in high school (they don't do drugs or alcohol) is up year after year for 15 years. This is a generation about which we can be enormously hopeful" (Tapscott, 2010).

We do not know what the future holds for the youth of today but we do know it looks promising

Creating with Digital Media: New Literacies

How can spending hours writing short sentences on Facebook, Twitter, or IM impacting students' be considered literacy? To what extent should students be learning how to create with digital media tools in the age of digital media? How empowering is social media, video production, and video game play towards young peoples' literacy? One of the criticisms of kids' deep investment in new media has been that dabbling with new media technology does not promote a challenging form of literacy (the way reading and writing does). Spending hours on the computer surfing the web, writing on Facebook, for example, is potentially a waste of time when kids could be reading books or writing journal entries (Bauerlein, 2009; Carr, 2011; Keen, 2011).

Lewis and Fabos (2005) were interested in the question of literacy and new technology when they began addressing the learning potential of Instant Messaging in the early 2000s. After videotaping teens as they IM'd peers within their social network, and

interviewing these same students about their IM practices, Lewis and Fabos discovered that there was more positive literacy going on during the hours these teens committed to their IM sessions than they ever imagined. In writing seemingly "banal" instant messages, which are mostly characterized by small snippets of casual conversation, Lewis and Fabos reported that their participants "consciously resorted to various narrative strategies to generate more interesting and flowing conversations with their peers" (p. 375).

Lewis and Fabos strategies included trying to impress their peers on the other side of the IM pipe, manipulating language to both communicate effectively and to sound smart; being conscious of choosing different tones and language styles depending on who they were IM-ing; copying the "voice" of an instant message correspondent who accidentally got onto their buddy list in order to maintain the connection; and, in routinely negotiating at least four windows simultaneously, being deeply conscious of maintaining an arc to their entire many-windowed, often multiple-hour conversation so they could have a more intellectually engaging (and narratively satisfying) instant messaging session overall.

To summarize, IM is a kind of new literacy practice that actually pushes writing in new directions. Lewis and Fabos conclude that educators shouldn't disqualify the language possibilities brought by new technologies, and also by the after-school activities students choose to engage in. Today IM is only one writing platform available to young people, who have gravitated towards Twitter, Facebook, YouTube, and other comment-based interfaces, and texting. Clive Thompson (2011) points out that because young people (everyone really) are writing more than ever, they are becoming proficient at

assessing their audience and adapting their messages to be appropriate for that audience. Especially through text messages and status updates, we have learned how to articulate our points with conciseness, which is largely what we're taught within the classroom to do.

In the same vein, Douglas Kellner argues that educators today in our digital age must cultivate multiple literacies in addition to traditional "print" literacy in order to "meet the challenge of restructuring education for a high tech, multicultural society, and global culture" (Kellner, 2004, p.19). If we should encourage students to engage in practices like writing through Instant Messaging, Twitter, and Facebook to promote traditional literacy, we should also be expanding our *entire definition of literacy* from reading and writing skills to expressions through visuals, audio, or some form of multimedia technology. Jones and Flannigan (2006) articulate how important it is, today, in the 21st century, to reconfigure education so that it incorporates a range of literacy practices. They write that:

> "Prior to the 21st century, the ubiquitous term, literate, defined one's ability to read and write. Its meaning delineated the educated from the uneducated, as being illiterate proved an unthinkable dilemma. With the advent of a new millennium and the rapidity with which technology has changed society, the concept of literacy has assumed new meanings." (Jones and Flannigan, 2006, p.10)

As such, educators have identified at least seven different types of literacy practices that will effectively serve 21st century kids: Traditional, Digital, Visual,

Informational, Critical, Media, and Tool. This diagram, from Daniel Churchill's 2009 presentation, conveys the differences between each literary genre:

Image from Daniel Churchill Retrieved from http://www.slideshare.net/zvezdan/new-literacy-in-the-web-20-world

Of the seven literacies, digital literacy may be the newest, but perhaps "digital literacy is not a new literacy" at all. According to Chase and Laufenberg (2011) "digital literacy is simply reading and writing in a digital environment, there is no need for the new terminology" (p.535). However, there are clearly new skills involved in digital literacy, such as multimodality, getting students to understand an authentic vs. inauthentic writing voice, and learning how to write for multiple and even larger audiences rather than just for the teacher or just academic prose. All of these areas are keys to creating effective digital writing practices in the age of the Internet. Digital reading also requires specific new skills: "To read digitally, students and teachers must learn to read beyond the printed page," Chase and Laufenberg (2011) state. "They must learn to read across all

those platforms which they can use to create" (p.536).

Consequently, when it comes to reading and writing with digital tools, teachers are obliged to deal with significant questions: What is it? How do I teach it? How do I know if my students have learned it? As it turns out, finding answers to these questions poses challenges, and educators are seeing themselves less than prepared when it comes to digital literacy. However, students are perhaps more prepared than their teachers are as they write for global audiences via Facebook or videogame chat rooms. If teachers incorporate these writing and reading practices into their classrooms, they will be helping students to use what they know and build on it. Incorporating video editing projects into the classroom is another way to promote visual literacy, media literacy, and critical literacy, and also build on technologies that students are excited about and that many have already experienced.

New Literacy Practices

One example of new technology pushing the envelope of literacy practices is IDEO (http://www.ideo.com), a company that is re-envisioning the future of the book. A full-fledged digital media company, IDEO is exploring the potential of book publishing in various digital formats and has developed three prototype interfaces they call "Alice," "Coupland," and "Nelson." Each digital book prototype is designed around three diverse viewing/reading opportunities: new narratives, social reading with richer context, and news and opinion reading, with tools for critical thinking.
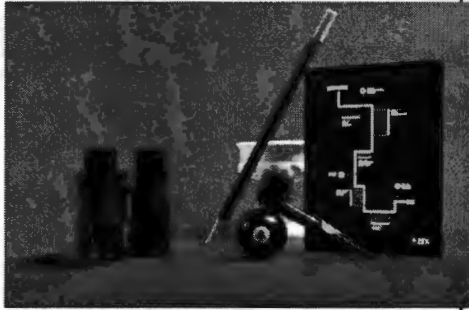
ALICE	COUPLAND	NELSON
Alice is a platform for authors to experiment with narratives, to allow their stories to transcend media, and to engage fans in the storytelling process. This makes narratives non-linear and participatory to readers. The reader will take part in real-world challenges, like acting on a phone call from the lead character, or participating in photo based scavenger hunts, unlock new aspects of the story, and turn other readers into collaborators or competitors.	**Coupland** is a platform that makes it easy for professionals to stay on top of industry must-reads. Coupland makes book discovery a social activity by allowing readers to build shared libraries. Coupland allows users to stay connected to the latest essential content within and outside of the organization.	**Nelson** is a platform that has layers of connected commentary, news, and fact-checking augment the core book content—providing greater context and encouraging debate and scrutiny. Readers can explore polarizing material and see whose word currently has the greatest impact on popular opinion and debate. Nelson reinforces the role of books as carriers of knowledge and insight.

Images retrieved from: www.ideo.com

As a result of these interactive reading and communication environments, and the opportunities brought on by hyperlinking unlimited amounts of documents on the Internet, our children are now growing up in a world flooded with media images as well as new learning opportunities. Textbooks will soon be completely digital. Education will be driven by Internet interfaces. Communication, entertainment, and the way we do business will depend on user interfaces that are a far cry from tattered yellow pages or dial up phones--the interfaces I grew up with. Simultaneously, technology is also changing at a fast pace and it keeps getting faster. Our society is fighting to keep up with the changes. We are constantly adapting to new phone applications, new tablet interfaces, new social networking sites, and new computer software. This is what it means to be part of today's digitally connected and digitally innovating society.

↴Video Editing Promotes New Literacies

In his book, *Free Culture* (2005), Lawrence Lessig remarks about the extent to which young people today are creating with digital tools, concluding that this kind of "messing around" and "geeking out" (to use some terms introduced above) with video is good for their literacy, and that they should keep on creating. Lessig describes how we have transitioned from a "read-only" to a "read-write" culture, where we are not just consumers of other people's content, but active creators, generating our digital media content, and uploading it for the world to see via YouTube and other social media platforms. As Lessig states, there is a grammar to constructing video, just like there is a grammar to creating sentences:

> ...in a world where children see on average 390 hours of television commercials
>
> per year, or between 20,000 and 45,000 commercials generally, it is increasingly

important to understand the "grammar" of media. For just as there is a grammar for the written word, so, too, is there one for media. And just as kids learn how to write by writing lots of terrible prose, kids learn how to write media by constructing lots of (at least at first) terrible media (Lessig, 2005, p.36).

A growing field of academics and public scholars sees this form of literacy as crucial to the next generation of students (Buckingham, 2003, 2007; Kellner, 2001, 2002, 2011; Lessig, 2005, 2008; Fabos, 2011, forthcoming). Writing is not an easy thing to do-- you have to set the story up in a sequence, keep the reader's attention and design language to be understood. Working with media narratives is much the same. As Bordwell and Thompson (2001) articulate, "The grammar of how shots are sequenced make meanings. In effect, this is the language of the continuity system in film" (p. 276). Fabos (forthcoming) explains even further how writing with visuals and writing with sentences is incredibly similar:

Narrative structure in film and video is...propelled forward through editing: the juxtaposition of long shots, medium shots and close ups. Perhaps it is easiest to think of individual shots as sentences, and sequences of shots as paragraphs. Each shot delivers a new idea towards a cohesive storyline: A long shot (sometimes called an "establishing shot") establishes place and context; a medium shot draws attention to a particular character or object; and a close up describes that character/object in terms of emotions, actions, or other details.

With this in mind, there is tremendous potential in getting young people to construct meaning and impact various literacy practices by teaching digital media to kids. First, any work towards narrative construction in any form (words, audio, video) helps to

promote *traditional* literacy, since sentences and video shots/audio sound bites are similar as elements of narrative construction. Second, video projects force students to understand the language of framing (e.g., high angle vs. low angle), the aesthetics of juxtaposition, the impact of color choices, and the power of movement--all this has to do with visual literacy--necessary skills in our increasingly image-driven culture. Video projects also challenge students to think about representation (media literacy). Why are certain representations stereotypical? Why are minorities represented in a narrow way? How do power relations play out in the media? And how can young people offer alternative, competing narratives that critically evaluate mainstream media representations (critical literacy)?

As Fabos (2011) argues, if you really want kids to learn, don't have them reproducing the same advertising culture, video game culture and TV sitcom culture that has the same stereotypes of what it means to be male, female, black, white, heterosexual, homosexual, etc. Instead, have them question and grapple with these stereotypes in the productions they create on their own, and mash up advertising content and explain it in different ways so that it is a critical and engaged product, not a passive discourse.

Consequently, giving a video camera to a kid and saying "have fun..." is not enough. New literacy educators argue that teachers should lead young creators to construct meaning out of a particular topic, and get them to bump up against the need to explain their story or position clearly and effectively using their traditional literacy, digital literacy and information literacy (research), visual literacy, media literacy, and critical literacy. They are dealing with both new technology and also the language of popular culture. Chances are students will "geek out" until they get it right. Chances are

they will also be frustrated, and work through that frustration like a baby wanting to express that they are hungry but can't speak yet: it is frustrating when you can't quite speak the language. On the other side, it is so satisfying to have learned the language and mastered the tools of expression, which is what happens when teachers assign video projects and help nurture multiple literacies.

An example of video editing pushing students to explore an expanding notion of literacy practices is the student video editing project Burns and Durran (2006) took their students through. Students were asked to take a 13-second clip from Baz Luhrmann's 1996 film adaptation of *Romeo and Juliet*, and as a class, re-edit how they wanted the sequence of the clip to play. They were given still images of each clip and first had to put the images in the order that they saw fit. This storyboarding technique--common in visual communication--is actually the equivalent of a text sequencing assignment in an English class. Students then had to use technical terms for the shots they decided to use (i.e. long-shot, close-up, etc.) to understand the impact of long shots vs. close ups as they are juxtaposed together. A series of close-ups can make the viewer feel claustrophobic; a series of long shots can feel slow and pondering. Not only did students have to understand the theoretical aspect of the assignment, they had to apply the theory by editing the shots together and understanding their impact.

In this assignment, elements of Vygotsky's *spontaneous concepts* argument emerged from the social interactions between student peers as they worked on their video projects. Burn and Durran note how the students' use of digital tools and conceptual language enabled them to "bridge the gap" between their ordinary users of media languages (mostly for pleasure) and a new professional understanding of media language.

As "amateur elites," they could experience a projected identity of themselves as "graphic artists, animators, film makers, cartoonists, and game designers," and also experimented with other identities of media critic, media analyst, or even an academic as they critiqued, analyzed, and assessed each other's work. "This experience, this knowledge, and the anatomical and compositional skills learned in education make up the cultural capital of children and young people," Burn and Durran write. "It is a joint enterprise between school and the wider media culture; the two need each other, and it is our job to make the connection" (p.292.)

For Lessig "read only" is to be a passive consumer, not much more than a couch potato, digesting other peoples' creations. This, he says, "is the world of the media from the twentieth century." Now that we're in the 21st century, our relationship with our media, our communication tools, and our literacy, allows us be active (and literate) with all areas of media.

This is the crucial point: It could be both read and write. Or at least reading and better understanding the craft of writing. Or best, reading and understanding the tools that enable the writing to lead or mislead. The aim of any literacy, and this literacy in particular, is to "empower people to choose the appropriate language for what they need to create or express." It is to enable students "to communicate in the language of the twenty-first century." (Lessig, 2005, p. 157)

Empowering young people how to communicate in the language of the 21st century is an important part of new literacy practices, and video editing combines nearly all literacies together. Just like David Rushkoff's (2011) treatise "program or be programmed," about taking control of computer technology so it doesn't take control of

you, we want to give students new literacy tools to empower them so they program rather than "be programmed." Media Studies scholar Douglas Kellner (2011) makes this point all too well:

"My argument is that in a period of dramatic technological and social change, education needs to cultivate a variety of new types of literacies to make education relevant to the demands of a new millennium. My assumptions are that media are altering every aspect of our society and culture, and that we need to comprehend and make use of them both to understand and transform our worlds. My goal would be to introduce new literacies to empower individuals and groups traditionally excluded and thus to reconstruct education to make it more responsive to the challenges of a democratic and multicultural society" (p. 90).

Thus, all of these literacies: traditional, tool, digital, media, visual, information, and critical are significant 21st century skills enabling young people to contribute actively in our democratic society, and video and digital media projects are one step towards getting students there. However, video projects aren't easy to assign: a school needs the proper equipment, teacher training, and most significantly, the time for students to work on projects. The next section details a number of digital media programs that have developed outside of school (in afterschool programs, libraries, and museums) that fill the gap, and may be a model for increasing kids' "digility."

How Afterschool Programs, Libraries, and Museums use Digital Media to Support Extracurricular Learning

Teaching kids new literacies such as digital literacy and visual literacy (aka "digility") is happening during school, but it is happening much more intensely during after school programs. The distinction about the quality of learning in "not-school" settings is that learners volunteer to participate, and different expectations are set up between learners and instructors. Grades and levels do not matter; students' minds are more at ease, there is more of a chance to mix learning with 'hanging out, messing around, and geeking out, and the pace of learning is driven by the learner, not the instructor. Another distinction of "not-school" learning is that it usually takes place in communities where the buildings are designed for multiple activities (such as a museum, a library, or a youth center), and social interactions and relationships (peer-to-peer and instructor-learner) are different. Finally, "not-school" environments have more activities that we as a society value socially and that are structured in terms of mastery and knowledge but rarely in the curriculum of schools. These three distinctions of the "not-school" setting keeps learners engaged, and when it comes to learning multiple literacies, afterschool programs are often ideal places. While there is much to be said about the value of learning video and digital media in school, there is also much to be said about advocating digital youth media programs after school.

Some digital media programs geared towards youth operate out of museums where technology companies like Adobe Systems sponsor digital media clubs; others operate out of libraries, where kids go on weekends and work alongside trained tutors; and other programs take place in youth centers such as the Boys and Girls Club or the

Chicago Youth Centers. All emphasize creativity in digital media. According to Herr-Stephenson (2011), "Youth media programs work to empower youth by giving them the tools and mentorship needed to make media about the issues that are important in their lives" (p. 30).

In his book, *Free Culture* (2004), Lessig drew attention to a youth-oriented digital media program called, "*Just Think*!" (http://justthink.org/). The program, which began in the early 2000s, teaches youth how to make films and learn about the filmed culture that they see all around them. Today, *Just Think!* has expanded to over thirty schools, and pushes 300-500 youths to learn something about media by doing something with media. Giving kids the opportunity to express themselves in "the language of the twenty-first century," (p.38) Just Think! allow students to articulate ideas beyond just text. They grab video cameras and tell stories about their neighborhoods, their friendships, what they know-stories that are very different than the kind of mainstream stories shown on television. As they tell different stories, they learn to become more critical of the media discourse all around them, and perhaps they will take these skills, ideas, and new literacies out into the real world, perhaps even in professional media circles. As Lessig remarked, "By doing, they think. By tinkering, they learn" (Lessig, 2004, p.35). Lessig compares a girl tinkering with digital media as powerful as a kid tinkering with a truck to make it run. Besides being a successful after school venue, the program today also offers a free curriculum to teachers to incorporate into their in-school activities.

As a result of this program, students were showing up at 6am and leaving at 5pm at night. They were engaged to do what education should be about and that is to learn

how to express themselves in a creative way. This class produced a series of projects that showed something about gun violence that few would otherwise understand. This was an issue close to the lives of these students. The project "gave them a tool and empowered them to be able to both understand it and talk about it" (Lessig, 2004, p. 38) The tools that this program used succeeded in creating expression far more successful than it could have been by just creating using only text.

Another notable afterschool program is The Digital Youth Network (http://www.digitalyouthnetwork.org/), based in Chicago. At DYN, groups of kids meet regularly after school, typically about once a week for two hours, and like Just Think! have established a curriculum that can be repurposed in-school activities. The DYN programs are production oriented, and deeply tied to new media literacy principles that acknowledge multiple literacies, such as verbal, visual, musical, cinematic, and procedural (which revolve around the use of interactive experiences with new media). DYN instructors (called "adult mentors") develop scaffolded-learning experiences that allow students to learn the basics of a skill or decide to become experts in any medium over time. Kids are also encouraged to create media that reflect themselves and their environment, and as they go through the process of learning to create, they also become critical consumers.

For example, the "Digital Queendom" afterschool program challenges girls to know their past, present, and future in a media-driven world; "Digital Music Production" focuses on the basics that a student will need to learn in order to begin producing music digitally; Other programs (called "pods" in the language of DYN) involve television and video production, gaming production, robotics (which helps students develop

programming literacy), and graphic design. Effectively, once a participant learns to create his own movies, music videos, and/or commercials, designs, videogames, or music, he or she will never experience this media in the same way again. As there goal-oriented curriculum states,

"In the first tier, students are oriented into a culture of critical thinking about new media messages. In the second tier, students move through a common rotation to learn basic techniques involved in the production of different types of media. In the third tier, students apply what they have learned in a GBS (Goal-Based Scenario) that is designed to be as authentic and engaging as possible. For example, the cover story for sixth grade New Media Arts is that students are employed by record label called Remix Records. Students apply for specific positions within the label, such as songwriter, singer, rapper, graphic artist, recording engineer, and producer" (Digital Youth Network, 2012).

Two key researchers are behind the DYN, Drs. Brigid Barron, Associate Professor of Education at Stanford University, and Kimberley Gomez, Associate Professor of Education at the University of Pittsburgh. They continue to lead the research effort and examine the educational potential of new literacy with support from the Urban Education Institute located at the University of Chicago.

As a result of the DYN program, when comparing experience levels from the beginning of sixth grade to the end of seventh grade, researchers found that all students in the DYN cohort reported an increase in the number of software tools for which they felt they possessed an expertise and competency to teach others (Digital Youth Network, 2012). The interviews with students, mentors, and parents who participated in the DYN program suggest varied pathways of interest development through the middle-school

years. Some students are developing specific technological interests (e.g. game development), while others are focused more on extending their capacity with other forms of expression including writing, music, publication, and graphic design. A third group is developing technological skills focused on communications, such as broadcasting social commentary and creating forums that allow other people to participate (Digital Youth Network, 2012).

These are just a few results that came from the participation of the DYN program. There are other participants who have taken what they learned within the program to create products for their families and friends. Some have even started making attempts in creating their own social networking sites.

Finally, I have been involved with an after-school program myself here in Cedar Falls, Iowa that is based at the University of Northern Iowa. Camp Multimedia (CMM) lasts one week during the summer, and is geared (like Just Think! and the DYN), towards developing kids' digital skills through project-based learning. CMM students are led through a curriculum that offers basic skills, but also challenges them to learn advanced skills almost simultaneously, so students will get a sense of what is possible, what is "out there" and within their grasp with digital media and visual communication. By the time the camp ends after one week, middle school-aged kids have created some extremely sophisticated, interactive, integrated media projects with the help of skilled instructors and college counselors. Because CMM engages youth in projects that may involve 3D animation, green screens, and moving digital images of all kinds, and because they have many hours a day to work on their projects, kids get quite a savvy set of digital media skills. The camp is also committed to helping CMM students understand ethical digital

citizenship by making sure they download images from sites that hold public domain or creative commons status.

From my point of view, it has been amazing seeing the "digility" that comes alive at CMM. One memorable summer a middle schooler named Josh, who had struggled with Asperger's syndrome and suffered socially in most school settings, created the most unbelievably beautiful gargoyle animation through *AfterEffects*. He would not take breaks when the other kids took breaks; he worked straight through lunch, because a whole world of digital media had opened up to him: he had no idea he had the skills to fuse art and motion. When he finally finished his project, we all stood back and marveled at his clearly superior creation, and it was the first time in his life when he achieved something above his critical peers. Even with kids not quite as adept as Josh, we saw a huge amount of growth (new literacy growth) as students explored all aspects of visual communication.

All the programs discussed above are striving to push "*digility*" in kids, while getting them to think critically about their creations. Consequently, this is a very exciting time for educators, if we steer them in the right direction to trigger their creativity and multi-literacies through new media, whether in school or out-of -school.

Conclusions and Recommendations

As we have learned from this review, kids are flooded today with new technology, and with new ways to create and communicate with this new technology. As kids create, they are developing new literacies, and instead of seeing this as a negative, we can (and should) embrace these multi-literacies. Digital video production holds a great degree of promise for encouraging multi-literacies. Kids have access to a myriad of new tools, but educators have pointed to video cameras and digital media production software as a prime way to get students to explore traditional literacy, digital literacy, information literacy, critical literacy, tool literacy, and media literacy. Overall, it appears that new literacy practices should be a defining feature of all education, whether it's during school or out of school. And overall, it is clear that we need to invest in new technology.

Still, we have to acknowledge some drawbacks to our digital society: there are other things that happen with digital media besides new literacy practices. With all this screen time, kids today are more prone to multi-task and jump around from one thing to another, not truly focusing on a certain topic for an extended period of time. This is where the phrase "wired for distraction" comes from (Richtel, 2010). New media technology tools, which so easily allow us to explore and create new things, are something critics fear are killing our brains because sometimes there is a lack of moderation. In other words, although digital tools push us towards new literacies, allow us to explore things we wouldn't have seen otherwise, and get young people to think more quickly and be potentially better problem solvers, the other half of the equation is getting kids to stay focused on topics, and not jump around from place to place. Despite

the seemingly positive force digital media seems to have on education and learning, no one knows exactly where we're going, a debate is raging. Prensky (2011) talks about how we're not only thinking about different things compared to those before us – we're actually *thinking differently*. Tapscott counters by saying IQ scores have been rising amidst advances in technology. Who knows where we're going for sure with our literacies and our digital experiences?

Given how new literacies and new ways of making meaning are not going away, I agree with the "digital hub school of thought" that we should actively integrate digital technology in learning, but like everything else, *maintain a sense of balance*. I recommend that more research be done on how digital technology keeps students engaged and interested in learning. We need to find ways to build more video projects into our curriculums, and provide more opportunities for kids to explore their digital creativity (animation, video, music, design) after school and during summer programs. Future research needs to be done on how to allow students to create more. I believe this can enhance their learning. First, we, as educators, need to understand that screens can distract as well as engage. In order to properly engage students (and help them acquire "digility"), we need to stay on top of digital technology ourselves, and increase our own digility. Many of us are afraid to adapt to the way of the present and the future, and often find ourselves always ten steps behind technology and a little overwhelmed by how today's youth function. One way to start, perhaps, is to ask our digital natives to help us, and to learn how to be digitally literate together.

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