Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Journal of Literacy and Technology Special Edition:

Through the Portal of Art and Culture: Media Literacy as the Art of Communication

Volume 20, Number 1: Winter 2019

Journal of Literacy and Technology Special Edition
Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Introduction to the Special Issue of The Journal of Literacy and Technology

April Leach Ph.D. &
Ian O'Byrne Ph.D.

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

The idea for this issue arose when Dr. Noemi Marin, the editor of The Journal of Literacy and Technology, asked if April was interested in editing a Special Issue for the journal, and invited suggestions regarding theme and a co-editor. Having been a follower of Dr. Ian O'Byrne, and his scholarship of literacy practices in digital, hybrid spaces for several years, it was a coup when he accepted the offer to co-create this issue. We were inspired by a question posed by Jerome Harte, "What insights into literacy does art afford?" (Harste, 2014). April's literacy research had evolved into a broader query inclusive of visual texts based on findings that reluctant readers transmogrified into eager learners when given digital means to create visual demonstrations of understanding across content areas. Ian's research into digital identity construction converged with this area of inquiry into the intersection between art and communication through media literacy.

Together we agreed that percolating through much of the recent literacy research has been an array of investigations trying to make sense of the intersection of art and communication in this digital age of ubiquitous visual information. The time was right to provide a forum to invite an exploration of emerging theory and research which would grapple with the opportunities and tensions of educating connected global citizens. We also understood that this intersection of the field was very new, and uncharted. We had no understanding of knowing who might like to explore these ideas, what the perspectives might be, and whether there would be a cohesive issue in this at all. Much to our surprise and delight, an eclectic collection of scholars from across varied fields and areas of research agreed to submit manuscripts for inclusion in this collection.

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

David Reinking, Professor Emeritus, whose piece, "Shattering the Crystal Goblet: Seeking a Pedagogy of Visuality in Post-Typographic Expository Texts", grounds this investigation with theory and historical perspective, contributes suggestions for seeding his and others' ideas by into practice using examples from his research. His article serves as an entrée that contextualizes and anchors all the thinking from the other authors. Best said using his words, he "...synthesizes diverse theoretical perspectives toward developing a pedagogy that addresses the visual aspects of informational texts in digital media." Reinking considers visual representation to derive meaning, and wonders about the complexities that exist within. This piece inspired us to consider the changes to text, design, and meaning in the present post-typographical era. In a world where new possibilities exist that we could only previously imagine, what new understandings should be created? And how can they be taught? Specific insight into developing a pedagogy for teaching visual elements as literacy is offered to begin the process of translating curricular and instructional goals into instructional activities to achieve those goals.

Contributors to this issue include an article by Albers, Vasquez, Harste, and Janks, a team of eminent researchers including Professor Emeritus Jerome Harste, whose question initiated the focus for this issue in the first place. In their paper, "Art as a Critical Response to Social Issues", Albers et.al share annual workshops with teachers in which they explore, "... the relationship of power between and among image, language, and technology in professionally/publicly-generated texts to influence the actions of viewers". Leading a hands-on summer institute for 80 teachers and administrators in which participants created artifacts that expressed issues of social importance, and which educators could then transfer to their practice, "...opening up spaces for critical making and reflection". It is a most timely topic given the widespread issue of media

validity, reliability, and intentions. The authors discuss how art and technology contribute significant communicative modes to "bring to the surface a text maker's ideologies and how the viewer is implicated in these texts to act and believe in particular ways".

In her paper, "Emergently Digital in Grade Two: Another case of 3.6 Minutes Per Day?", Paciga shares her observation of a second grade classroom teacher as she teaches students to utilize digital tools and take notes as they research a culminating google slides project for which they research online, and evaluate validity and reliability of their resources. She explains that, " It is important to remember that students require much collaborative practice with complex literacies in early childhood before they will be able to demonstrate proficiency in such skills independently in later grades." These words make the heart of a secondary literacy teacher and coach sing at the thought of students eventually entering high school with such skills already activated. Imagine being able to start where students with this kind of learning have left off in eighth grade when they arrive in high school, much less college, and face the typical literature 101 where basic writing skills are still being taught. We were left with questions about the balance and agility needed by the educator as they strive to make all of this content creation happen in the classroom.

In their piece, "Reading, Writing, Cheetahs, Oh My!: Literacy, Collaborative Learning, and Making Movies", Reaves and Kamberelis delve into the interactions of a teacher and her elementary student turning the growth of learning itself as well as the resulting artifact into art processes. In some classrooms, children negotiate despair, frustration, and hopelessness as they engage in literacy practices. This piece examines the interplay between teacher and student that exists within an interest-based, literacy activity mediated by digital technology tools. This work benefited the teacher and student. The student was able to focus on "micro-productions" and

“aesthetic play” to reflect on literacy activities. The teacher was able to to experiment with literacy theory and put it into practice. We were most intrigued in the piece by the examination of interesting view of learning and apprenticeship as "attuning" or guiding youth by a "more knowledgeable other."

Theresa Redmond, author of “Unboxed: Expression as Inquiry”, contributes a study of how media production, by its nature visually creative, may serve to develop and extend students’ learning in an undergraduate media literacy course. Redmond posits that a fundamental failure of media production practice is a focus on products created via computational tools and devices. This emphasis on tools is illustrated by a recent history of analog and digital media and digital literacy in instruction. Her findings, “...suggest media making comprises a student-centered, democratic pedagogy that incorporates multimodality and critical framing as essential aspects of learning.” She expresses the nature of ideation as “image elicitation.” This makes us consider the elements of culture, diversity, and identity in the processes of producing and encoding meaning. Additionally, this makes us wonder about the role of identity as a literacy construction practice in these events.

In their rhetorical analysis Wallace and Katz consider massively multiplayer online role-playing games, (MMORPGs) as texts visual in nature which have become a part of and shape contemporary discourse. These authors delve into, “dream world diversions increasingly impacting society”, and analyze inherent artistic literacy in digital gaming which has been underrepresented in scholarly analyses. They suggest that this may be due to games not being perceived as art, or the fact that not many scholars have “ expertise in both digital gaming and other artistic narratives”. This perceived gap is addressed through close reading analysis of the film Inception, which illustrates the experiential encounters players enter into when immersed in

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

MMORPGs. Both the dangers of the addictive nature of this modality of communication, and advantages of the community that develop around the playing of these games are discussed. The authors of this piece made us consider the "reflective experiences" that authors and content creators should have as guided by rhetorical strategies. Put simply, should creators consider the "consumption" or "commonalities" as they design?

Diane Watt's article, "Three Things You Should Know About My Hijab: The Art of Youth Media Activism on YouTube" is multimodal analysis of a serious yet comedic video by three female Muslim YouTubers from a Somali community in Canada. Watt highlights these women's use of "... aesthetic elements to highlight how access to digital video technologies opens up powerful modes of meaning making to marginalized youth, with transformative possibilities for them, their communities, and global audience." They developed their technical skills and honed their artistic practice outside of school. Watt points out that one of the points the video makes clear is that the time has come for both teachers and researchers to broaden their definitions of what counts as literacy. As April's research has shown with concurring evidence, Watt tell us that "... one way to to do this is to invite children and youth to bring their out-of-school literacies practices into the classroom, and be willing to learn with and from them." This video, filmed in a day, won three international awards, and was publicly screened in Times Square as well as at New York University. The questions ensuing from this article then, are how can we literacy researchers and practitioners incorporate the reality that technical skills and artistic practices learned outside of school have much to contribute to education?

As the reader of this special issue, Through the Portal of Art and Culture: Media Literacy as the Art of Communication will appreciate, more questions than answers have been surfaced, which is always a good outcome in any educational endeavor. The breadth and depth of the

thinking about this inquiry issue has proven to be illuminating for both of us, and we encourage the pursuit of these ideas in the many realms offered by the contributing authors. Both the questions and suggestions posed offer tempting new directions for inquiry. What is most rewarding about the opportunity offered by the journal's editor, Dr. Marin, is that indeed, many literacy researchers around the world are looking at these questions from separate yet related perspectives. We thank the researchers for their contributions, and remain open to ongoing collaborations between and among others for whom these questions resonate.

Journal of Literacy and Technology Special Edition
Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Shattering the Crystal Goblet: Seeking a Pedagogy of Visuality in Post-Typographic Expository Texts

David Reinking
University of Georgia
dreinkin@gmail.com

Abstract

This article synthesizes diverse theoretical perspectives toward developing a pedagogy tthat addresses the visuality of digital texts. To frame those perspectives and their implications, I use a well-known analogy that Beatrice Warde introduced to typographers in the 1930s: drinking wine from a golden cup or a crystal goblet. I briefly review the theory and research related to visual aspects of texts, generating pedagogical perspectives from several prominent theories and perspectives. I then discuss, illustrated with a few examples, how these pedagogical perspectives might be instantiated in curriculum and instruction and the issues and challenges of doing so. I argue that researchers have done little to directly address those challenges and issues in ways that inform practitioners.

Keywords: digital texts, visuality, theory to practice

A classic in the literature about typography and printing, still used and often quoted, is Beatrice Warde's 1930 essay entitled "The Crystal Goblet" (republished in 1955: http://gmunch.home.pipeline.com/typo-L/misc/ward.htm). Her essay was the published version of an invited talk to the British Typographers Guild in London with the original title "Printing Should be Invisible." In her speech and subsequent essay, she introduced an analogy, asking her audience to consider drinking wine from a gold cup or from a crystal goblet. The wine represented textual meaning, and the gold cup and crystal goblet represented alternative views of how a text's visual appearance was positioned in relation to its meaning. Her point was that wine is better when it is served in a transparent vessel. Likewise, the visual representation of a text should be transparent to avoid drawing readers' attention away from its meaning. A gold cup may be intrinsically more impressive, ostentatiously drawing attention to itself, but it is not as well suited to gaining the full enjoyment of drinking wine when compared to a plain crystal goblet. Similarly, a text using an ornate, even artistically pleasing, font draws attention to itself, but may detract from a reader's access to meaning. In her view, printed text, at its core, is displayed essentially to enable readers to look through, not at, its visual representation to derive meaning—the transparent crystal goblet that contains the wine of meaning.

The longevity of Warde's analogy is likely due to its memorable imagery for an underlying tension that exists in the construction of virtually all written texts. The visual elements interact with and must, through that interaction, ultimately serve a communicative purpose, not oppose it. That idea, expressed succinctly in Warde's analogy, serves as a unifying theme in this article. My aim is to update and extend her analogy into the present post-typographical era where digital texts, particularly on the Internet, predominate, comprising a textual world that she could hardly have imagined.

But, as an education researcher I am invested in connecting theory and research to practice; indeed, personally, it has become a more conscious obligation in recent years. So, my larger purpose is to seek pedagogical principles that might be useful to developing curriculum and instruction addressing digital texts and their visual nature. As a preview of that aim, the underlying intent of Warde's analogy might be regarded as a foundational pedagogical directive that transcends textual media. As she wrote, "the first thing [that must be asked is] not 'How shall it look?' but 'What must it do?' (cited and quoted in McVarish, 2010, p. 289). That maxim might be the starting point for any informed pedagogy about digital texts, especially because "how it shall look" is a deeper, more encompassing, and more challenging question today than in Warde's era. In the remainder of this article, I endeavor to extract more specific pedagogical principles from relevant theories and empirical research, to identify challenges in applying them, to provide a few instructional examples, and to suggest research that might be more pedagogically pertinent. Because formal education revolves around expository texts, I limit attention here to expository, or informational, texts, which are also prominent in the workplace and in the realm of informed citizenship.

MY PERSPECTIVE

My perspective is informed by a career that began as a fifth-grade teacher in the early 1970s when the two Steve's (Jobs and Wozniak) were still in a garage tinkering with electronic components that eventually became the first Apple computer. By the beginning of the next decade I used the second-generation Apple to type my dissertation investigating how a computerized text might provide assistance to enhance readers' comprehension. Being a financially challenged doctoral student, I wrote the crude program that displayed the text on the screen myself. Nonetheless, I had to hire a professional typist who used a typewriter to prepare

the final version of my dissertation because computer printers could then only make letters out of dots-- readable, but equivalent, using Warde's analogy, to a chipped crystal goblet. My dissertation, which was eventually published (Reinking & Schreiner, 1985; followed by a partial replication, Reinking 1988), initiated my keen interest in the differences between printed and electronic texts, including their respective affordances for managing the visual display. That interest expanded when, as a new professor at Rutgers University, the first Apple Macintosh was released. I vividly recall my colleagues and I huddled around this revolutionary new computer most notably evidenced by what then seemed like its magical visual displays.

As this brief personal history suggests, my career has closely paralleled the historically unprecedented and rapid evolution of digital texts, their remarkable functionality and accessibility, and their essential visuality. Yet, as others have also noted, the literacy curriculum and instruction has lagged far behind these developments, in many instances remaining essentially unchanged. New technologies and the use of the Internet can be seen in many classrooms, but they are frequently used haphazardly more for their own sake than as means for addressing specific curricular or instructional goals related to new aspects of literacy (see Hutchison & Reinking, 2011). As will become evident subsequently in this article, I lay much of the blame for that state of affairs at my own feet, and that of my literacy research colleagues. We have been too theoretical, too misguided in the focus and conduct of our research, and too cavalier about expecting educators to figure out on their own how to make use of our work. Thus, this article is partially motivated by a personal sense of penance.

THEORIES AND THEIR PEDAGOGICAL IMPLICATIONS

There is a long history of theorizing about the visual appearance of texts and how it might affect ease of reading, motivation, and comprehension. Early work was consistent with Beatrice

Warde's analogy, focusing on variations in typographic features. In 1963, Miles Tinker, also known for his influential book on reading difficulties with Guy Bond and his eye movement studies, published a definitive book entitled Legibility of Print. It summarized his and others' decades of research investigating factors such as font, color, illumination, print surface, and spacing, comprising the concept of "legibility," which he proposed as a term that complemented "readability." Although he often found statistically significant effects when these textual features were varied, many of the variations were extreme with little practical significance for the design of texts and virtually no implications for instruction. It was a simpler time of raw empiricism and laboratory-like psychological studies.

Although some researchers continued in that vein, the next two decades saw more interest among reading researchers in what were often termed graphic aids or ancillary aids, because they were viewed as subservient to the prose in which they appeared. These aids included pictures, diagrams, maps, tables, and figures in expository texts as aids to understanding. The focus was on academic learning and how readers' comprehension of mainly textbooks might be enhanced through graphic aids. There was also some interest in how readers might be taught to make better use of graphic aids as they read and studied academic texts (e.g., Reinking, 1986; Summers, 1981; Vacca, 1981), although this interest did not typically rise from theory or empirical research. There was also some interest in how readers processed other inherently visual texts, such as airline schedules (e.g., Guthrie, 1988; Guthrie, Britton, & Barker, 1991), but such studies offered little, if any, useful guidance for instruction.

A third period beginning in the late 1980s might be characterized as a great awakening precipitated by a relatively rapid realization, at least on historical scale, that emerging new digital texts changed dramatically the dynamics of disseminating, accessing, and reading textual

information. A key awareness was that the role and function of a text's visual presentation was becoming dynamic and thus more central. Theory and research followed accordingly with considerable attention initially on pitting newer digital texts against conventional printed texts, a line of research that eventually almost disappeared as it became clear that digital texts (mainly the rise of the Internet) and online tools for constructing them (mainly word processing) were here to stay. However, it was a period of rich theorizing about the unique affordances of digital texts that continues to some extent today.

Some of these theories and lines of empirical research suggest perspectives and approaches that have pedagogical implications, although those implications have rarely been considered. They have not been offered as theories of pedagogy and make no such claim. Thus, in their raw form, these theories are effectively silent about pedagogy. And, some are perhaps so purely theoretical and academic that they have virtually no obvious practical application to pedagogy. For those with pedagogical potential, at least some translation is needed. A first step in that translation might be to generate and then synthesize what might be called "pedagogical vectors" that provide broad theory-based principles for pedagogy, in this case related to the visual elements of digital texts. That is the purpose of the next two sections. The final section will attempt to reconnect explicitly with Warde's analogy. A caveat is that the following theories are representative, not exhaustive, and they are greatly simplified.

Dual Coding Hypothesis

Allan Paivio (e.g., 1986; see also http://www.instructionaldesign.org/theories/dual-coding/), a cognitive psychologist, proposed that there are two interacting and complementary cognitive systems: verbal and non-verbal. The non-verbal includes imagery. A corollary of this theory is that information coded in both systems is more memorable. Mayer (e.g., 2001), also a

cognitive psychologist, conducted numerous studies testing that corollary in relation to graphical representations in texts. His work added nuance to the general theory, which mostly held in his findings.

> Pedagogical perspectives: Combining non-verbal visual representations with verbal prose can increase the memorability of textual information. Thus, attention to the visual elements of a text, either in creating or reading them, exist theoretically on a more equal footing with prose, at least when the goal is retention of content. Accordingly, they deserve appropriate instructional attention in helping students contend with and benefit from them, including students with various needs and abilities.

Distinguishing Media

Gavriel Solomon (1979) proposed a theory for distinguishing among media that communicate information. Until his theory, the distinctions between media were mainly intuitive or defined culturally and linked to their physical properties or technologies. Media, in his theory, could be distinguished based on four factors: symbol systems, technologies, contents, and the situations in which they were considered appropriate and used. The first two factors, symbol systems and technologies, were linked and inherent to a medium; the latter two determined more by cultural convention. A key aspect of his theory was that technologies of some media enabled symbol systems that required more or less effort to extract meaning and information. Similarly, the technologies and symbol systems of some media entailed more or less capability to support, or potentially to supplant, the cognitive processes needed to obtain information from a particular medium. For example, he described a study in which the capability of the film camera to zoom to close-ups could be used to draw attention to important details for learners who were less detailed oriented. Because his theoretical work was on the cusp

of printed and digital media, his examples used existing media such as maps, musical scores, film, and print.

> Pedagogical perspectives: Teachers and their students should approach digital texts as a distinct medium with unique symbol systems and technological affordances. Reading and writing digital texts is not a variation or extension of conventional printed texts. An explicit awareness of the unique symbol systems, the technological affordances that enable them, and the way they might be used to facilitate comprehension are necessary to read and construct digital texts effectively. Expansive possibilities for non-verbal, visual elements are central to the symbol systems that can be employed in creating digital texts and thus expand exponentially opportunities to facilitate and support comprehension and learning from textual information.

Dynamic and Interactive Legibility

Daniel and Reinking (1987) extended Tinker's (1963) notion of legibility into the realm of digital texts. In their view, decisions about the visual presentation of printed texts, and thus their "legibility," were essentially a question of how to fill two-dimensional space on a page. In contrast, decisions about digital texts are multi-dimensional in which the space on a screen could be visually layered; thus, they are essentially three-dimensional. But, an additional and even more important dimension is time. That is, authors (and sometimes readers) had to decide when diverse elements of a text would appear and under what circumstances. The latter capability enabled what they called interactive legibility, which included making decisions about when and under what circumstances readers or a computer program would control access to particular segments of text that could be seen on a single surface.

Pedagogical perspectives: The design and creation of digital texts entails complex multi-dimensional decisions far beyond printed texts. For example, texts can be visually layered, represented by the metaphor of a desktop. When and under what circumstances textual elements are presented or made available on a screen are additional dimensions of digital texts. Teachers and their students need to be aware of that complexity and its relevant dimensions; they need opportunities to analyze existing texts along these dimensions; and they need instructional frames and activities to contend with them in constructing digital texts.

Conceptual Differences Between Printed and Digital Texts

In my early work, (e.g., Reinking 1987, 1992, 1998) I used Salomon's (1979) general theory about distinguishing media and extended it specifically to texts. I argued that printed and digital texts were different media, not only broadly on the basis of their symbol systems and technologies, but more specifically because they entailed the following differences:

- Structural (linear hierarchical organization vs. non-linear hypertexts)
- Symbol systems (alphanumeric symbols and static graphics vs. expansive multimedia with dynamic visual representations)
- Interactive capabilities (figurative interactions between textual information and readers' own knowledge requiring well-developed metacognitive skills vs. literal interactions between readers and responsive texts where a text can sense readers' difficulties and inefficiencies and can take appropriate actions to mitigate them, thus supplanting meta-cognitive skills.)
- Control of textual display and reading experience (strategic control in reading static pages exclusively controlled by reader vs. combination of reader, author, or computer

algorithms having dynamic control of visual display and reading experience; see McEneaney, 2006 for a more detailed theory about this difference.)

- Genres and pragmatic conventions (e.g., books with their tables of contents and alphabetic indexes vs. web sites with words in blue signaling available intertextual links, or popup windows that provide on-demand information such as definitions or illustrations).

I also argued (Reinking, 2001) that these characteristics make digital texts inherently more engaging than printed texts. Specifically, they make reading (a) active rather than passive, (b) easier than harder (e.g., instant access to the meanings of unfamiliar words; see Reinking & Rickman, 1990), (c) more able to meet a variety of psychological and social needs (e.g., blending informational texts with social media; growing a real plant remotely when reading a text about plants), and (d) more amenable to creativity, playfulness, and experimentation (see the subsequent section on Richard Lanham).

Pedagogical perspectives: The obvious technological and visual differences between printed and digital texts are only meaningful in light of a deeper understanding of conceptual differences. Likewise, a pedagogy that focuses only on the visual or technological aspects of digital texts will be superficial, over simplified, and incomplete. Strategic understanding and use of digital texts' visual elements must be embedded in a broader and more nuanced understanding of such conceptual differences. Otherwise, teachers and students are more likely to focus on what can be done visually rather than what should be done to accomplish specific communicative purposes. Further, because the structural and visual dynamics of digital texts and the interaction between these

elements are unique, students may need guidance about how to employ them strategically in ways that invite a heightened metacognitive awareness.

Digital Texts as Visually Rhetorical

Richard Lanham (1993) analyzed printed and digital texts from the standpoint of their rhetorical modes and potentials. A key difference in his analysis was that printed texts—because of the technologies available for producing them and emergent cultural conventions of form and genre (the book being the highest form; see Reinking, 2009)--are grounded in a philosophical rhetoric. That rhetoric essentially establishes an unwritten contract between readers and writers of "perceptual denial" consistent with Warde's metaphor of the crystal goblet. That is, we look through texts, not at them. Printed texts are silent, static, introspective, and serious. Further, authors are authorities who feel no obligation other than to express their own views and interpretations to readers as strongly and convincingly as they can. A reader's role is to accurately determine the author's intent with few convenient or feasible options to oppose the author (e.g., publish a review, letter to the editor, or their own book).

Digital texts, on the other hand, are more naturally driven by a visual rhetoric. They are visually dynamic, interactive (what Barthes, 1974, called writerly, rather than readerly, texts), contentious (readers can more readily and publically challenge authors), and they invite a less-serious, playfulness, and experimentation. If the crystal goblet is an apt metaphor for printed texts, an apt metaphor for digital texts is a carnival funhouse of visual effects and creative innovation, as well as a forum for public dialogue. The increasing interest in infographics is a good example of such creative innovation around visual representation (see: http://www.thevisualeverything.com/category/infographic/). Lanham captured this perspective when he imagined students invited to create a digital version of Milton's Paradise Lost:

> Wouldn't [they] begin to play games with it? A weapon in [their} hands after 2,500 years of pompous pedantry about the Great Books. Hey man, how about some music with this stuff? Let's voice the rascal and see what happens. Add some graphics and graffiti! Print it out in [different fonts] San Francisco for Lucifer and Gothic for God (p. 7).
>
> Pedagogical perspectives: Teachers and students must take a fundamentally different rhetorical stance toward digital texts, shedding many of the assumptions and conventions associated with printed texts. Screens are not pages, which is now an archaic metaphor that exists incongruously with scrolling, a more apt, but even more archaic metaphor. Screens, especially on devices with small screens, are visually contested spaces. Writers are designers in that space where they make rhetorical arguments visually, not disembodied authors arguing philosophically. Making such decisions are less prescribed and less dictated by formal conventions, which encourages thoughtful innovation, creativity, and playfulness. Playland, a conceptual metaphor introduced by Labbo (1996) to describe how young children used computers to create mostly visual texts in school now becomes an apt metaphor for all authors of digital texts and how they might be approached pedagogically.

Illustrating Instructional Texts

That is the title of a short, but often cited, article by Phillippe Duchastel (1978). He was not proposing a theory, but a framework of distinct, but overlapping, purposes for illustrating texts. That he was firmly grounded in the world of print, before the digital era, is evidenced by his division of labor between the author who is the "master of words," and the illustrator who is the "lord of the image" (p. 36). Yet, his scheme still has meaning and potential applicability in a

post-typographic era that he could have little imagined at the time. He identified three main roles of illustrations in informational texts: (a) attentional, which includes motivating a reader and increasing interest in a text; (b) explicative, visually enhancing the understanding of the prose; and (c) retentional (drawing on Paivio, 1986). However, he acknowledged that the real challenge facing designers of instructional texts was orchestrating these overlapping roles.

Pedagogical perspectives. Duchastel's scheme is a simple one, but still applicable to digital texts. It might serve as a workable initial frame for analyzing and designing digital texts as primarily visual entities. His categories are intuitive and might be a springboard for more complex and nuanced analyses among teachers and their students. Because the roles overlap, it leaves room for much discussion about what purpose visual information might serve in a particular text as well as texts with specific explanatory goals such as Wiki How (see: https://www.wikihow.com/Main-Page). For example, questions might be addressed about when and why illustrations are essential to such websites? When they are not as crucial for some entries than others? What role the visual information serves? How the illustrations might be better designed?

Anti-reading

Jay Bolter (1991) argued that the essence of reading is a reader's interaction with a text that allows a space to pause and reflect, thus disrupting a natural inclination for perceptual immediacy. Put another way, texts enable reading when they purposefully create conditions that encourage readers to maintain a critical distance from perceptual input. Texts, regardless of the media used to create and read them, that undermine or work against the essence of reading are a form of anti-reading because they pander to a preference for immediate perception without reflection. Novels purposefully written to be page-turners or action movies represent conditions

that invite anti-reading, with virtual reality being the quintessential example of seeking immediate perceptual experience without reflection. Interestingly, as a counterexample, he developed (personal communication) a virtual reality application of buildings that represented major topics in a university catalog and that enabled readers to "fly" to a building, entering it to explore floors (subtopics) and eventually rooms where linguistic information was displayed on walls. Bolter's view of reading and anti-reading connects to Wardes' metaphor of the crystal goblet, because it suggests that the visually perceptual, even if it is only imagined, is always subordinate in real reading. But, it provides nuance to that metaphor, going beyond typographic displays and allowing for a panoply of visual elements to play a role in provoking and sustaining reflection, but that always risks becoming anti-reading.

Pedagogical implications. The concept of reading as essentially reflection takes a consideration of texts beyond a debate about the technologies and physical forms of texts. Teachers and students might strive to acquire an understanding of reading and texts that is deeper than the outward appearance of their displays. Books, for example, are essentially texts that are as much, if not more so, cultural artifacts than they are technologies (Lanham, 1993; Reinking, 2009). Yet, it can be argued, and has been (notably, Birkerts, 1994), that books, as the epitome of printed texts, are also more inherently reflective, largely because of the paucity of their options for presenting information visually. They more naturally gravitate toward reading and away from anti-reading because their constituent technologies limit the available symbol systems (Salomon, 1979). That does not mean that digital texts cannot be equally, and even more powerful, reflective artifacts, only that they are more susceptible to visual excesses that may nurture anti-reading. More conscious attention may be needed to preserve the

essence of reading when a visual rhetoric predominates. Such a concern can be manifested in mundanely practical ways. For example, incorporating a video or interactive graphic into a digital text that does not include a pause and replay option works against providing a reflective space. Digital texts, with their wider array of symbols systems, mainly in the realm of the visual, also present greater opportunities to assist learning by supplanting the sometime difficult internal processing necessary to extract information from printed texts. That too, might be weighed in considering the visual representations in digital texts and their use and design. Asking students to find examples of gratuitous visual representations in digital texts, and to justify their examples, would be one way to develop that sensitivity.

Multi-literacies, New Literacies, and Multimodal Communication

These are perspectives, not theories that explain or predict phenomena or unify observable data, despite that they are often presented and cited as theories, theoretical perspectives, or emerging theories. Yet, these overarching terms allude to convincing rhetorical arguments that promote a broader, more encompassing view of literacy and communicative artifacts. Integral to those arguments is that literacy is changing and expanding in a globally connected, multicultural world where digital forms of communication are not only normal, but essential to conceptions of literacy and thus to efforts to understand and develop literacy. The multi-literacies perspective originated with a small group of linguists who met to discuss these issues leading to a published manifesto (New London Group, 1996) frequently cited among literacy researchers. New literacies is a closely related perspective originating with and promoted by literacy researchers. It focuses on the Internet and emphasizes rapid change in what constitutes literacy (see Coiro, Lankshear, Knobel, & Leu, 2008). A unifying idea of both

perspectives is that communication, and thus literacy, is multi-modal including linguistic, audio, spatial, gestural, and visual modes and that digital texts enable all of these modes.

Pedagogical implications: Both multi-literacies and new literacies challenge existing pedagogy that is seen as too narrowly focused on developing decontextualized skills (Multi-literacies) or as not appropriately or adequately addressing digital textual forms, particularly the Internet (New Literacies). They provide a coherent justification for why educators should broaden the scope of literacy and attend specifically to visual and other modes in digital texts. However, although influential to the thinking of literacy researchers and scholars, neither has had an impact on curriculum or instruction in schools (for more than 20 years in the case of multi-literacies), despite endorsements by leading literacy organizations (e.g., International Reading Association, 2009). There is no evidence that schools in general, either through administrative fiat or through teachers' grassroots efforts, are substantively modifying the conventional literacy curriculum or instruction to accommodate and address these new modes. In a subsequent section, I address the reasons for that lack of influence. Suffice it to say here that these perspectives are more useful in arguing that substantially new pedagogies are needed, but they are not accompanied by equal attention to what exactly those new pedagogies might entail, and they are virtually silent on how they might be achieved.

Reading Images

In their book with the same title (subtitled "The Grammar of Visual Design" and in a second edition), Kress (a member of the aforementioned New London Group) and Leeuwen (2006) take a social semiotic view of visual representation, although one that takes a broader view than just texts (e.g., visual artistic artifacts such as paintings). They stated that their book

was aimed to provide "a useable description of major compositional structures which have become established in the course of the history of Western visual semiotics, and to analyse how they are used to produce meaning by contemporary image-makers" (p. 1). They addressed, "what we can do to, or for, each other with visual communication, and with the relations between the makers and viewers of visual texts which this entails" (p. 15).

Pedagogical Implications. There is an unflattering, and perhaps unfair, joke about the sub-discipline of semiotics in linguistics. It goes like this: "What do you get when you cross the Godfather with a semiotician?" Answer: "An offer you don't understand." Yet, like most jokes, it contains a grain of truth. For me, and others (e.g., see Thuy, 2017), semiotic perspectives cross a line that separates theories and perspectives having relevance to practice and those where relevance is decidedly unclear, strained or frustratingly obscure (see Dressman, 2016 for another, interesting, but strained, example). Nonetheless, I included a semiotic perspective here mainly to make that point and to suggest that such theories exist; they are interesting and intellectually stimulating, but they offer little insight relevant to practice. On the other hand, some readers may find the previous theories I have included to also be close to or across that line. (But, unfortunately, given that I am writing essentially in a print-based genre, those who disagree have few options to disagree publically, although private communications are welcome: dreinkin@gmail.com). So, a final point to be made in this section is the caveat that theories can only go so far in generating pedagogically useful perspectives that directly inform instruction and that, typically to do so, explicit work must be done to translate them in ways that are helpful to practitioners. The next section takes that assertion a step further.

SYNTHESIZING PEDAGOGICAL VECTORS

In this section I synthesize pedagogical vectors across the theories and raw pedagogical implications reviewed in the previous section. I refer to them as vectors because they represent general directions that might guide the development of a more specific pedagogy addressing the visual elements in informational texts. They are only an intermediary step, guiding the more specific work needed to develop curriculum and instruction useful to educators.

- Well-developed arguments (e.g., Multi-literacies and new literacies) support a press for systematic attention to literacy curricula and instruction aimed at developing the skills, strategies, and dispositions associated with creating and reading digital texts. These arguments are reinforced by calls from professional organizations (e.g., International Reading Association, 2009).
- Digital and printed texts are distinctly different media. Digital texts must be approached on their own terms, not as an online extension of printed text.
- Yet, comparing and contrasting the two media may be instructionally productive for identifying, characterizing, and understanding those differences. And, there is some overlap. For example, in both media, linguistic and visual elements can combine to increase memorability. General frameworks intended to guide the development and use of printed texts may, perhaps with some adaptation, be usefully applied to digital texts (e.g., functions of illustrations, see Duchastel, 1978; elements of good arguments, see Toulmin, 2003)
- A key difference between these two media is the role and affordances of visual representations. Visual representations often predominate in digital texts. They are not appropriately viewed as ancillary to the prose, as they are in printed texts. Unlike printed

texts and Warde's analogy of the crystal goblet, visual elements in digital texts are "looked at" not "looked through." Consequently, digital texts more naturally employ a visual rhetoric that is more perceptually concrete, rather than a philosophical rhetoric that is linguistically abstract.

- Decisions about using visual elements in digital texts must contend with a visual space that is at once constrained, and therefore contested (a single screen), but also infinite, multi-dimensional, and complex. Unlike the two-dimensions of a printed page, creating and navigating digital screens means contending with two additional dimensions: (a) simulated depth by layering textual space on a "desktop," and (b) time because decisions must be made about when visual information will be available and under what conditions.
- A strategic and effective use of visual elements interacts with unique structural affordances of digital texts. Specifically, digital texts are inherently interactive and structurally non-linear. Decisions about the use of visual elements must be orchestrated in relation to these structural affordances. For example, decisions must be made about the extent to which readers or the author/text control the visual display and/or under what conditions who is in control.
- Conventions that use visual elements in digital texts may need to be taught (e.g., blue words/phrases or a cursor that becomes a pointing finger signaling links, pull-down and popup menus). These are analogous to "concepts of print" that are foundational to learning to read printed text and taught, often informally, to young children (e.g., directionality of print) and later to older children (e.g., tables of contents and alphabetized indexes).

- Despite such conventions, digital texts are not formulaic, and they are less serious, inviting visual creativity, innovation, and experimentation. The visual and other affordances of digital texts (e.g., interactivity) encourage a "playfulness" that more naturally engages writers and readers. Digital texts are more akin to an artist creating multimedia artifacts than an artist using a single medium.
- However, this playfulness must be harnessed with an equal measure of disciplined purpose. The essence of reading is nurturing and maintaining a reflective and critical stance. Using visual effects gratuitously for their own sake--a greater temptation given the enhanced possibilities in digital environments--can undermine that essential stance. What can be done visually needs to give way to what should be done for the sake of understanding and reflective engagement. This principle is an extension of Warde's analogy. If looking at digital texts is no more than a satisfaction of the need for perceptual immediacy or for entertainment, visually is undermining the essential nature of reading, particularly in informational texts.

INSTANTIATING PEDAGOGICAL VECTORS IN CURRICULUM AND INSTRUCTION

A logical next step in seeking a pedagogy for visual elements in digital texts is to translate theory-based pedagogical vectors into specific curricular and instructional goals and ultimately into instructional activities to achieve those goals. These final steps are, in my judgment, virtually unaddressed in the literature, but what teachers most need. They are certainly an unfinished educational endeavor for all aspects of teaching and learning about digital texts. Frameworks and tools are available for such a project, but they have not been used (see Wiggins & McTighe, 2005). Doing so, is far beyond the scope of this article. Instead, in this

section, I try to lay groundwork for such an effort. I identify challenges to developing curriculum and instruction that addresses the visual elements in informational texts; I provide a few examples of how those challenges might be addressed instructionally along with a few resources that are illustrative or potentially useful; and I summarize a study my colleagues and I conducted that illustrates how research might better delineate the challenges and how to address them.

One challenge is the difficulty of creating a curricular hierarchy of specific content, strategies, and skills, let alone how they might be embedded in a developmental sequence or spiral curriculum across grades. Some foundational knowledge and skills can be identified such as understanding and knowing how to use visual conventions to perform certain actions in digital texts (e.g., visual cues that signal links and pull-down menus). But, at what grade level should students most appropriately be introduced to those conventions? Can such conventions be distinguished from basic to advanced? (See an example for teachers created by Peggy Semingson: https://docs.google.com/document/d/1CSRci1nl_LIEtXgUnAB9Gcf_hH_iH08xYlJz5OjAFb0/edit).There are also some general principles and dispositions that might be taught and continuously reinforced such as recognizing and avoiding gratuitous use of visual gimmicks. Warde's analogy might even be used to emphasize that principle, perhaps appropriately adapted for younger learners (e.g., a transparent or opaque fishbowl instead of a wine goblet).

However, there is a vast and diverse territory in between foundational conventions and general principles. And, in digital texts, the almost limitless range of visual options, their complex relation with prose and the display space available, and a valuing of innovative and creative visual presentations, all work against any narrow and specific guidelines, although some rules of thumb might be developed and taught. Compared to printed texts, the use of visual

elements in digital texts is more subjective and open for discussion. But, that realization may be an important insight for instruction. Teaching standard rules or frameworks within accepted genres of print would give way to subjective analysis, discussion, and constructive debate about the use and effectiveness of visual elements in conveying information effectively. For example, the organization of a published research report in print and rules for citation might arguably be unnecessary, even counterproductive, in a digital form (e.g., direct links to cited sources). Teachers and students might engage in addressing questions such as: How and for what purposes are the visual elements in a particular digital text being used? What opportunities to productively use visual elements were apparently ignored or lost? What might this digital text look like if it were only available in printed form? How would you re-design or enhance visually the text to be more effective in communicating information? Students might also be engaged in activities that allow them to discuss personal strategies for accessing and using visual information in existing instructional frameworks such as reciprocal teaching (Brown & Palinscar, 1987).

Discussing these and similar questions could naturally segue into the theory-inspired pedagogical vectors in the previous section. Teaching the role of visual elements in digital texts may mean raising awareness and developing sensitivities more than teaching established, set forms and strategies. Fortunately, there is no shortage of resources and examples online (see Table 1). On the other hand, systematic instructional activities may be needed to address more nuanced and less intuitive concepts such as the differences between printed and digital texts in their rhetorical focus, structure, and dimensionality. Such content and activities might be appropriately relegated to the high-school or college-level curriculum. Some frameworks that apply to both printed and digital texts may also be instructionally useful. For example,

Duchastel's three purposes for illustrations (attentional, explicative, and retentional) is a simple framework that might also be applied to digital texts, with teachers challenging their students to expand that framework to accommodate the greater diversity of possibilities and uses in digital texts.

Table 1. Online resources and examples

Teaching about visualization in digital texts

- PowerPoint as a digital story telling tool, by a teacher for teachers: https://www.youtube.com/watch?v=OC1OixM_118
- "Periodic Table" classifying Visualization techniques with pop-up examples: http://www.visual-literacy.org/periodic_table/periodic_table.html
- A graduated framework (easy-to-advanced) for teachers who want to involve their students in digital forms of communication: https://docs.google.com/document/d/1CSRci1nl_LIEtXgUnAB9Gcf_hH_iH08xYlJz5OjAFb0/edit Links to online resources provided.

Tools for creating visual content

- Gapminder. free teaching resources making the world understandable based on reliable statistics and addressing misconceptions: https://www.gapminder.org/about-gapminder/
- Digital scholarship lab at the University of Richmond. http://dsl.richmond.edu/index.html#hero
- Digital Humanities Tools: http://dhresourcesforprojectbuilding.pbworks.com/w/page/69244319/Digital%20Humanities%20Tools Click on "visualization tools."
- Visual thesaurus. Visual representation of word meanings and relationships: https://www.visualthesaurus.com/?vt
- Wild fonts ("looking at the gold cup"/alphanumeric code as a visual element): https://www.dafont.com/theme.php?cat=202

Infographics, interactive graphics, and data visualization

Resources

- Information is beautiful. Twitter feed on data visualization: https://twitter.com/infobeautiful See also: https://informationisbeautiful
- "Word Clouds" showing which words appear most often in a text: http://www.wordle.net/
- The visual everything. Infographics: http://www.thevisualeverything.com/category/infographic/

- Google ngrams. Info graphics and trends in uses of words and phrases: https://books.google.com/ngrams

Examples With Connections to Current Events and Social Studies

- Real time data visualization. Tweets around the world: https://www.tweetping.net/#/
- The American Values Atlas. Interactive info graphic: http://ava.prri.org/home
- Animated time line of American voting patterns: http://www.americanpast.org/voting/presvoting.html
- Interactive time line of the Arab Spring: https://www.theguardian.com/world/interactive/2011/mar/22/middle-east-protest-interactive-timeline
- Tracking how fast American's change their minds about issues: https://www.bloomberg.com/graphics/2015-pace-of-social-change/?utm_campaign=Brookings+Brief&utm_source=hs_email&utm_medium=email&utm_content=17438951&_hsenc=p2ANqtz-_tSb-L7nDQnm6rh0a-LeAuPTXk37xFyBxABMjWLbIdPlcqZz46LwwVjKe4RzJ7zCEjNvlpUnmHOHzRD8o8H1b8NPGNAQ&_hsmi=17438951

Another available and potentially useful framework for static graphics, and thus applicable to printed and digital text, is inspired by the periodic table in chemistry (see http://www.visual-literacy.org/periodic_table/periodic_table.html#). It provides general and specific categories with pop-up examples and is an interesting example in its own right of using metaphors and analogies to represent graphical information. Students might add examples of more dynamic and interactive representations of data and processes in the table's existing categories or create new categories, thus highlighting the unique structural and interactive characteristics of digital texts.

Certainly, one major category that has become a recognized genre of data visualization in digital texts is infographics. Arguably, infographics are the quintessential example of how powerful and central visual representations are in digital expository texts. Not only can infographics make divergent information clear in a memorable form, they can show complex and interesting relations (occasionally, addictively so) among data not easily, and sometimes impossibly, represented in linguistic form. They are a clear example of digital texts employing a

symbol system that can expand the representable, while easing the cognitive burden of extracting relevant information. From an educational perspective, they also represent a bridge between literacy and other curricular and disciplinary subjects. Infographics can be taught as useful tools in the literacy curriculum (e.g., "Word Clouds" such as Wordle http://www.wordle.net/ Google's N-gram https://books.google.com/ngrams and the Visual Thesaurus https://www.visualthesaurus.com/?vt . However, they can also make content come alive in other disciplines by powerfully engaging students in critical reading, informed speculation, and further research, sometimes generated by unexpected relations among diverse data. For example, students in a social studies or history class might be shown an infographic tracking voting patterns by political party for presidential elections from 1840-2008 (http://www.americanpast.org/voting/presvoting.html see Table 1 for more examples). They could be challenged to list some speculative generalizations and then to gather information that supports or negates them or to explain the visual pattern in a particular election or time frame. Or, they could be asked to develop, and perhaps execute, an idea for an infographic that would help explain their findings.

Such curricular and instructional topics, content, and activities related to the visual elements of digital texts await further development, perhaps informed by the theories and related pedagogical vectors noted here. But there are other challenges. A major one is how conventional literacy instruction can be transformed to accommodate those new goals and activities. There are empirical data that provide both good news and not-so-good news in that regard. From a national survey (Hutchison & Reinking, 2011), it is clear that literacy teachers in general understand and accept that literacy is changing and that there is a need to address that change. The not-so-good news is that they see needed change more in terms of technological

integration (i.e., bringing new technologies into the classroom) rather than curricular integration (i.e., adopting new instructional goals, content, and activities). Further, in-service professional development for teachers has been found to reinforce a more superficial focus on using new technological applications (Lawless & Pellegrino, 2007). In the aforementioned survey, teachers also identified many obstacles to more fully integrating new digital forms of literacy into their instruction and most of these obstacles were external to their classrooms and beyond their control (see Hutchison & Reinking, 2010), suggesting a lack of necessary support from policy makers, curriculum designers, and administrators. The most-often identified obstacle, perhaps unsurprisingly, was time to engage with new technologies and to revise their teaching accordingly.

Regrettably, researchers have provided little help in addressing these challenges, which itself becomes a challenge. They have served mostly to point out that literacy is changing, to argue that the content of literacy instruction needs to adapt accordingly, to document difficulties and obstacles (e.g., see the previous paragraph), to investigate the effectiveness of a few ad hoc, isolated (i.e., from any curricular planning or concerns) classroom activities that teachers might try, to engage in abstract theorizing, and, perhaps ironically, to develop assessments of skills for which there is no systematic, widely used or agreed-upon instruction to develop (e.g., Kiili, et al., 2018). What they have not done is help translate their perspectives and theories into a systematic pedagogy. They leave policy makers and practitioners to work out the details, which, as Grossen (1996) pointed out, is like asking doctors to invent their own drugs. Little has changed since that observation more than 20 years ago. For example, Catherine Snow (2015), whose credentials include serving as president of the American Educational Research Association, has described education research as “feckless” needing closer connections and relevance to practice. What is

needed is research that reveals the conditions under which authentic transformation of curriculum and instruction can occur. Such research would include identifying what conditions enhance or inhibit such a transformation and would move beyond an exclusive focus on effectiveness, as determined by readily measured skills, to include practical efficiency and appeal (to teachers and students). It would also provide explicit guidance for practitioners about how interventions might be implemented to achieve specific instructional goals ideally embedded in thoughtfully constructed curricular frames.

My former students and I have taken small steps, given the enormity of the challenge, toward conducting such research (Colwell, Hunt-Baron, & Reinking, 2013; Colwell & Reinking, 2016; Howell, 2017; Howell, Butler, & Reinking, 2017) and to provide suggestions and advice for practitioners (e.g., Colwell, Hutchison, & Reinking, 2012; Howell & Reinking, 2015; Howell, Reinking, & Kaminski, 2015). In our research, we use formative experiments (Reinking & Bradley, 2008) a methodological approach aimed at generating insights and pedagogical theories useful to designing and implementing instructional interventions. Formative experiments, conducted in strategically selected classrooms, study how instructional interventions grounded in theory and empirical research can be implemented to achieve specific, valued instructional goals. The intervention is formatively modified based on collecting data to determine what conditions enhance or inhibit progress toward the pedagogical goal. Unanticipated outcomes (positive and negative) are noted, as are teachers' and students' reactions (e.g., embracing or resisting) to content and instructional moves. Overall, that process reveals deep pedagogical understanding that take the form of pedagogical assertions and eventually theories for teaching. We learn much about the intervention and its interaction with

the factors operating in real classrooms, but also about the content, about the human dimension of teaching and learning, and so forth.

In one study (Howell, Butler, & Reinking, 2016; see also Howell, 2017) we investigated the integration of multi-modal texts into the conventional high school writing curriculum. The pedagogical goal was to enhance students' ability to construct good arguments, both in writing conventional texts and in designing multimodal digital texts. Although the focus was on achieving that pedagogical goal, we learned much that would inform efforts to create curriculum and instruction concerning the visual elements of digital texts. For example, we documented a teacher's palpable discomfort in using the intervention in a class of students who she felt pressured to prepare for a standardized exam focused on writing conventional arguments. Even though the goal was to improve argumentative writing in both media, she legitimately saw working with digital media as unproven and risky.

Consequently, we suggested moving the intervention to a lower-level class of students, not immediately facing that exam. This development illustrates well the not surprisingly intimate relationship between curriculum, instruction, and high stakes assessment. Teachers may be more open and enthusiastically engaged in teaching the visual elements of digital texts when high-stakes assessment is not imminent, when there are specific efforts to link new knowledge and skills to conventional assessments, or ideally when curriculum and assessments are closely linked to include digital texts. There is important movement toward realizing the latter condition in the Common Core State Standards, which, consequently, offers an important opening for advancing instruction aimed at attending to digital texts in general and their visual elements in particular.

Other findings in our study also produced useful pedagogical insights. For example, we found that the teacher's not uncommon commitment to a process approach to writing undergirded and sustained her commitment to engaging her students in creating multimodal arguments. We also found that despite students' facility with popular uses of digital technologies, particularly social media, they were notably inept at using basic digital functions and tools (e.g., copying and pasting; Internet searches) for academic purposes. I believe that such insights highlight what is necessary to create a realistic and workable pedagogy that addresses the visual elements of digital texts. And, it illustrates the inadequacies of the current research base and what kind of research is needed to expand, and perhaps to replace, it.

SHATTERING THE CRYSTAL GOBLET

Warde's analogy of a gold cup and a crystal goblet succinctly and memorably reflects two fundamental and necessary aspects of engaging with informational texts. First, engaging with texts always entails some form of perception, most typically visual. Second, the fundamental purpose of engaging with informational texts is inner enlightenment characterized by a reflective and a critical stance that must not be overwhelmed or dimmed by the perceptual experience. In this sense, her analogy remains viable and useful. Yet, Warde lived in a typographic era during which a linguistic symbol system, encapsulated in print, occupied center stage with other visual representations playing a supporting role.

In that era, writing the prototypical informational text typically began with a conceptual, or actual, outline of a hierarchical structure for a linguistic presentation. Using other graphical representations typically arose while instantiating that outline, perhaps suggested by a reviewer, editor, or professional illustrator. That a text using the alphanumeric code was actually a visual representation was typically subliminal for writers as well as their readers. In fact, conventional

reading instruction for young children, in one sense, means developing precisely the condition Warde advocates. We teach children to overcome the unskilled attention to letters and words, and instead to look transparently through them. Beginning reading instruction is, in one sense, replacing the gold cup with the crystal goblet.

Matters are decidedly different in a post-typographic era when digital texts prevail. The diverse and dynamic technological affordances and enhanced symbol systems of digital media move visuality to center stage, in some instances relegating linguistic information to a supportive role, much as they do in children's picture books. Online texts that look essentially like printed texts, with no visual clues for links and only static graphics increasingly look like lost orphans from another era. This shift in position shatters the crystal goblet analogy. We cannot avoid looking at, not through, the visual elements of digital texts. And, creating or reading them, reverts not to the opaque golden cup, but instead becomes looking at the shattered pieces and trying to assemble them creatively into a goblet that remains transparent but also meaningful and aesthetically pleasing in its own right.

Helping people become fully literate today cannot ignore this shift. Certainly, educators must accept the responsibility of engaging their students fully in a realistic literacy of a post-typographic world. But, they cannot, nor should they be expected, to do it alone. They need explicit guidance and assistance, not cheerleaders or fans observing from a distance, let alone scolds who fault them for not getting on board with a changing literacy. They need the support of curriculum developers, for example those in state offices of education. They need the support of district- and building-level administrators in creating time and space, literally and figuratively, for them to adapt their instruction accordingly. They need researchers to move beyond abstract theorizing, beyond preaching the need for change, and beyond conducting research that results in

little explicit guidance for how curriculum and instruction can be meaningfully and practically transformed. This article was motivated to modestly move in that direction.

Finally, on a personal note, I find that my awareness of digital texts' visual dimensions and the effort (or lack thereof) by authors to use visual elements effectively enlarges a reflective and critical stance that is intermingled with my attention to the content. Visuality now seems embedded in my consciousness across the full landscape of my literate experience. For example, I notice how an online interactive infographic tells a story in a way that would be difficult, if not impossible, to tell linguistically, and about its powerful instructional possibilities, which makes me long to be back in the classroom—I'm still a teacher at heart. I contemplate the rise and role of emoticons and iconic messages on signs along roads that communicate with a visual economy that alphanumeric symbols cannot. I still receive and read National Geographic in printed form and wonder if it was a precursor of digital texts' heightened visuality, and what it would look like, and what would be lost, without its engaging photographs and skillfully developed and creatively designed maps, figures, and graphs. I wonder if there is a good reason that an author writing the following sentence in a printed text, "She is small and fair with delicate features." didn't include a picture, and maybe if there is some advantage in not having one. I pause in my quest for information to appreciate a particularly well-done, effective, or creative use of a visual representation at a website. I'm not sure Warde would approve of this "looking at" instead of "through" such texts. But, if it were possible to ask her, I hope that she would acknowledge that all analogies breakdown at some point and that changing conditions mean reinterpreting or replacing them.

REFERENCES

Barthes, R. (1974). S/z, trans. R. Miller. New York: Hill and Wang.

Birkerts, S. (2006). The Gutenberg elegies: The fate of reading in an electronic age. New York: Farrar, Straus and Giroux.

Bolter, J. D. (1991). Writing space: The computer, hypertext, and the history of writing. Lawrence Erlbaum Associates, Inc.

Brown, A. L., & Palincsar, A. S. (1987). Reciprocal teaching of comprehension strategies: A natural history of one program for enhancing learning. New York: Ablex Publishing.

Coiro, J., Knobel, M., Lankshear, C., & Leu, D. (Eds.) (2008), Handbook of research on new literacies. Mahwaw, NJ: Erlbaum.

Colwell, J., Hunt-Barron, S., & Reinking, D. (2013). Obstacles to developing digital literacy on the Internet in middle-school science instruction. Journal of Literacy Research, 45, 295-324.

Colwell, J., Hutchison, A. C., & Reinking, D. (2012). Using social network blogs to promote literacy response during teachers' professional development. Language Arts, 89, 230-241.

Colwell, J., & Reinking, D. (2016). A formative experiment to align middle-school history instruction with literacy goals. Teachers College Record, 118, 1-42.

Cope, B., & Kalantzis, M. (2000). Multiliteracies. New York: Routledge

Daniel, D., & Reinking, D. (1987). The construct of legibility in electronic reading environments. In D. Reinking (Ed.), Reading and computers: Issues for theory and practice (pp. 24-39). New York: Teachers College Press.

Dressman, M. (2016). Reading as the interpretation of signs. Reading Research Quarterly, 51(1), 111-136.

Duchastel, P. C. (1978). Illustrating instructional texts. Educational Technology, 18(11), 36-39.

Grossen, B. (1996). Making research serve the profession. American Educator, 20(3), 7.

Guthrie, J. T. (1988). Locating information in documents: Examination of a cognitive model. Reading Research Quarterly, 23, 178-199.

Guthrie, J. T., Britton, T., & Barker, K. G. (1991). Role of document structure and metacognitive awareness in the cognitive process of searching for information. Reading Research Quarterly, 26, 300-324.

Hayes, D. A., & Reinking, D. (1991). Good and poor readers' use of graphic aids cued in texts and in adjunct study materials. Contemporary Educational Psychology, 16, 391-398.

Howell, E. (2017). Expanding argument instruction: Incorporating multimodality and digital tools. Journal of Adolescent & Adult Literacy, 61(5), 533-542.

Howell, E., Butler, T., & Reinking, D. (2017). Integrating multimodal arguments into high school writing instruction. Journal of Literacy Research, 49, 181-209.

Howell, E., Reinking, D., & Kaminski, R. (2015). Writing as creative design: Constructing multimodal argument in a multi-literacies framework. Journal of Literacy and Technology, 16, 2-36.

Hutchison, A.C., & Reinking, D. (2011). Teachers' perceptions of integrating information and communication technologies into literacy instruction: A national survey in the U.S. Reading Research Quarterly, 46, 312-333.

International Reading Association. (2009). New literacies and 21st century technologies: A position statement of the International Reading Association. Newark, DE: Author.

Kress, G. (2000). Design and transformation. In B. Cope & M. Kalantzis (Eds.), Multiliteracies (pp. 153-161). New York, NY: Routledge.

Kiili, C., Leu, D. J., Utriainen, J., Coiro, J., Kanniainen, L., Tolvanen, A., Lohvansuu, K., & Leppanen, P. H. T. (2018). Reading to learn from online information: Modeling the factor structure. Journal of Literacy Research, 50, 304-334.

Labbo, L. D. (1996). A semiotic analysis of young children's symbol making in a classroom computer center. Reading Research Quarterly, 31(4), 356-385.

Lanham, R. A. (1993). The electronic Word: Democracy, technology, and the arts. Chicago, IL: University of Chicago Press.

Lawless, K. A., & Pellegrino, J. W. (2007). Professional development in integrating technology into teaching and learning: Knowns, unknowns, and ways to pursue better questions and answers. Review of educational research, 77(4), 575-614.

Mayer, R. E. (2001). Multimedia learning. Cambridge, UK: Cambridge University Press.

McEneaney, J. E. (2006). Agent-based literacy theory. Reading Research Quarterly 41, 352-371.

McVarish, E. (2010). "The Crystal Goblet": The underpinnings of typographic convention. Design and Culture, 2, 285-307.

New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. Harvard Education Review, 66, 60-92.

Paivio, A. (1986). Mental Representations: A dual coding approach. New York: Oxford University Press.

Reinking, D. (1986). Integrating graphic aids into content-area instruction: The graphic information lesson. Journal of Reading, 30, 146-151.

Reinking, D. (1987). Computers, reading, and a new technology of print. In D. Reinking (Ed.), Reading and computers: Issues for theory and practice (pp. 3-23). New York: Teachers College Press.

Reinking, D. (1988). Computer-mediated text and comprehension differences: The role of reading time, reader preference, and estimation of learning. Reading Research Quarterly, 23, 484-498.

Reinking, D. (1992). Differences between electronic and printed texts: An agenda for research. Journal of Educational Multimedia and Hypermedia 1(1), 11-24.

Reinking, D. (1998). Synthesizing technological transformations of literacy in a post-typographic world. In D. Reinking, M. C. McKenna, L. D. Labbo, & R. Kieffer (Eds.), Handbook of literacy and technology: Technological transformations in a post-typographic world (pp. xi-xxx). Mahwah, NJ: Erlbaum.

Reinking, D. (2001). Multimedia and engaged reading in a digital world. In L. Verhoeven & K. Snow (Eds.), Literacy and motivation: Reading engagement in individuals and groups (pp. 195-221). Mahwah, NJ: Erlbaum.

Reinking, D. (2009). Valuing reading, writing, and books in a post-typographic world. In D. Nord, Rubin, & M. Schudson (Eds.), The history of the book in America: Volume 5 (pp. 485-502.) University of North Carolina Press.

Reinking, D., & Bradley, B. A. (2008). On formative and design experiments: Approaches to language and literacy research. New York: Teachers College Press.

Reinking, D., & Chanlin, L. J. (1994). Graphic aids in electronic texts. Reading Research and Instruction, 33, 207-232.

Reinking, D., Hayes, D. A., & McEneaney, J. E. (1988). Good and poor readers' use of explicitly cued graphic aids. Journal of Reading Behavior, 22(3), 229-247.

Reinking, D., & Rickman, S. (1990). The effects of computer-mediated text on the vocabulary learning and comprehension of intermediate-grade readers. Journal of Reading Behavior, 22, 395-411.

Reinking, D., & Schreiner, R. (1985). The effects of computer-mediated text on measures of reading comprehension and reading behavior. Reading Research Quarterly, 5, 536-552.

Salomon G. (1979). Interaction of media, cognition, and learning. San Francisco, CA: Jossey-Bass

Snow, C. E., (2015). Rigor and realism: Doing educational science in the real world. Educational Researcher, 44, 460-466.

Summers, E. G. (1965). Utilizing visual aid in reading materials for effective learning. In H. L. Herber (Ed.) Developing study skills in secondary schools. Newark, DE: International Reading Association.

Thuy, T. T. H., (2017). [Untitled Review]. VNU Journal of Foreign Studies, 33 (6), 164-168).

Tinker, M. (1963). The legibility of print. Ames, IA: University of Iowa Press.

Toulmin, S. E. (2003). The uses of argument. New York: Cambridge University Press. (originally work published in 1958)

Vacca, R. T. (1981). Content area reading. Boston, MA: Little Brown.

Wiggins, G. P., Wiggins, G., & McTighe, J. (2005). Understanding by design (2nd Ed). Alexandria, VA: ASCD.

Journal of Literacy and Technology Special Edition
Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Art as a Critical Response to Social Issues

Peggy Albers
Georgia State University
Atlanta, GA 30303
Malbers2@gsu.edu
(contact author)

Vivian M. Vasquez
American University
Washington, DC
clippodcast@gmail.com

Jerome C. Harste
Indiana University
Bloomington, IN
jerry.harste@gmail.com

Hilary Janks
University of Witswaterand
Johannesburg, South Africa
hilary.janks@gmail.com

In 2018 in the U.S., Cambridge Analytica (https://cambridgeanalytica.org/) came under investigation for how they used Facebook to control through image, written language, and social media what people viewed (e.g., political ads and video) and how this influenced the results of the 2016 U.S. presidential election. Before and on the day of election, Facebook was saturated with images, ads, and written texts broadcasted to particular spaces and directed at particular audiences in order to have these audiences vote in particular ways. With concern regarding how image, social media, and technology worked in this example, Facebook and Cambridge Analytica are now under scrutiny for such influence. We use this example to show the relationship of power between and among image, language, and technology in professionally/publicly-generated texts to influence the actions of viewers.

The ever-increasing access to digital devices and the Internet has led to a growing concern about the quality of the verbal, visual, and video information that is shared online. In 2018, the Pew Research Center found that in the U.S. more than 88% of adults regularly use social media to communicate, post, and view postings (www.pewcenter.org). Over 24% of teenagers are online "almost constantly," often through smartphones, with Facebook the most popular social media site. Internationally, Kemp (2018) wrote that over four billion people—more than half of the world's population—use the Internet as a result of the greater affordability of mobile devices and data plans. Over two-thirds of the world's population now own a mobile phone (Kemp, 2018).

For the past 15 years, across our work, we have positioned art and technology as significant communicative modes that bring to the surface a text maker's ideologies and how the viewer is implicated in these texts to act and believe in particular ways (Albers, Frederick, & Cowan, 2009; Albers, Harste, & Vasquez, 2011; Albers, Vasquez, & Harste, 2011, 2017; Harste,

2003; Janks, 2014a, b; Vasquez, 2004; Vasquez, Albers, & Harste, 2013). In visual and/or multimodal texts, viewers are influenced by the subject matter and the meanings associated with it, the composition or structural arrangement of objects (e.g. vectors, placement of objects, etc.), the selections afforded by the medium and materials used, as well as how technology operates as a conduit to share these meanings. In this paper, we discuss how, in a two-week institute, we engaged teachers in making art that addressed the social issues they saw operating in their lives using a critical lens.

Theoretical Framework and Related Literature

Theoretically, we locate this work in Ingold's (2014) concept of making, Carpentier and Dahlgren's (2011) concepts around participation, and Janks' (2014) integrated model of critical literacy. Ingold suggested that inquiry lies at the heart of making: "thinking is making and making is thinking" (p. 6). It is always in relation to the materials with which we work, and "is a process of correspondence" (p. 33). That is, every work that is made "surrenders to the material" (p. 47), and is a "prising and opening and following where it leads" (p. 7). Ingold continued, "We are accustomed to thinking of making as a project. This is to start with an idea in mind of what we want to achieve and with a supply of raw material needed to achieve it. Also, making is to finish at the moment when the material has taken on the intended form" (Ingold, p. 20). For Ingold, making is always a state of discovery in a dynamic relationship between and among the maker, materials, and process. Art is not made by the form that exists in the mind of the artist but by the artist's engagement with materials. The materials speak to the artist as much as the artist uses the materials to speak. The maker is "caught between the anticipatory reach of imaginative foresight and the tensile, frictional drag of material abrasion" (p. 71), or what we call the

affordances of the materials, makers' knowledge of the materials, and the meanings they wish to make.

Critical literacy is an additional theoretical lens that we used "to question things that you took for granted before…notice things that you used to ignore…." (Janks, 2014b, p. 1). In Doing Critical Literacy, Janks (2014) presented classroom strategies focused on images to show how they work to re/produce discourses/ideologies. In her approach to critical literacy pedagogy, Janks (2014a, p. 350) identifies five key points. First, learners must connect their own lives with something that is going on in the world in which the world can be as small as a classroom or as large as an international setting. Second, critical literacy involves inquiry in which educators must consider what students will need to know and where they can find the information. Third, the educator and students explore together how relations of power are instantiated in texts and practices and, through an examination of design choices, understand the relationship between texts/practices and people's behavior. Fourth, critical literacy examines those who benefit from or are disadvantaged by the social effects of events, objects, people and how they are represented. Fifth, critical literacy imagines the many possibilities for making a positive difference. Studying making through Janks' integrated model of critical literacy creates a space for readers to interrogate messages that work to position viewers in particular ways as consumers both of the product itself and the ideologies that underpin them.

The extent to which makers become invested in making is in large part due to how and why they participate in the making. Participation, Carpentier and Dahlgren (2011) argued, is not a "fixed notion" but is necessarily embedded in "our political realities" (p. 9). Said another way, to what extent do people actually get to participate in decisions about their making and their learning and what political decisions affect one's learning? Carpentier (2011) identified several

characteristics of participation: 1) power which includes or excludes people in the implicit and explicit decision-making processes; 2) power situated in the particular processes and localities, where particular relations of power are implicated, and 3) power struggles within the social order more broadly which affect what is "lived and practiced," and by whom. (p. 25). Said another way, the practices around making are structured through our understanding of participation vis-à-vis materials, process, and engagement, and the extent to which we think, name and communicate the participatory process (Carpentier, 2011) in making.

While our work speaks directly to making, participation, and critical literacy, a number of other studies have documented the importance of art, language, and technology in which children through adults regularly use multiple materials for a range of purposes. Peppler and Wohlwend (2018) synthesized 50 peer-reviewed articles that addressed the arts, creativity, and new technologies to understand how new technologies can be leveraged for artistic expressions. That is, studies in this synthesis considered the tools, materials, techniques and concepts in which contemporary artists considered traditional design in such fields as fashion design, media design, game design, among many other fields. Martin (2015) identified critical elements essential to a maker mindset and the maker community including, craft, art and design, and cautioned against over-simplifying making by focusing on the tools for making, in contrast to Ingold. Vasquez and Felderman (2015) studied young children's use of technology and design to produce a podcasting show focused on fairness and injustice with the purpose to contribute to change in different spaces. The children wanted their podcasts to be accessible to a range of different audiences from young children to adults. Set in Felderman's grade two classroom, twenty culturally and linguistically diverse children were taught how to design and develop podcasts "to communicate their ideas, questions, and understandings about the world around them" (p. 147).

They researched different topics associated with the focus, and revised scripts until they thought they were ready for broadcasting. Albeit brief, our own work and the work of others have recognized the significance of working with the arts and technology to understand what they have to offer educators in terms of a deeper understanding of literacy and learning.

2017 Summer Institute

For the past 15 years, we have studied and written about the significance of art in literacy curriculum to support creative, metaphorical, and abductive thinking, and the reading and production of texts in order to interrupt existing relations of power and to engage in transformative redesign. Part of this work has involved the work we have done with teachers in Canada during two-week all-day summer institutes. The institutes are always grounded in critical literacy and always include the arts (visual/drama), language, and technology.

During the 2017 summer institute, we focused on critical making with 80 teachers and administrators. We define critical making as making with tools, techniques, and materials in order to speak to and against issues of social importance. For us, making is not about the materials or the maker, but the interaction and transaction between the two, with meanings that makers bring to the materials and how that meaning shifts with each movement of the paint brush, the pressing of the clay, the building of objects and/or the cutting of paper. Projects start with a point--whether a physical mark on a canvas, the tearing of clay, or the dismantling of a device—or with a thought, a plan, a way of moving with, against, and through the materials. To this end, we designed and conducted four small-group workshops each focused on making critical art with a different medium, including watercolor, clay, and discarded technology. There were three sessions per workshop and each session lasted approximately two hours. There were, in addition, plenary sessions in which teachers made something.

The excited tension between and among teachers was palpable on the first day of the summer institute. We heard many teachers remark, "I'm not an artist," "I'm nervous about doing art," "I don't have talent as an artist." To break the ice and encourage making at the start, in the large group, we invited them to make simple projects like bunraku puppets (simple puppets made from brown wrapping paper), and puppets make from found objects and poems to go with them, inspired by Ashley Bryan's (2014) *Puppets* (Figure 1). They also made kimono books (origami accordion books), and origami chicken hats. These ice breaker activities created a space for beginning to demystify the making experience. We were then set to work with them on more complex techniques and processes.

Figure 1. Ice breaking making experiences

As workshop leaders, we contextualized making in relation to concepts in practice and scholarship. Teachers then participated in engagements that situated making associated within these concepts. Teachers produced approximately 15 artifacts during the two-week period. As critical social semioticians, we hoped that the teachers would come to understand the affordances of different materials to represent their chosen social issue and how elements of art (e.g., color, line, form, shape, space, texture) look different, and produce different effects in their own projects as well as those of others.

In one set of workshops, teachers studied clay and created a ceramic bust. In another set, teachers worked with paper, foil, and chalk pastels to make posters, foiled images, and

personalized books using stick figure construction paper inspired by Ryan Kerr's (2014) book, On Growin' Up. A third series of workshops engaged teachers in inquiry using paint and gesso, and the fourth invited teachers to use discarded technology to create a satirical piece related to the issue of fake news. The workshops were organized around artist Jasper Johns' (Hollevoet, 2002, n.p.) injunction to:

> Do something, then do something to that something. Then do something to that, and soon you will have something.

The workshop on discarded technology provides an example of such a sequence across the three sessions. Session 1 was used to discuss the political implications of fake news, to explain the making activity that Vivian had designed and to invite students to think about the normative use of the obsolete technology they intended to work with. In the next session, (do something), the teachers dismantled their piece of technology reducing it to its component parts. In the third session they reconstructed the bits and pieces (do something to the something) to make a statement about the original purpose of the technology in relation to fake news. During sessions 2 and 3, students kept a record of their process – the intellectual, emotional and creative journey (do something else), and created a digital presentation of their process (do something else to the something else).

Figure 2. Example project made in discarded technology workshop

An example of this workshop is represented in Figure 2. One group of students dismantled a hair dryer and redesigned it as Trump's megaphone used to blow

hot air. Driven by a USB car charger, the hot air is blown towards a world made of papier-mâché. The teachers positioned the world on top of flames to suggest that Trump's hot air/fake news is carried across the globe, inflaming both people who agree and disagree with him. This engagement provided an opening for teachers to speak directly to a social issue they saw affecting their own lives as Canadians. The hair dryer was used both literally and metaphorically—the hair dryer literally blows hot air and the current US president blows metaphorical hot air: empty, exaggerated talk and bragging, creating fake news.

On the last day of the institute, teachers created an art gallery (Figure 3), organizing and displaying all of their makings. For approximately 90 minutes, teachers walked through the gallery, and talked with each other about their projects and the critical messages on display. The purpose of the gallery was for teachers to see how social issues were represented through the use of different materials, to hear their colleagues speak about the process and techniques they used to make their projects, to reflect on how the projects made visible their awareness, understanding, critical reading and response to social issues, and to imagine how they might use their experiences to inform their teaching practice.

Figure 3. Art gallery on last day of the Institute

Methodology

We studied everything that the teachers made, individually or in small groups, examined their written reflections and considered what they said during workshops and plenary sessions.

Students expressed their thoughts and feelings while making in conversation and in written reflections before exiting each day. In the technology workshop, teachers kept a detailed record of their making process. These responses together with their final products provided the data for our analysis.

We studied the visual artifacts using critical visual discourse analysis (CVDA) (Albers, Vasquez, & Harste), a method that draws upon visual discourse analysis (Albers, 2007) and critical literacy to understand the positioning effects of the semiotic choices made – art elements (e.g., color, line, perspective), structures (placement/prominence of objects, organization of objects). We were also interested to find the discourses (e.g., fake news, religion, identity) that their making pieces manifested. We analyzed the messages conveyed (both stated and inferred), how viewers were positioned to read and respond, the different perspectives which aspects of identity emerged. In essence, we attempted to understand the mazes of representation that emerged in teachers' projects, and to understand the extent to which materials associated with art and technology contributed to the identities that they, as visual textmakers, chose take on. We suggest that this work brings to the fore the significance of examining the nexus between and among art, technology, and making practices.

Findings

We organize the next section around three observations that we made through our study of making in this institute: 1) Making led to new discoveries about materials, techniques, process, and selves; 2) Making inspired abductive thinking; and 3) Identity, agency, and critical perspectives emerged in teachers' making.

Making Led to New Discoveries about Materials, Techniques, Process, and Selves

Teachers were positioned to understand making as a process. By doing something, doing something to that something and doing something to that something, teachers learned about themselves, the materials and the techniques of a particular medium. In two of the workshops, teachers were unfamiliar with the materials they were asked to use to design and make their projects: clay, paint, gesso. In the technology workshop, while teachers were familiar with the devices they brought, they were unfamiliar with how to redesign these devices. In the fourth workshop, teachers worked with more familiar materials and techniques: paper, cutting, pasting, foil, and oil pastels. Across all workshops, teachers expressed that making provided spaces—both literally and figuratively—for new discoveries about materials, techniques, and process.

Materials. Initially, in session one in three workshops—clay, paint, and technology —teachers experienced "frustration," "intrigue," and fear around working with these materials. In contrast, in the fourth paper-based workshop, teachers felt "calm," "relaxed," and "able to jump in" as they had familiarity with these materials. However, by the third session in all workshops, teachers had worked with the materials, had become more familiar with how to make the medium speak for them, and had engaged with the materials as ways to "challenge" themselves. For Terry, staring at a 5 pound block of clay was "intimidating." Yet, when she learned the techniques to sculpt, she noted, "My sculpture ended up being my favourite art piece. As with most cases, the most challenging ends up being the most rewarding." Mary Lou stated, "A discovery I made was how versatile clay can be…I did something I never thought possible." Nina remarked, "The [clay] workshop was the biggest learning curve for me because I was so unfamiliar with the materials and techniques…I kept going. In the end it really turned out better than I thought!" Julia observed about her making:

> I can produce artist work that actually surprised me with how it turned out. I found that initially when I was asked to find something in the black gesso that I couldn't see much, but by persevering, faces and bodies began to emerge. By starting with one figure that led to another face that connected with the initial figure ultimately led to one awesome large face which tied the piece together. (Figure 4)

Figure 4. Julia's faces found in her painting

Learning about materials provided new insights into the materials themselves, how versatile they are, and themselves as artists. They saw their art works as "awesome," "their favourite," and "better than I thought!" They also learned about the tools artists use in the various mediums, which enabled them to see, for example, faces, as an artist would.

Techniques. In working with materials associated with art and redesign, there are techniques that teachers learned and grew accustomed to across each workshop series. This learning led to different discoveries about themselves and their making. Steven wrote, "I learned that I am really good with my hands and was able to produce an excellent [sculpture]." Susan discovered that her mantra is now to "just go for it… sometimes people are afraid to just take risks and try something with a new art medium [paint]." While Glenda reflected:

> At a time, I was not listening to [Peggy's] specific instructions because my hands were just working non-stop and that it seemed that I got lost in the clay work…My introduction to sculpture work hooked me.

While the mediums of paint, clay and technology were initially intimidating to teachers, they learned techniques that demystified the process of making using these materials. As workshop leaders, we demonstrated techniques that created opportunities for them to "go for it" and

teachers like Larina learned that she could be successful in the arts, noting, "It force[d] me to dig deep and think creatively in new ways."

In the paper-based workshop teachers used materials, paper, oil pastels, scissors and foil, and techniques (drawing, outlining in foil, cutting-pasting) that were familiar to them. We found that familiarity enabled teachers to feel at home with making, and to proceed directly to making that connected personally with their lives and/or how they thought life should be. Cutting and pasting stick figures to make personal books representing an issue in their own lives (see Figure 5) was a favorite making project. Kathryn's book reflected a time when her heart was broken; she felt like her world had fallen apart. She picked up and put together the pieces of her life to become strong again. Using oil pastels to create a motivational poster also enabled teachers to engage in making without the struggle of learning new techniques. Tracey wrote:

Figure 5. Kathryn's personal book made in paper-based workshop

> The [paper-based] workshop allowed me to reflect and present my thoughts in creative ways. Little did I know that this was a form of making. I understood 'art' to be a picture or sculpture, but [this workshop] opened my eyes to art being music, doodling, baking, cooking, architecture.

Morgan precisely captured the importance of familiarity, "I have felt able to jump in….This art feels like something I can do." For Anete, the stick figure book "lent itself very well to those students who are less artistically inclined."

Process. Bayles and Orland (1993) wrote that often makers of art understand and come to know the value of the process and, yet, tension arises when the maker becomes a viewer, and takes the stance of a critic in which the maker's project is compared to work made by professional artists. It is this tension that makes visible the nexus among making, process and product. Sarita made this tension tangible:

> Initially I found myself to become concerned about the end result—the product—and the fact we had to produce 3 pieces left me feeling overwhelmed….[They] felt boring….Only when we were required to look at the final pieces & recreate them, I began to engage myself more in the process and my pieces of art became personal. I really enjoyed finding shapes and projecting a social justice issue. It became more than just 'doing art.'

As part of the process, "taking apart and re-appropriating" a piece of technology was "daunting at first" for Eloisa. "I didn't know where to begin at all. I must say that the process was very enlightening. I especially enjoyed taking apart the item and trying to figure what could be done with it." After engaging in the process of making using unfamiliar materials, teachers, like Genevieve, often were surprised at how their project turned out:

> I was pleasantly surprised when my sculpture began to even vaguely resemble a human form. The amount of details and precision required to get the desired look—however imperfect—was sometimes frustrating. However, the [ceramic] bust came together, piece by piece, I became satisfied—especially for a first-time attempt at sculpting.

Teachers found that they were more drawn to some materials more than others in the process of making. For a number of teachers, like Rose Mary, making sculptures was "very satisfying working with my hands. I enjoyed the feeling of the clay and learning various

techniques. Sculpting is very physical. You're using your whole body to create it, very active process." Joseph wrote, "I've noticed that making objects through sculpting or building is much more enjoyable for me. The painting/drawing activities give me much more anxiety." Terese found that making with clay "was trusting the process, my hands, the clay. I was at peace with the clay and felt very calm…trusting the experience and creating something tangible." When Victoria participated in the discarded technology workshop, the process of "taking apart" was when "ideas started flowing. The initial ideas I had shifted and morphed as each piece was being deconstructed and by having conversations with colleagues."

Ingold (2014) wrote that artists have to have a sense of how their materials will become. An artist "sees the state of things but senses where they are going" (p. 70). We found a relationship between making and "where they are going." Across three of the workshops, clay, wet medium and technology, before teachers could define their social issue, they had to play with the language of the medium (for example, how clay moved and textures created, blending colors, layout for technology devices) and learn techniques through which they could make critical statements. Thus, in workshops one and into workshop two, teachers often focused on process first—using techniques to manipulate the medium—in order to have the capacity to speak critically through the medium. However, in the paper-based workshop, teachers knew the process of cutting, pasting, coloring with oil pastels, etc. Thus, they could focus immediately on the critical messages they wished to convey. In the technology workshop, teachers needed to think through the power-effects of the piece of technology they had taken apart, and reconstruct it in such a way that it spoke back to these effects while simultaneously making a critical statement about fake news. These two entry points helped them to see possibilities for critical redesign in the bits and pieces of the deconstructed technology.

For decades, Jerry Harste (2014) has argued that "teachers can't do for children what they have not done for themselves first" (p. 9). While teachers were introduced to unfamiliar materials, they were pleasantly surprised at how well they were able to work with different techniques and how the process of making created a space for them to explore their own lives as well as make critical statements about social issues. While workshop leaders offered demonstrations, teachers were afforded opportunities to be included in all aspects of the process, and to focus on their own interest in social issues to actively engage in lived practices (Carpentier, 2011, p.25). We suggest that this lived participation in making provided opportunities for teachers to engage in abductive thinking, opportunities that are few and far between in a discipline-based school curriculum (Harste, 2014).

Making inspired abductive thinking

Ingold (2014) wrote, "Design is always the search for something that is unknown in advance. The inner uncertainty drives the creative process" (p. 70). We found that making, using materials associated with art and technology, led to abductive thinking. We use abduction to describe the way the teachers took a leap of faith in using the materials that resulted in new insights. Most school work is based on inductive and/or deductive reasoning through which students are asked to put pieces of learning together to reach a conclusion (induction) or where students are asked to theorize to make and test hypotheses (deduction). Fostering abduction created spaces for the teachers to use the art materials to explore possibilities, their creativity, and their imagination.

For instance, a shift on the surface of a clay sculpture, led teachers to use that shift, integrate it into their design, and work through the design, allowing these shifts to speak to their making and to represent their social issue. Making in clay, for Barbara, was an inspiring

"'journey'" my art took me on. I was able to sit back & reflect on what I was creating and change it as the clay transformed into many different shapes."

By "trusting the process," wrote Ingrid, "you may not get what you planned but you will create something unique and creative." The clay workshop, while intimidating at the start for many teachers, was a medium that continuously engaged teachers in design/re-design. Teachers shifted from their original design and made deliberate decisions about the medium and materials to re-design their project. With each movement of the clay, teachers, like Victoria, made design decisions about "each of the facial features." Being surprised at what she had sculpted, Harriet initially had thought that the clay bust she was making would be culturally similar to her. Yet, this figure "turned out to be culturally different from me and a complete stranger." John postulated, "You can have a 'vision' of what you want to create in colour and design and it can go into different directions while you are working through it. By the time you have your end product it can be something totally different." Candy's comment aligns with John's:

> We are all makers. This became particularly evident in our sculpting studio. Technically we learned about the pinch pot, coil and slab methods. But the lessons extended far beyond the techniques. What I found particularly interesting in the sculpting sessions was how one small move changed the entire piece. Every time we added a facial feature the sculpture took on a new personality and voice. Of all of the pieces, this one 'spoke to me.' I feel a connection to my clay piece, 'Be proud of who you are.'

Abductive thinking often came through the learning of techniques. Figure 6 is a series of three images that show Larina's design choices in making to speak to the significance of indigenous culture and history. Larina remarked about the design of her sculpture, "all sides of the piece have to be considered, the full 360 degrees has to be attended to. The 3-D aspect of the

art tends to give the piece a life of its own, as if the person really once existed or still does."

Figure 6. Larina's process of making in the clay workshop

Teachers found that the technology workshop was one of the "hardest assignments," and the painting workshop "intimidating," but in their making, teachers found that the process encouraged creativity, imagination, and significant re-designs, traits of abductive thinking, before coming to their final product. Carolyn learned that "nothing is ever really 'done'—especially in art," and Joseph "really felt like a 'maker'. Revising a piece of art and recreating it introduces a new meaning and new life into each piece." Described as a "very interesting and intensive workshop," teachers like Janice "certainly like[d] the idea of repurposing discarded technology…artists can take on an important role by repurposing." Ideas did not always come easy, as Barbara found out:

> At first, I had no idea what to create. I began by thinking about what the symbolism or meaning behind a remote control was, to be always 'plugged in.' Then I thought of a relative political issue that could represent being tuned in and informed…that idea, however, changed as I took the piece apart. I saw a topographical map and thought of 'Build the Wall.' At that point, I finally enjoyed what I was doing. This activity made me

see how challenging yourself can allow you to experience things you otherwise wouldn't, if you don't work with an open mind." (Figure 7)

In concert with Barbara, Pauline found that the technology workshop enabled her to "think outside the box" and she "never thought that we can turn a tech piece into something related to what's happening in the world," specifically in connection with fake news. Jane saw that working with discarded technology, a tape recorder, helped her connect the idea that "Talk is cheap" to the G20 Summit, a "small group of people who gather, but what do the end results really mean?...The agenda for the next Summit is already in motion and what will the word on the street be, then?" She noted that the piece of technology once served a particular purpose and, after deconstructing it, the result was different in format and function. Learning about the medium (e.g., paint, paper support, clay, technology bits and pieces) and through the materials (e.g., how the medium responds to touch, paint, assembly) led teachers into creative and fresh thinking about the materials' potential and the message.

Figure 7. Barbara's "Build the Wall" discarded technology project

Jerry Harste (2014) has written, "Engaging in art highlights abductive thinking, and is probably one of the strongest cases I can make for its significance in education generally and literacy education in particular" (p. 19). The institute was an opportunity for teachers to take on new perspectives, whether it be about fake news, First Nations People, "being yourself," "talk is cheap," and so on. Teachers worked with the different materials in each of the clay, paint, discarded technology, and paper-based workshops, and yet the perspectives on such aforementioned topics were very different. Substantive work with materials is necessarily located

within the maker's experiences and beliefs and abductive thinking prompts significant differences in their projects.

Identity, Agency, and Critical Perspectives Emerged in Teachers' Making

Making is necessarily entwined with identity and makes visible ideologies, experiences, and beliefs of the maker. Each of the four workshops brought forward teachers' emotional, social, and critical response to social issues they saw operating in their lives. Steven wrote:

> I've really learned a lot about myself. I've come to the realization that I am more creative than I thought. Allowing my creative juices to flow is very therapeutic and I actually like what I produce…My favorite art is the one that relates to any kind of social justice because it forces one to really critically analyse the issue!

Constanzo remarked, "Sculpting allows an individual to utilize their own creativity…despite the fact that all individuals received the same instruction how to create the head, eyes, nose, ears, and mouth, all sculptures looked different."

The technology workshop, in particular, made visible teachers' strong sense of critical literacy and issues they wished to speak to and against. Mary Jane stated, "In this workshop I had the opportunity to peel back an issue…how technology is used to position people to think/feel one way or the other about an issue. In this case it was how radio affected the spread/maintenance/defeat of communism…I totally understood how the uncensored/unfiltered media allows us to be positioned because of the popularity of the Internet." As teachers deconstructed their discarded technology pieces and reflected on the original intended use of those pieces, they also explored more deeply, the possible social issues in fake news they could represent as they worked with the bits and pieces. Anthony had to "really think outside the box" since the creative process called for not only transformation through hands and medium, but, also

transformation through time and space by talking back to the past, original intended use and power-effects of the technology they had taken apart, while re-designing it to address current fake news in a satirical way. Like Anthony, Anaya saw how making through the use of discarded technology

> …was so layered and full. I found this workshop the most enriching because every new idea led to another new idea and I found the process generated, for me, a deep thinking process. For example, I started with the fun shooter camera and started thinking about what this technology meant in the past and how that meaning was completely transformed when filtered through the lens of what 'shooter' has come to mean in 2017 in a world of mass shootings and social media and the 24-hour news cycle which delivers this dread to us on the same device we use to take our family photos.

In this workshop space, time and matter were involved in a process of differentiation and entanglement, what Barad (2011) referred to as spacetimemattering. Barad proposed that there is an inseparable dynamic between human and nonhuman, material and discursive, and natural and cultural factors (Barad, 2012). Individuals do not exist, but materialize through intra-action with space, time, context, and material. Further, for Barad (2012), agency, the ability to act, is not something afforded to someone, rather it emerges from this intra-action that occurs between the individual and her/his interaction with objects, concepts, texts, etc. while maintaining their independence (Figure 8). From this perspective, everything is "entangled" with everything else (Barad,

Figure 8. Intra-action, teacher, materials, context, and text

2012). Through intra-action across the workshops and across time, teachers reflected on the direct experiences within each workshop. For example, Anaya's work with the shooter camera brought together an entanglement of the materials, the process of re-design, her past and current beliefs, the context in which this project was made, among other factors. Teachers were marked by the cultural contexts – both human (themselves, workshop leaders, colleagues) and nonhuman (materials, setting, context)—out of which agency materializes (Barad, 2007).

Critical literacy and intra-action positioned teachers, through making, to transform their own thinking about the arts, texts and critical literacy. The projects that they made enabled teachers to notice how the materials, techniques, process were avenues to adopting critical stances. The workshops enabled teachers to engage in art-making experiences that, at once, transformed their understandings of art and the materials used to create projects that spoke to issues of social importance. Maxine Greene (2001) argued that "education ….is the process of enabling persons to become different"...the learner must break with the taken-for-granted…and look through the lenses of various ways of knowing, seeing, and feeling in a conscious endeavor to impose different orders upon experience" (p. 5). While we acknowledge that different subject matter areas offer learners opportunities to become different, we want to argue that art is particularly good at setting up the conditions for abductive thinking. Through these workshops, teachers experienced something new; their senses were awakened, their imaginations released (Greene, 1995), and the context afforded them to engender different perspectives on issues of social importance. As critical literacy researchers, we understand teaching and learning as an ethical and critical endeavor. By encouraging teachers to participate in experiences of making art we anticipate that they will perceive issues newly and in so doing "produce different knowledge and to produce knowledge differently" (St. Pierre, 1997, p. 175).

Discussion: Opening Up Spaces for Critical Making and Reflection

For us, the arts have been a significant part of our lives as researchers, artists, and teachers. We have worked with hundreds of teachers in these institutes, and with each summer, we have gleaned new insights into the importance of the arts in learning, teacher education, and in our everyday lives. Within our findings, we presented analyses of how teachers experienced the institute. We saw that they developed different stances about the arts and technology-turned-art through their knowledge of materials, techniques, and process. Through their engagements, they learned about themselves as makers, but also saw themselves as artists, a move many had not anticipated. With growing familiarity with materials and techniques, teachers intuitively worked on their projects that led to new insights into themselves as artists as well as into the significance of the issue of social importance they wished to represent. Their sustained work and learning with and through the arts resulted in shifts in design from initial ideas to more complex statements in the re-design (Janks, 2012). During the institute, teachers moved into a way of thinking that was unstable and uncomfortable, a place of uncertainty and fear, and yet was a "calming" place where they could "get lost in the making." This study precipitated several interesting insights that we now present here to discuss the significance of this work.

Intersection of Art, Technology, and Design/Re-design

This study provided insight into the intersection of art, design/re-design, and technology (Figure 9). We argue that for teachers to adopt

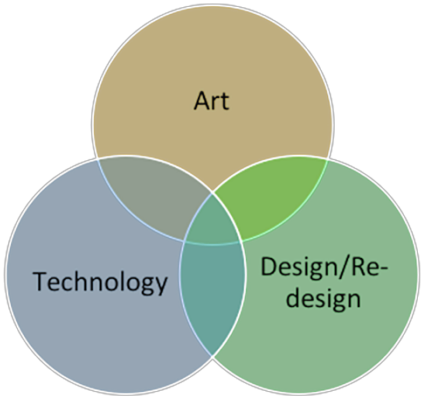


Figure 9 Intersection of art, design/re-design, and technology

different practices that substantively draw upon the arts, art has to feel good to them. They must have a positive experience with the materials in order to explore the potential—the affordances—of the materials. Teachers liked working with the materials and the medium. When teachers initially acknowledged that art was an elusive system of communication meant that art was working, and that this would engage them in more complex and abductive thinking. We also recognized that inquiry brought these areas together. With every art piece, teachers engaged in inquiry in which a dozen questions arose, with some of these questions not answerable at a particular moment of making. Yet we suggest that it is this quest for answers or solutions that led teachers to try different approaches, adjust their processes, and work with different materials. Especially in the discarded technology workshop, teachers were positioned to think deeply about technology, the purpose of the device itself, how it is/was used. In the re-design, they studied the power-effects that the device had. One teacher felt "sad" when she took apart the tape player she had brought. This tie to technology, a pervasive message across the discarded technology projects, highlights the significant hold that technology has on our everyday lives. The teachers' project simply entitled "Technology Puppet" states this clearly and simply (Figure 10). The deconstruction of the device with the intention to re-design as a satire on fake news encouraged the teacher/maker to present the project both as a statement on fake news, but also as an art work that others would view. In this way, art provided a different context and perspective for which the device was originally designed.

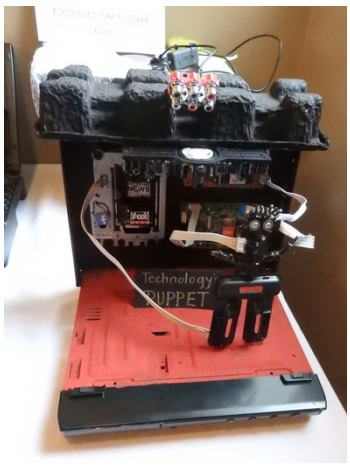


Figure 10. Discarded technology speaks to the pervasive hold technology has on our everyday lives

Design and re-design (Janks, 2012) also have to feel good. Design, according to Janks, is about making the project. Design and re-design are "on-going and iterative" (p. 153). When teachers designed their projects, they necessarily made choices about which materials to use, how to use them, and how they anticipated their projects would look. Re-design is the work of critical literacy or how the text might work in terms of critique. Critique, stated Janks, enables teachers to consciously engage with the tools, the medium, and materials to make their projects, and how these resources could be used to re-design the project. To move into re-design, "One has to have a sense of how the text could be different and this requires something in addition to engagement. One has to be able to read with and against the content, form and interests of the text in order to be able to redesign it" (Janks, 2012, p. 152). As teachers worked through "and then do something else to that something," their original ideas often shifted to consider the social issue; they moved into critique. Their choices of materials (e.g., hair dryer, papier-mâché sphere, car charger, photo of Donald Trump with pursed lips, etc.) (Figure 2) and where they were placed were deliberate in order to re-design to speak with and against what they wanted to say about the issue of social importance and how it would look in its final form. With critique, teachers were able to disrupt dominant discourses and re-design them through art.

Living an Arts-intensive Critical Literacy Curriculum

With the institute grounded in critical literacy, teachers learned and participated in the arts which engaged them in understanding the range of linguistic, cultural, communicative and technological perspectives and tools that were essential when making new projects. This insight then enabled them to move into curricular ideas and how to support children to engage democratically in their learning. Further, the institute supported the significance of the arts to mean; teachers used drawing, painting, sculpting, assembling, cutting, and pasting to speak with

and against issues of social importance. By framing language in this way, teachers experienced language (visual, linguistic, digital) as discourse fused with their ideologies. They were able to use art to speak with and against ideologies that are used to position particular interests, often with the intention to sway, like the term "fake news."

Throughout this institute, teachers engaged in discussions around social issues that mattered to them. By using Jasper Johns' (Hollevoet, 2002) framework to organize the workshops, we suggest that teachers were encouraged to dig more deeply into why art matters in critical literacy curriculum. Each set of workshops enabled them to have time to think between workshops about what they were making, and what they hoped to say in their final project. In the discarded technology workshop, for example, Sarah was excited to go home that evening as she "knew exactly the materials I need to do this project." The workshops carried into their everyday lives as they thought about objects to bring from home, staying late to work on projects, and to continue to study their projects with the eye of both an artist and a critical literacy teacher. In the end, their projects resulted in teachers' feeling that something of critical significance had been accomplished. Sarita identified the significance in "finding shapes and projecting a social justice issue." The workshops also provided tangible, hands-on, and pragmatic experiences that they could extrapolate into their own contexts. Caroline thought that she could provide a "bridge between language and culture…art helps ELLs to have a voice." Jai found that the discarded technology workshop would help her kindergarten students to understand "loose parts'" and to "try some sort of satire piece later in the year." As an administrator, Jane saw making as a way to shift the mindsets of the teachers where she worked through facilitating a workshop for them.

Exploring making has enabled us to see how different materials might be used to support teachers to take on a critical stance, how they might reposition themselves differently in their

classrooms, and how they may imagine a curriculum in which making is a significant and critical part. The project, however, as Ingold (2014) reminded us, is not the end goal. The end goal is to see the value of what is learned at different points in the process of making. This sustained participation in making, perhaps, is the portal which they need to go through to deeply understand the relationship among maker, materials and process. Candy, one of the teachers, summarized the importance of this participation:

> Engaging with literacy in alternative/nontraditional ways has been exciting. As learners who are makers, we are creating, discovering, and exploring new mediums. We are able to express ideas and messages that may not have been expressed if we are using traditional paper and pencil methods….Everyone has an entry point. Everyone has a story to tell.

These stories locate the personal connection that teachers must make when engaging in experiences associated with the arts. As they worked with the arts, technology, and design/re-design, teachers lived a critical literacy curriculum first-hand which enabled them to consider ways of taking up critical literacies in their own lives and the lives of their students (Vasquez, Tate, & Harste, 2013).

Implications for Pedagogy and Research

This study yielded insights into future directions for pedagogy and research. The institute was designed to experience lived practices around working with materials associated with art, design/re-design, and technology from a critical literacy perspective. First, we suggest that teachers design making spaces in their classes that include opportunities for students to inquire into issues of social importance through re-design. Re-design positions students to read the world and read against the world (Janks, 2012). Second, we suggest that this institute provided more

opportunities than usual for teachers to work in and through the arts; not many teachers have that kind of space to engage in intuitive and abductive thinking in which they can imagine themselves differently as teachers. We suggest that teacher education programs and professional development, grounded in critical literacy, engage teachers in learning about and through the materials, techniques and processes in order to provide these same experiences for their students. It was their direct involvement in making that generated insight that then prompted teachers to consider curricular ideas and how to support children to engage democratically in their learning. Third, the introduction of multiple perspectives in teacher education would benefit future and inservice teachers. The institute supported the perspective that language is not about learning letters, words, sentences, or texts; teachers used drawing, painting, sculpting, assembling, cutting, pasting, to speak with and against issues of social importance. By framing language in this way, teachers experienced language (visual, linguistic, digital) as discourse fused with their ideologies. Fourth, in terms of teaching, we must get better at understanding that the arts foster imagination, intuition, and creativity.

In 2012, neaToday reported that nearly 4,000,000 elementary children do not get any visual arts instruction at school (Walker, 2012), and it is more affluent schools that have art as a regular part of the curriculum while those less affluent do not (Morel, 2017). Art should not be a privilege experienced only by children in affluent schools, but a necessity in all schools. We suggest that administrators support a strong arts program, provide professional development for all teachers to learn to work with the arts, and to provide a range of materials. In so doing, the arts could become a defining characteristic of the school, and the school could have a shared vision for how the arts will serve children in their future. Education that frames the arts as central

to engendering imagination, creativity, and intuition is central to an inquiry-based critical literacy curriculum that values active, multiple, and socially involved learning.

In terms of research, we have argued for a number of years, that the role of the arts in school have remained largely unexamined because many continue to believe, like some of the teachers in this study, that literacy research is about written and oral language. Art has yet to be considered a language system that must be studied seriously in literacy and language arts classes (and other content classes). We continue to advocate for research that systematically studies re-design and the intentionality in learners' making. As teachers engage in the arts as part of their professional learning, research that investigated the extent to which the arts have been implemented and/or if there is impact on children's learning would advance knowledge in a range of fields. Research that investigates more systematically intra-action in making between and among materials for making, the maker, and process would enable researchers to more clearly identify aspects of making that inspires abductive thinking. While research has documented that the arts engender imagination, the arts also engender empathy, or the ability to sense the feelings of others. This study provided space in which teachers' inquiry into social issues showed a sense of empathy toward groups who are marginalized (e.g., First Nation, English learners). Research that studies the relationship among empathy, the arts, and critical literacy is important if we are to envision the possibilities that imagination, intuition, creativity, and empathy can manifest.

Conclusion

In August of 2018, Aretha Franklin, a legendary soul and gospel singer, died. Among the many clips remembering her legacy was one in which she sang "Natural Woman" at the Kennedy Center for the Arts in Washington, DC, USA as a tribute to Carole King, one of the

award recipients. A cutaway showed the former US president Barak Obama wiping away tears at the power of the singer, the song, and the context. Clearly, President Obama, through Aretha's voice, felt this power in that moment that brought him to tears. While less known, Ms. Franklin, the Queen of Soul, and her music inspired her into social activism. Songs like "Respect," "Natural Woman," and "Think" were calls to action, bringing attention to the problematic treatment of women by men. President Obama stated,

> Aretha helped define the American experience. In her voice, we could feel our history, all of it and in every shade -- our power and our pain, our darkness and our light, our quest for redemption and our hard-won respect. May the Queen of Soul rest in eternal peace. (France, 2018).

Other voices around the world do social justice work through their art. We highlight three here. In Australia, Ross and Borschmann (2018) wrote about Archie Roach who became the voice of the stolen generation beginning with his ballad "Took the Children Away". Flynn (2014) wrote that Roach's song, "gave voice to the collective Australian conscience regarding the government's prior policy of forcibly removing Indigenous children from their families" (par. 4). AJ, a French artist, inspired a whole world to contribute to his photographic art project Inside Out. Over 320,000 people from more than 139 countries participated in this project creating enormous photos that spoke to issues of discrimination, misogyny, xenophobia, among other topics (https://www.jr-art.net/jr).

Jerry Harste has argued across his scholarship that curriculum is a metaphor for the lives we want to live and the people we want to be (Albers, Harste & Vasquez, 2017). For Aretha and Archie, they participated in a set of experiences that enabled them to be the singers they wished

to be. JR has inspired a whole world to represent the kind of world in which they wish to live. We can only hope that more children have similar paths that these artists experienced.

In educational spaces where imagination thrives, teachers and children both have hope to move beyond their present circumstances. This study provides evidence that in such spaces as the institute, the arts move people to empathy and into social action. Like professional artists such as those described above, teachers in this study envisioned how they could make change in their own classes and inspire children into social action. Jai, Caroline and Jane, through their work with children and teachers, respectively, on carbon foot prints and trash, participation in learning through art when English is not an option, or to imagine the possibilities when teachers move solely from a verbocentric stance to consider how the arts communicate perspectives in a way other communication systems may not.

Making inspires abductive thinking, re-design, and empathy, and opens up spaces for teachers to imagine literacy curriculum that speaks with and against social issues. Making in this institute was as much about working with making materials as it was about building confidence as makers to confront issues that marginalize some and privilege others. Making is also about becoming democratic citizens who can speak with and against social issues that continue to drive wedges between those who have access at the highest levels and, through this, participate in making decisions that often are outside the control of those of us who do not get to participate. When teachers can live a critical curriculum in which multiple and sustained opportunities are presented, they understand the complexity and value that multiple communications afford.

References

Albers, P. (2007). Visual discourse analysis: An introduction to the analysis of school-generated visual texts. In D. W. Rowe, R. T. Jimenez, D. L. Compton, D. K. Dickinson, Y. Kim, K. M. Leander, & V. J. Risko (Eds.), 56th Yearbook of the National Reading Conference (pp. 81-95). Oak Creek, WI: NRC.

Albers, P., Frederick, T., & Cowan, K. (2009). Features of gender: A study of the visual texts of third grade students. Journal of Early Childhood Literacy, 9(2), 243-269.

Albers, P., Harste, J.C., & Vasquez, V. (2011). Making trouble and interrupting certainty: Teachers' critical and visual responses to children's literature. In P. J. Dunston, L.B. Gambrell, S.K. Fullerton, V. R. Gillis, K. Headley, & P. M. Stecker, (Eds.), 60th Yearbook of the Literacy Research Association (pp. 68-83). Oak Creek, WI: LRA.

Albers, P., Vasquez, V., & Harste, J.C. (2011). Making visual analysis critical. In D. Lapp & D. Fisher (2011). The handbook of research on teaching the English language arts (3rd Ed.) (pp. 195-201). New York, NY: Routledge.

Albers, P., Vasquez, V.M., & Harste, J.C. (2017). Critically reading image in digital times. In K. Mills, J. Pandya, A. Stornaiuolo, & A. Smith (Eds.), Handbook of writing, literacies and education in digital culture pp. 223-234. New York, NY: Routledge.

Albers, P., Vasquez, V.M. & Harste, J.C. In N. Kucirkova, J. Rowsell & G. Falloon J.R., The Routledge international handbook of playing and learning with technology in Early Childhood. New York, NY: Routledge.

Barad, K. (2007). Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning. Durham, NC: Duke University.

Barad, K. (2011). "Nature's queer performativity," Qui Parle: Critical Humanities and Social

Sciences. 19(2), 121-158.

Barad, K. (2012). Intra-actions. Mousse, (34), pp.76–81. Retrieved from https://ucsc.academia.edu/KarenBarad

Bayles, D. & Orland, T. (1993). Art and fear: Observations on the perils (and rewards) of artmaking. St. Paul, MN: The Image Continuum Press.

Bryan, A. (2014). Puppets. New York, NY: Atheneum Books for Young Readers. Cambridge Analytica. Retrieved from https://cambridgeanalytica.org/

Carpentier, N. (2011). The concept of participation. If they have access and interact, do they really participate? Communication Management Quarterly, 21, 13-36.

Carpentier, N. & Dahlgren, P. (2011). Introduction: Interrogating audiences—theoretical horizons of participation. Communication Management Quarterly, 4(21), 7-12.

Flynn, E. (2014). Archie Roach, still a powerful voice for Indigenous justice. Australian Culture Blog. Retrieved from https://www.theguardian.com/culture/australia-culture-blog/2014/jan/23/archie-roach-still-a-powerful-voice-for-indigenous-justice

France, L.R. (2018). Aretha Franklin, the Queen of Soul, has died. Retrieved from https://www.cnn.com/2018/08/16/entertainment/aretha-franklin-dead/index.html

Greene, M. (1995). Releasing the imagination: Essays on education, the arts, and social change. San Francisco, CA: Jossey-Bass.

Greene, M. (2001). Variations on a blue guitar: The Lincoln Center Institute lectures on aesthetic education. New York, NY: Teachers College Press.

Harste, J.C. (2003). What do we mean by literacy now? Voices from the Middle, 10(3), 8-12.

Harste, J. C. (2014). Transmediation: What art affords our understanding of literacy. Retrieved from http:// jeromeharste.com/recent-publications

Harste, J.C. & Vasquez, V.M. (2017). What do we mean by literacy now? Critical curricular implications. In Albers, P. (Ed.) (2017). Global conversations in literacy research (pp. 14-28). New York, NY: Routledge.

Hollevoet, (2002). Jasper Johns: Writings, sketchbook notes, interviews. New York, NY: Museum of Modern Art.

Ingold, T. (2014). Making: Anthropology, archaeology, art and architecture. New York, NY: Routledge.

Janks, H. (2012). The importance of critical literacy. English Teaching: Practice and Critique, 11(1), 150-163.

Janks, H. (2014a). Critical literacy's ongoing importance for education. Journal of Adolescent & Adult Literacy, 57(5), 349–356.

Janks, H. (2014b). Doing critical literacy: Texts and activities for teachers and students. New York, NY: Routledge.

JR. (n.d.). JR. Retrieved from https://www.jr-art.net/jr

Kemp, S. (2018). Digital in 2018: World's internet users pass the 4 billion mark. Retrieved from https://wearesocial.com/blog/2018/01/global-digital-report-2018

Kerr, R. (2014). On growin' up…a guide. Toronto, CA: Cormorant Books.

Martin, L. (2015). The promise of the maker movement for education. Journal of Pre-College Engineering Education Research, 5(1), 30–39.

Morel, D. (2017). Takeover. Oxford, UK: Oxford University Press.

Peppler, & Wohlwend, K. (2018). Theorizing the nexus of STEAM practice. Arts Education Policy Review, 119(2), 88-99.

Pew Internet Project (2016). Lifelong learning and technology. Retrieved from http://www.pewinternet.org/2016/03/22/lifelong-learning-and-technology/

Ross, M. & Borschmann, G. (2018). From stolen child to Indigenous leader: Archie Roach sings the songs that signpost his life. ABC News. Retrieved from http://www.abc.net.au/news/2018-07-12/archie-roach-a-life-in-song/9957168

St. Pierre, E.A. (1997). Methodology in the fold and the irruption of transgressive data. International Journal of Qualitative Studies in Education, 10(2), 175-189.

Vasquez, V.M. (2004). Negotiating critical literacies with young children. Mahwah, NJ: Routledge.

Vasquez, V., Albers, P., & Harste, J.C. (2013). Digital media, critical literacy, and the everyday. In R. Meyer, R. & K. Whitmore (Eds.) (2013). Reclaiming writing in the post NCLB world (pp. 214-223). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Vasquez, V.M. & Felderman, C. (2015). Technology and critical literacy in early childhood. New York, NY: Routledge.

Vasquez, V.M., Tate, S.L., & Harste, J.C. (2013). Negotiating critical literacies with teachers: Theoretical foundations and pedagogical resources for pre-service and in-service contexts. New York, NY: Routledge.

Walker, T. (2012, April 12). The good and bad news about arts education in U.S. schools. Retrieved from http://neatoday.org/2012/04/05/the-good-and-bad-news-about-arts-education-in-u-s-schools-2/

Journal of Literacy and Technology Special Edition
Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Film, Dreams, and MMORPGs: Cultural Leakage and Digital Gaming Literacy in Inception

Taylor Katz
University of Wisconsin-Milwaukee
thkatz@uwm.edu

J. D. Wallace
Abilene Christian University
jd.wallace@acu.edu

Abstract

The confluence of art, technology, and texts is unavoidable and yet remains under-addressed in scholarship. Technological artifacts, while prevalent in digital gaming, are seldom examined in terms of their contribution to other artistic artifacts. Specifically, MMORPGs (massively multiplayer online role-playing games) as texts are rarely considered in terms of their relevance to digital and artistic literacy. Residing within are rich cultural discourses that address the entertainment of escapism and their affiliated connection to addiction, loss of identity, and violence resulting from prolonged immersion. Not surprisingly these tensions are reflected in other texts such as film. In the current examination, a rhetorical analysis uses a close reading of *Inception* to examine cultural leakages of digital gaming issues entering into and shaping film discourse. Implications and societal impact of issues such as dream worlds, fantasy attractions, and counter strategies are discussed both as recommendation and social commentary.

Keywords: *Inception*, MMORPGs, Digital Gaming Literacy, Cultural Rhetorical Analysis, Film Literacy, Artistic Experiences

.

> Not all of our engagements with art are concerned with following the prescriptions issued by the work at every step; not all of our engagements with art have the aim of interpreting the work. Art is, among other things, an invitation to have personal extemporaneous and reflective experiences, and this makes possible revealing reflections on ourselves as experiencing subjects as well.[1]

In the above article, Nicholas Diehl speaks to the engagement of text, art, philosophy, and film in general, with a particular eye toward Christopher Nolan's movie *Inception*. The 2010 film *Inception* vividly portrays dream imagery as writer, director, and producer Christopher Nolan constructs a labyrinth of cityscapes, high-rise hotels, snow-bound fortresses, and endless beaches as representations of the unconscious mind. Nolan's characters are vastly empowered in these environments, changing the architecture at will, taking on finely-crafted identities, and immersing themselves in layer upon layer of time-stretching dream depth. In similar fashion, modern players of online games known as MMORPGs (massively multiplayer online role-playing games) enter virtual dream worlds of their own. While not necessarily created by users themselves, such games allow users to shape digital "worlds," giving them a sense of empowerment as they craft online personas, form relationships with other players, and battle through these often conflict-based game scenarios.

Certainly both of these textual artifacts would qualify as producing dream image "reflective experiences" by their respective audiences. Both experiences produce meanings extemporaneously as they are experienced, and yet as Diehl explains, important meanings and even "the central philosophical point" of a text "may only be available in the reflective

[1]. Nicholas Diehl, "Socratic Film." *Journal of Aesthetics & Art Criticism* 74, no. 1 (2016): 23-34.

experience."[2] Despite this, scholars produce little rhetorical guidance either to their commonalities or to their consumption. The purpose of this article is to explore such rhetorical guidance with a close reading of *Inception*. The resulting analysis brings to light linkages between film, video games, and their treatment of immersive realities.

Tan contends that *Inception* "participates in a cultural discourse which represents the human mind as a physical space which is conceptualized through technological metaphors."[3] These factors may all reflect a nexus of leakage among common cultural texts.[4,5] Therefore, this paper will examine *Inception* using a cultural rhetorical approach to explore these commonalities. Similar to Bouchard and others, the cultural rhetorical approach seeks to address texts as "large scale cultural ways of thought.[6]" Likewise the term rhetoric will be used because it is less "cumbersome in prose."[7] Similarly, the terms video games and digital games will be used interchangeably.

When one considers the artistic literacy of digital games it becomes readily apparent that there are few studies that extend the interplay between digital game narratives and other art forms. This interplay would seem to be intuitive, reflexive, and contributory to a deeper

---

[2]. Diehl, "Socratic Film," 31.

[3]. Elizabeth Tan, "The Only Way You Can Dream: Interfaces and Intolerable Spaces in Christopher Nolan's Inception." *Continuum: Journal of Media & Cultural Studies* 30, no. 4, (2016): 409, doi:10.1080/10304312.2016.1141869.

[4]. Arianna Maiorani, "Reading Movies as Interactive Messages: A Proposal for a New Method of Analysis." *Semiotica*, no. 187 (2011): 167-88, doi:10.1515/semi.2011.069.

[5]. Arianna Maiorani, "'Reloading' Movies into Commercial Reality: A Multimodal Analysis of the Matrix Trilogy's Promotional Posters." *Semiotica: Journal of the International Association for Semiotic Studies/Revue De L'Association Internationale De Sémiotique* 166, no. 1-4 (2007): 45-67

[6]. Matt Bouchard, "Playing With Progression, Immersion, and Sociality: Developing a Framework for Studying Meaning in APPMMAGs, A Case Study." *Journal of Comparative Research in Anthropology & Sociology* 6, no. 1 (2015): 9.

[7]. Bouchard, "Playing With Progression," 9.

understanding of cultural texts imbedded within a variety of artistic forms. Such an examination can be seen in other textual narratives analyses regarding science,[8] politics,[9] and film.[10] Indeed, such interplay is often suggested in digital game rhetorical models with terms such as signification,[11] functional interactions,[12] or a type of subjectivity.[13] One can speculate for reasons why digital games remain underrepresented in such analyses. These might include negative ethos associated with games as art, lack of methodological sophistication, or just a paucity of scholars who have expertise in both digital gaming and other artistic narratives.

There are a variety of ways in which an analysis could be undertaken that would address this gap. Most of the previously cited cultural rhetorical analyses engage in three fundamental practices. First, they provide context and standing of the cultural artifact as experienced. This often includes descriptions of the artifact, the perceived intentions of the rhetor, as well as the size and scope of the audience. Second, the narrative is positioned in relation to how it influences and is influenced by cultural determinants. For our purposes, this would include other artistic

---

[8]. Isidore Kafui Dorpenvo, "Mapping a Space for a Rhetorical-Cultural Analysis: A Case of a Scientific Proposal." *Journal of Technical Writing & Communication* 45, no. 3 (2015): 226-242, doi:10.1177/0047281615578845.

[9]. Xu Shi, "China's National Defence in Global Security Discourse: A Cultural–Rhetorical Approach to Military Scholarship." *Third World Quarterly* 36, no. 11 (2015):2044-2058, doi:10.1080/01436597.2015.1082423.

[10]. Kim Hensley Owens, "Reviews and Reactions: A Rhetorical-Cultural Analysis of The Business of Being Born." *Rhetoric Review* 30, no. 3 (2011): 293-311, doi:10.1080/07350198.2011.581947.

[11]. Óliver Pérez-Latorre, Oliva Mercè , and Reinald Besalú, "Videogame Analysis: A Social-Semiotic Approach." *Social Semiotics* 27, no. 5 (2017): 591, doi:10.1080/10350330.2016.11911.

[12]. Malte Elson, Johannes Breuer, James D. Ivory, and Thorsten Quandt, "More Than Stories With Buttons: Narrative, Mechanics, and Context as Determinants of Player Experience in Digital Games." *Journal of Communication* 64, no. 3 (2014): 537, doi:10.1111/jcom.12096.

[13]. Sky LaRell Anderson, "The Corporeal Turn: At the Intersection of Rhetoric, Bodies, and Video Games." *Review of Communication* 17, no. 1 (2017): 20, doi:10.1080/15358593.2016.1260762.

expressions. Some form of narrative analysis would be performed to explore key features and how their expression is amplified. This amplification takes place through the reflexive literacy generated by the consideration of the narrative alongside other cultural artifacts. Lastly, the implications of the intersection of the cultural influences and the artistic text under review are discussed in light of their placement within a broader cultural context.

To accomplish this, close reading will be used to uncover the ways in which this film serves as an illustration of experiences encountered by those who may lose themselves in the "dream worlds" of MMORPGs. To provide context and standing, a brief synopsis of *Inception's* plot will be followed by a description of the rhetorical situation and literature related to MMORPGs. Afterward, a close reading analysis will be extended to the film's linkages that reflect the interplay between the artistic and technological texts of film and MMORPGs. Lastly, the implications are considered in how the texts inform each other and the broader cultural context.

Inception as Narrative

Inception is centered around the character of Dominick Cobb, an "extractor" who uses lucid dreaming techniques to enter the elaborate dream world of a sleeping target's mind as an advanced form of corporate espionage.[14] Cobb is extremely skilled in his craft, but his effectiveness is hindered by his mental image of his deceased wife Mal, a shadowy personification who emerges unbidden from Cobb's mind and interferes during his extraction work. While she was yet alive, Mal and Cobb used the same lucid dreaming techniques to enter

[14]. Christopher Nolan , Leonardo DiCaprio, Ken Watanabe, and Joseph Gordon-Levitt. Inception. [DVD]. Burbank, CA : Warner Bros. Entertainment, Inc., 2010.
Note – all film quotes and events described in this paper unless otherwise noted are drawn from this source.

limbo together. In this deep, nearly timeless layer of the dream world, Cobb and Mal shared a lifetime of experiences in a world of their joint construction. After many perceived years, however, Cobb decided that it was time to re-enter the real world and start a family with Mal. Mal wished to remain in the dream state, so Cobb performed the near-impossible task of "inception," successfully implanting an idea in his wife's mind without her knowledge. The idea was simple: "the world you live in is not real." This initially worked and the couple returned to waking reality mere hours after originally falling asleep. They started a family, but the idea implanted in Mal's mind persisted, eventually driving her to suicide based on the persistent belief that she needed to "wake up" yet again. Thinking that she needed to convince Cobb to come into the waking world with her, Mal arranged her suicide in a manner that cast suspicion for her death on him. Instead, Cobb was forced to flee the country and leave his children behind.

During his exile, Cobb is approached by Mr. Saito, a Japanese businessman who offers to use his influence to reunite Cobb with his children if Cobb can complete the ultimate dream heist: a flawless inception on a rival businessman. In order to complete this task, Cobb recruits an elite dream infiltration team consisting of himself, Arthur: a loyal "point-man" with elite strategic and tactical skills, Eames: a "forger" who can assume the identities of people familiar to the dreaming target, Ariadne: a gifted "architect" with the ability to construct elaborate mental structures and illusions, Yusuf: a "chemist" who creates the medicinal mixtures necessary to induce the shared dream state, and Saito himself, whose presence in the dream is necessary as a witness due to the otherwise unnoticeable nature of the work. The target is Robert Fischer: recent inheritor of a vast corporation, and the goal is to place in his mind the idea of breaking up his deceased father's business empire. The team ventures through layer after layer of Fischer's mind, successfully performing inception, but only after Cobb fully makes peace with his memory of

Mal. The final moments of the film show Cobb returning home to his children, but audiences are left with a note of uncertainty. Before seeing his children, Cobb begins spinning a top, a "totem" with unique properties used to tell a dreamer whether they are awake or asleep. When Cobb sees his children he ignores the top, which audiences see briefly wobble then regain its stable spin just as the screen goes to black. Audiences are left to determine for themselves whether this final scene takes place in the "real" world, or in yet another lifelike dream. With the story of *Inception* in mind, we will next examine the rhetorical situation surrounding the film.

Rhetorical Situation

Producer and Writer as Rhetor

As a rhetor, Christopher Nolan has a reputation for constructing layered, compelling texts. Nolan is best known for films involving "cerebral, often nonlinear storytelling."[15] He began his career making small independent films, but later became well-known for his successful trilogy of Batman films and other popular films including *The Prestige, Interstellar*, and, most recently, *Dunkirk*.[16] Nolan's films are common subjects for academic interrogation. American culture scholar Patrick Kent Russell examines *The Dark Knight* trilogy, finding that the films' noir themes and aesthetic serve as an examination of social ills including corruption and the failure of government systems to adequately protect their citizens.[17] Film scholar Mark Fisher examines *Inception*, along with several of Nolan's other movies, and notes the common theme of

[15]. "Christopher Nolan," *imdb.com*, accessed November 22, 2017, http://www.imdb.com/name/nm0634240/.

[16]. "Christopher Nolan."

[17]. Patrick Kent Russell, "Christopther Nolan's *The Dark Knight* Trilogy as a Noir View of American Social Tensions," *The* Noir *Vision in American Culture* 33, no. 1 (2016): 179.

self-deception.[18] And as mentioned earlier, Nolan has a reputation for constructing narratives such that the full meaning cannot be immediately understood. Nolan's films, as noted, represent complexity that is appealing to academics, yet they do so while maintaining appeal to a broad audience.

Audience

Inception was well-received by both critics and popular audiences. As of January 6, 2011, the film had grossed more than $290,000,000 in the US and over $820,000,000 worldwide.[19] Rotten Tomatoes, a website that aggregates both critic and audience reviews, lists an average critic rating of 8.1/10, and an audience score of 4.2/5, both demonstrating that the movie is generally very well-received.[20] Well-known film critic Roger Ebert gives the film four stars, and praises it as "wholly original, cut from new cloth, and yet structured with action movie basics so it feels like it makes more sense than (quite possibly) it does."[21] Despite receiving significant acclaim, wide appeal, and clear connections to specific contemporary issues, *Inception* is an ideal example of how artistic texts are devoid of rhetorical guidance. While not unique, it is iconic in its use of digital literacy as context. As such, rhetorical analytical techniques such as close reading are both appropriate and useful in exploring this nexus of social construction.

---

[18]. Mark Fisher, "The Lost Unconscious: Delusions and Dreams in *Inception*," *Film Quarterly* 64, no. 3 (2011): 38-39.

[19]. "Box Office / Business for Inception," *imdb.com,* accessed November 22, 2017, http://www.imdb.com/title/tt1375666/business?ref_=tt_dt_bus.

[20]. "Inception (2010)," *rottentomatoes.com*, accessed November 22, 2017, https://www.rottentomatoes.com/m/inception/.

[21]. Roger Ebert, "Inception," *rogerebert.com*, accessed November 22, 2017, https://www.rogerebert.com/reviews/inception-2010.

Digital Literacy and the MMORPG

Literacy in the digital age extends well beyond the fundamentals of reading comprehension. Lasley argues that semiotics, or the study and interpretation of symbols and signs, is an essential part of the gaming experience.[22] Continuing, Lasley argues that "comprehension of videogame text increases concept understanding through gaming experiences with similar semiotics," pointing to examples of games such as SimCity, which familiarizes players with reading city financial statements, and Skyrim, which encourages the players to engage with "hidden stories" woven into the game world which enhance a player's understanding of the game's central quest.[23] Not only do video games increase literacy with game worlds. Video games may even promote literacy in the area of moral decision-making. Weaver and Lewis examine players' moral decisions in the game Fallout 3 and argue that such games may provide valuable spaces in which players can reflect upon moral behavior.[24] Barnett and Archambault point to economic components of the MMORPGs Diablo II and World of Warcraft and contend that playing these games can facilitate students' understanding of economic concepts.[25] Sourmelis, Iounnau, and Zaphiris review literature related to MMORPGs and suggest that such games "are spaces in which a variety of 21st Century Skills can be

[22]. Elizabeth A. Lasley, "Twenty-first Century Literacy, Game-based Learning, Project-based Learning," *Journal of Literacy and Technology* 18, no. 3 (2017): 42.

[23]. Lasley, "Twenty-first Century Literacy," 42.

[24]. Andrew J. Weaver and Nicky Lewis, "Mirrored Morality: An Exploration of Moral Choice in Video Games," *Cyberpsychology, Behavior, and Social Networking* 15, no. 11 (2012): 613, doi: 10.1089/cyber.2012.0235.

[25]. Joshua H. Barnett and Leanna Archambault, "The Gaming Effect: How Massively Multiplayer Online Games Incorporate Principles of Economics," *TechTrends* 54, no. 6 (2010): 34.

fostered."[26] With the MMO gaming market predicted to expand from $26.9 billion in 2016 to an estimated $44.6 billion by 2022, these games clearly possess an ever-expanding cultural footprint.[27,28] To provide a sense of scale, the 2016 revenues are roughly equivalent to United States Football, Baseball, and Basketball revenues combined.[29] The ever-increasing appeal of MMORPGs inform and are informed by the culture around them. As such, the confluence with other cultural artifacts, such as film, is particularly relevant.

Video games often serve as an intersection of the culture and other forms of visual art. For example, Nick Paumgarten of The New Yorker points to the craze surrounding Fortnite, a third-person battle-royale style online multiplayer game. Paumgarten identifies similarities to stage acting in the way players behave in the game's warm-up area, points to elements of cable television and big-screen cinema in the way the game integrated a "season" of content based on the Marvel franchise, and draws parallels between spectatorship of game sessions on the online streaming platform Twitch and spectatorship of arena sports.[30] Jeroen Bougonjon, Geert Vandermeersche, and Kris Rutten note that three of the same basic motivations which compel

---

[26]. Theodoros Sourmelis, Andri Ioannou, and Panayiotis Zaphiris, "Massively Multiplayer Online Role Playing Games (MMORPGs) and the 21st Century Skills: A Comprehensive Research Review from 2010 to 2016," *Computers in Human Behavior* 67 (2017): 45, doi: 10.1016/j.chb.2016.10.020.

[27]. Business Wire. "Global Massively Multiplayer Online (MMO) Gaming Market - Forecast to Reach $44.6 Billion by 2022 - Research and Markets," *Business Wire (English)* (November 15, 2011), https://www.businesswire.com/news/home/20171115005641/en/Global-Massively-Multiplayer-Online-MMO-Gaming-Market.

[28]. Games, Newzoo. "Global Games Market Report: An Overview of Trends and Insights." (2016), https://cdn2.hubspot.net/hubfs/700740/Reports/Newzoo_Free_2016_Global_Games_Market_Report.pdf

[29]. Kutz, Steven. "NFL took in $13 billion in revenue last season–see how it stacks up against other pro sports leagues." *MarketWatch* (July 2, 2016), https://www.marketwatch.com/story/the-nfl-made-13-billion-last-season-see-how-it-stacks-up-against-other-leagues-2016-07-01

[30]. Nick Paumgarten, "How Fortnite Captured Teens' Hearts and Minds," May 21, 2018, *newyorker.com*, https://www.newyorker.com/magazine/2018/05/21/how-fortnite-captured-teens-hearts-and-minds.

artists to create in other art forms also shape videogame development.[31] The first motive of mimicking reality is evident in the constant technological innovation game developers pursue to create increasingly photorealistic images, a trend artistically counter-balanced by developers of games such as Fez who have embraced limited realism in order to produce unique aesthetic experiences. Likewise, the second motive, the expression of beliefs and emotions, is evident in games such as This War of Mine and Papers, Please, which construct narratives to evoke complex feelings and force players into moral decision-making. Thirdly, the motivation to transform the arts is evident in games such as The Graveyard, which developers have described as "an interactive painting rather than a game" because of their decision to avoid traditional game mechanics such as shooting, racing, or building.[32] These examples point to the visual, emotional, and transformational elements present in video games which clearly intersect with visual art forms such as films and paintings. Given the increasing number of overlapping narratives between artistic forms, such as video games and films, mutual constructions are becoming more evident. The creators of these texts have access to intersecting rhetorical strategies. Given these intersections, it is no surprise to see cultural leakage between games and films.

Context as Pretext to Identity

Inception rhetorically enters into a cultural context informed by characteristics often attributed to digital media in general and gaming specifically. In fact, a degree of digital literacy was required for audience members who wished to engage with the earliest stages of the film's

[31]. Jeroen Bourgonjon, Geert Vandermeersche, and Kris Rutten, "Perspectives on Video Games as Art," *CLCWeb: Comparative Literature and Culture* 19, no. 4 (2017): 2-10, doi:10.7771/1484-4374.3024.

[32]. Ibid., 6.

marketing. *Inception* was first marketed virally with vague posters about "mind crime" that featured QR codes offering participants access to a website that outlined the film's central concepts in the style of a conspiracy theory.[33] Escape to online environments to construct inferred and created narratives is a natural entry point for many game genres and augments the game both in representation and affiliation.[34] Researching the effects of playing video games, Granic and colleagues detail a number of psychological benefits that are readily apparent in a large number of participants. These include cognitive, social, and emotional factors.[35] Furthermore, the same article details opportunities for implementation of video games as unique catalysts mitigating some of the limitations of cognitive behavioral therapy.[36] But while a degree of benefit and utility is evident, a growing body of evidence suggests that some online interactions may be harmful as users may face the possibility of addiction. This is especially important as identities are co-constructed between individuals and the environments in which they spend time residing.

Education and psychology scholars Mustafa Savci and Ferda Aysan argue that internet addictions to online media such as digital games, social media, and smart phones are important predictors of social connectedness, and suggest that adolescents should be encouraged to spend

[33]. Mark Eisenberg, "'Inception' Viral Campaign Posters Get Real," June 6, 2010, *screenrant.com*, https://screenrant.com/inception-viral-campaign-posters/.

[34]. Malte Elson, Johannes Breuer, James D. Ivory, and Thorsten Quandt, "More Than Stories with Buttons: Narrative, Mechanics, and Context as Determinants of Player Experience in Digital Games," *Journal of Communication* 64, no. 3 (2014): 521-542.

[35]. Isabela Granic, Adam Lobel, and Rutger C. M. E. Engels. "The Benefits of Playing Video Games," *American Psychologist* 69, no. 1 (January 2014): 66-78.

[36]. Granic, Lobel, and Engels, "The Benefits of Playing," 66-78.

time interacting with their peers in a "real social environment" rather than online.[37] Otherwise, adolescents face challenges both developing new relationships and maintaining existing ones.[38] There are multiple forms and various degrees of dysfunctional media immersion, but because of their similarity to the dream worlds of *Inception*, the genre of online games known as MMORPGs is particularly relevant.

So while MMORPGs have a variety of traits that appeal to gamers, these same traits contribute to the addictive nature of the genre and consequentially their impact on identity formation. Much of this appeal is the ability for players to create their own online personas and relationships. According to psychologists Zaheer Hussain, Mark D. Griffiths, and Thom Baguley, MMORPGs allow players the ability to customize their character's appearance and race (often including fantasy races such as elves, trolls, etc. in addition to human racial traits) as well as the ability to develop friendships by socializing with other players.[39] MMORPGs also provide players with a sense of escape. Psychologists David Hagström and Viktor Kaldo point out that MMORPGs allow players to escape from negative elements of their daily lives.[40] Vasilis and colleagues cite C.B. Freeman who describes MMORPGs as games that allow large groups of players to simultaneously interact with an evolving online world while developing their own

---

[37]. Mustafa Savci and Ferda Aysan, "Technology Addictions and Social Connectedness: Predictor Effect of Internet Addiction, Social Media Addiction, Digital Game Addiction and Smart Phone Addiction on Social Connectedness," *Dusunen Adam: The Journal of Psychology and Neurological Sciences* 30, (2012): 212, doi:10.5350/DAJPN2017300304.

[38]. Savci and Aysan, "Technology Addictions," 212.

[39]. Hussain Zaheer, Mark D. Griffiths, and Thom Baguley, "Online Gaming Addiction: Classification, Prediction and Associated Risk Factors," *Addiction Theory & Research* 20, no. 5 (2012): 359, doi:10.3109/16066359.2011.640442.

[40]. David Hagström and Viktor Kaldo, "Escapism Among Players of MMORPGs-Conceptual Clarification, Its Relation to Mental Health Factors, and Development of a New Measure," *CyberPsychology, Behavior & Social Networking* 17, no. 1 (2014): 24, doi:10.1089/cyber.2012.0222.

virtual characters.[41] Unfortunately, these aspects of the games make them so enjoyable to some players that they engage in prolonged and numerous immersions so as to compromise other developmental activities in regard to their identity and place in society[42].

It is not surprising that scholars conclude that playing MMORPGs is a consistent predictor of internet addiction (IA), and also conclude that "more hostile adolescents were found to present higher IA symptom severity."[43] Likewise, psychologists Dario Bachhini, Grazia De Angelis, and Angelo Fanara conclude that MMORPG players are "associated with a troubled path in the process of identity formation," and find that in comparison to non-players, regular MMORPG players consistently exhibit higher levels of "reconsideration of commitment," an identity formation trait associated with "a wide range of maladaptive behaviors such as aggression, depression, and academic failure."[44] As some gamers become more involved with games, their commitment and potential for addiction to an MMORPG may increase. Hussain, Griffiths, and Baguley point out that variables including "employment status, years of gaming, and total time spent playing online" are all cumulative potential risk factors of addiction, and point to in-game reward systems and competitive elements as other potentially addictive

---

[41]. Vasilis Stavropoulos, Daria J. Kuss, Mark D. Griffiths, Peter Wilson, and Frosso Motti-Stefanidi, "MMORPG Gaming and Hostility Predict Internet Addiction Symptoms in Adolescents: An Empirical Multilevel Longitudinal Study," *Addictive Behaviors* 64 (2017): 295-7, doi:10.1016/j.addbeh.2015.09.001.

[42]. Dinh Thai Son, Junko Yasuoka, Krishna C. Poudel, Keiko Otsuka, and Masamine Jimba. "Massively multiplayer online role-playing games (MMORPG): Association between its addiction, self-control and mental disorders among young people in Vietnam." *International Journal Of Social Psychiatry* 59, no. 6 (2013): 570-577. doi:10.1177/0020764012445861.

[43]. Stavropoulos et. al, "MMORGP Gaming and Hostility," 298.

[44]. Dario Bacchini, Grazia De Angelis, and Angelo Fanara, "Identity Formation in Adolescent and Emerging Adult Regular Players of Massively Multiplayer Online Role-Playing Games (MMORPG)," *Computers in Human Behavior* 73 (2017): 197, doi:10.1016/j.chb.2017.03.045.

factors.[45] Hagström and Kaldo define negative escapism as "escape from negative aspects of real life, or avoidance behavior," and argue that this can occur when players use MMORPGs "to avoid negative experiences in everyday life" and is connected to symptoms such as psychological distress and internet addiction.[46] This context is not meant as commentary on the benefits of gaming or lack thereof. Rather it is critical to the examination of cultural texts that are consistent with and by extension serve to inform the narrative offered in *Inception*.

Close Reading as a Rhetorical Tool

Rhetorician Barry Brummett defines close reading as "the mindful, disciplined reading of an object with a view to deeper understanding of its meanings."[47] These meanings can take a variety of forms. Accounting scholars Russell Craig and Joel Amernic perform a close reading of a CEO's letter by making "several examinations of text to identify and interpret the metaphors, ideology, and rhetoric deployed."[48] Likewise, Brummett suggests the examination of "turns" in imagery that cue a reader not to take an image literally, but to see it in terms of something else.[49] Education scholars Diana Sisson and Betsy Sisson elaborate upon the long history of close reading in both literary criticism and theology, and argue that one of the key benefits of the approach is "the power of deconstructing text into its constituent parts as a means to come to a

[45]. Hussain, Griffiths, and Baguley, "Online Gaming Addiction," 367.

[46]. Hagström and Kaldo, "Escapism Among Players," 24.

[47]. Barry Brummett, *Techniques of Close Reading* (Thousand Oaks, CA: Sage Publications Inc., 2010), 3.

[48]. Russel Craig and Joel Amernic, "Exploring the Public Accountability Communications of a CEO Through 'Close Reading' Analysis: A Teaching Primer," *International Journal of Management Education* 8, no. 2 (2009): 76, doi:10.3794/ijme.82.280.

[49]. Brummett, *Techniques of Close Reading*, 75.

deeper understanding and more finely-honed interpretation of the text as a whole."[50] Brummett suggests a parallel approach by encouraging close readers to examine form, arguing that techniques that examine narrative, genre, and persona allow readers to explore the formal elements of a text.[51] The diversity of both methodology and text found in close reading literature argues for the great flexibility of this approach, an approach which encourages rhetoricians to allow the text to shape their methodology. Rhetorician Michael Leff applies a close reading to Abraham Lincoln's second inaugural address, allowing the presence of "past, present, and future tenses" that appear in the introduction and body of the speech to guide a close reading that focuses on temporal relationships in the text.[52] In some cases it may be ideal to focus on narrative elements in a text. Brummett highlights the importance of narrative coherence, a concept which consists of elements such as the "overall theme, effect, tone, or meaning created by a text."[53] These diverse lenses make close reading useful for a broad range of texts and is thus a natural fit for this examination of the cultural intersection of texts. Complex but significant constructions, such as those involved with MMORPGs and dream states, have precedent but few specifics regarding societal impact, particularly in terms of narrative production.

Close reading is considered useful in its ability to examine a variety of societal predilections. Historian Eivind Engebretsen performs a close reading of two public appeals for alms from seventeenth-century Paris and finds that hunger is described in relation to a threat of

---

[50]. Diana Sisson and Betsy Sisson, "The Renaissance of Close Reading: A Review of Historical and Contemporary Perspectives," *The California Reader* 47, no. 4 (2014): 8-9.

[51]. Brummett, *Techniques of Close Reading*, 51.

[52]. Michael Leff, "Dimensions of Temporality in Lincoln's Second Inaugural," in *Readings in Rhetorical Criticism,* Third Edition, ed. Carl R. Burgchardt (State College, PA: Strata Publishing, Inc., 2010), 200.

[53]. Brummett, *Techniques of Close Reading,* 56.

"the loss of humanity," but argues that "this threat changes in nature depending on gender, place, and rank."[54] Brummett provides close readings of a variety of texts but often focuses on advertisement, in particular examining transformations such as turns and metaphors in advertisements for everything from cars to liquor to tiles.[55] For our purposes close reading is also applicable to virtual environments. Sociologist Joseph Clark uses close reading to examine the visual and spatial elements of the "multiuser virtual environment," similar to an MMORPG, known as Second Life. He finds that while the Splash Aquatics area in the game does provide users with the opportunity to interact with realistic depictions of nature, it also encourages "commodification and anthropocentrism" regarding nature rather than an ecocentrism.[56]

So, while useful for examining many artifacts, close reading is particularly useful for examining film. Film scholar Robert William Miklitsch applies close reading to *I Was a Communist for the F.B.I...* He notes that visual elements that allude to Abraham Lincoln attempt to convey to African American audiences the idea that the Communist Party was exploiting African Americans by stirring up unrest among them. Ultimately suggesting this as a means of facilitating communism's rise in America.[57] Film scholar Mia Mask argues for a closer reading of the movie *Precious: Based on the Novel "Push"* by Sapphire, pointing out that while critics assail the film because it attaches numerous social ills to African American characters, a closer

---

[54]. Eivind Engebretsen, "The Catholic Counter-Reformation and the Idea of Hunger: A Close Reading of Two Appeals for Alms from the Paris Area in the Year 1662," *Social History* 38, no. 4 (2013): 495, doi:10.1080/03071022.2013.846993.

[55]. Brummett, *Techniques of Close Reading*, 74-82.

[56]. Joseph Clark, "The Environmental Semiotics of Virtual Worlds: Reading the 'Splash Aquatics' Store in Second Life," *Graduate Journal of Social Science* 8, no. 3 (2011): 48-61.

[57]. Robert William Miklitsch, "Fear of a Red Planet: I Was a Communist for the F.B.I . and 'Black Film,'" *Journal of Popular Film & Television* 41, no. 1 (2013): 52-53, doi: 10.1080/01956051.2012.694380.

reading of the film sees past archetypes and finds a level of cinematic complexity that gives depth to the fictional central character's experience.[58] Film scholar Mary M. Dalton performs a close reading of the film *Bad Teacher*, highlighting the importance of a closer examination of characters who do not live up to the archetypes they seem to represent.[59] When examining such films, rhetoricians using close reading may uncover meanings not necessarily intended by the creator of the work.

Though it is often valuable for rhetoricians to consider authorial intent, close reading is more primarily focused on finding reasonable, plausible, defensible, and, most significantly in this cultural rhetorical examination, socially shared meanings present in a text.[60] While Nolan may have not made statements explicitly linking *Inception* to the topic of internet addiction or MMORPGs, close reading allows for the exploration of meanings in a text. Regardless of the creator's intentions they still need to fit the above criteria. Indeed close reading has been adapted to help explain societal barriers reflected in "grievable" and "ungrievable" lives depicted in both video games and other movies such as *Black Hawk Down*.[61] In an interview with Robert Capps on film website "WIRED," Nolan remarked that he had seen some online discussion of *Inception*, and while audiences were picking up on many of the intentional cues he placed in the film, he also stated that "there are interpretations to be imposed on the film that aren't

[58]. Mia Mask, "The Precarious Politics of *Precious*: A Close Reading of A Cinematic Text," *Black Camera* 4, no. 1 (2012): 113-4.

[59]. Mary M. Dalton, "Bad Teacher is Bad for Teachers," *Journal of Popular Film & Television,* 41, no. 2 (2013): 81-6, doi:10.1080/01956051.2013.787352.

[60]. Brummett, *Techniques of Close Reading*, 7.

[61]. Pötzsch, Holger. "Borders, Barriers and Grievable Lives: The Discursive Production of Self and Other in Film and Other Audio- Visual Media." *NORDICOM Review* 32, no. 2 (2011): 75-94.

necessarily what I had in my head."[62] So while not overtly addressing the addiction aspect of online technologies, it is entirely plausible to draw parallels between the immersive dream worlds Nolan constructs in *Inception* and the way that highly immersed players are mentally involved with MMORPGs.[63]

Analysis

Because the addictive dream worlds in *Inception* greatly resemble many of the traits of MMORPGs, it seems appropriate to examine the film for major themes related to this concept. In fact, this article proposes that to more fully understand the messages in *Inception*, one must examine the film in light of other relevant cultural texts. This necessitates digital literacy with videogame texts. Just as in MMORPG worlds, the dream worlds of *Inception* do not follow the typical "rules" of reality but have physical laws, logic, power structures, architecture, and even morality of their own. Thus, special consideration is given to narrative coherence as presented in these dream worlds. Specifically, the question is posed: How does *Inception* reflect problems related to fictional worlds such as those found in MMORPGs? This analysis will be divided into four major themes. We will first address three problems presented in *Inception*: the addictive nature of dream worlds, the violence present in dream worlds, and the distortions of identity in dream worlds. We will conclude by discussing some solutions to these issues presented in the film.

Nature of Dream Worlds

First, *Inception* presents characters who are drawn in by the addictive nature of lucid dreaming. Ariadne initially leaves after training with Cobb, afraid to open her mind to Cobb with

[62]. Robert Capps, "Q&A: Christopher Nolan on Dreams, Architecture, and Ambiguity," *wired.com,* accessed November 22, 2017, https://www.wired.com/2010/11/pl_inception_nolan/.

[63]. Capps, "Q&A: Christopher Nolan."

his issues, but Cobb knows she'll come back, and eventually she does. "I tried not to come," she tells Arthur, "but there's nothing quite like it," he finishes. She tells him she's drawn to the "pure creation." Likewise, MMORPGs offer players a similar sense of creation. Though MMORPGs do not necessarily allow players to create the game world itself, games do allow players to customize various aspects of their experience as they create characters, choose in-game factional allegiances, forge social bonds, and otherwise interact with the game world. This creativity can lead to a sense of escape.

Inception speaks to the dangers of online escapism. When Cobb approaches Yusuf to recruit him as a chemist, Yusuf gives evidence of his skill by showing Cobb the back room of his chemist shop wherein a dozen or so elderly and infirm people inhabit a shared dream. Yusuf explains that they only dream three or four hours, but perceive nearly forty hours due to the time-altering nature of dreams. Yusuf explains that they come there to escape. The lucid dream has become their reality. Additionally, Yusuf's dreamers also lose the ability to dream naturally, leading to an inability to survive without the artificially-induced dreams. These dreamers serve as a clear metaphor for players of online games. As the literature suggests, individuals who are addicted to online games often play for a sense of escape from the negative aspects of their lives, but as a result they may lose the ability to find meaning or deal with challenges in the natural world. In extreme cases, addicted players may find it difficult to survive without the artificial stimulus afforded by the game world, just like the dreamers in Yusuf's shop.

The dangerous nature of fictional realities is again demonstrated in Ariadne's reckless approach to dream manipulation. When first learning from Cobb how to alter a dream, she makes changes too quickly and too drastically, evidently enthralled by the potential of her newfound abilities. Cobb tries to warn her that "projections" of his subconscious will painfully attack her

because of her manipulations, but she presses on. In the film, non-dreamer denizens of a dream are projections of the subconscious mind. These projections reject the intrusion of outside minds as the dreamer begins to realize he or she is in a dream and become increasingly hostile to point of homicidal assault. Cobb again warns Ariadne not to use real places in her dream construction, but she refuses to listen to him until his subconscious image of Mal appeals and violently stabs her, killing her and waking her up. Ariadne is physically unhurt, but she is emotionally shaken by the experience. The capabilities afforded to Ariadne by the dreaming technique appeal to her sense of creativity and give her incredible power to shape fictional reality, but when she abuses that power she endures real suffering as the result. Similarly, online games give players access to capabilities which they don't have in the real world and the ability to shape the virtual spaces they encounter. It may not matter in any physical sense whether or not a player is successful. Virtual avatars don't experience real pain and virtual events don't dictate real ones, but the emotional consequences for someone who becomes too wrapped up in a fictional reality can be just as real as for a person who experiences emotional fallout from real events. *Inception* seems to offer a word of caution as to the dangers of this power by demonstrating the pain that Ariadne suffers in coming back to reality. In addition to their addictive nature, *Inception* also illustrates the violent nature of fictional realities.

Unrealistic Coherence and Violence

Violence is common in the dream worlds of *Inception*, and follows an alternative and unrealistic coherence. *Inception* casts a particularly violent image of the subconscious mind. The dream worlds of the film operate under their own set of rules: their own coherence that differs from waking reality. For example, one of Saito's dreams is styled after a conflict in a Middle Eastern setting. Angry mobs of projections rampage through the streets. In this manner,

Inception portrays the subconscious mind as inherently violent towards other minds. In a similar fashion, game designers also create worlds with their own alternative coherences of violence. Games are frequently set in worlds in which players' progress by defeating enemies in combat, gaining experience that allows them to increase their character's level which in turn increases the character's capability in combat and allows them to face more challenging foes. Like the projections, the inhabitants of MMORPG worlds oppose the presence of the player. And just as Fischer's mind has been trained to resist extraction and therefore his dream projections have a more militaristic capacity for violence, players who have invested more time in a game typically control characters who have a greater capacity for violence. Not only does *Inception* present a world with a unique coherence of violence; it similarly presents a unique coherence of pain.

Similar to MMORPGs, *Inception* presents dream realities in which pain and death lack real-world consequences. This violence is evident in the actions of Cobb's projection of Mal. She knows that people feel pain realistically in dreams, so she shoots Arthur in the leg to persuade him to give up information. Conversely, dreamers who die simply wake up in the real world. To prevent Arthur from talking and to end his pain, Cobb shoots his friend in the head. This "kills" Arthur in that dream, but doesn't actually harm him. Instead, he calmly wakes up in a higher layer of the mutli-layered dream. While the bullet hit can be seen in the film, there's no excessive explosion of blood or brains. Arthur simply drops dead in the dream and wakes up in another dream, one layer closer to reality. While the action film genre or MPAA guidelines could be as responsible for this toned-down portrayal of violence as much as any other factor, this casual portrayal of death also serves to convey that violent death in *Inception's* dream worlds is a commonplace part of the coherence of the world, rather than a horrifying reality. In another scene, Cobb explains that killing projections doesn't even harm the dreamer's mind because they

are mere projections of the subconscious, not the subconscious itself. Their deaths have no consequence and therefore lack any moral weight. At another point, Arthur explains that the shared lucid dreaming technique was developed for military application, so that soldiers could "shoot and stab and strangle each other, then wake up." Though the film eventually introduces consequences to dying in a dream while sedated to increase the stakes, overall *Inception* crafts an alternative coherence in which pain is viscerally felt but death presents a relative lack of consequence. Similarly, many online games are based around violence that lacks consequences. When characters die, they simply "respawn" to continue the adventure. Enemies in the game represent challenges and opportunities for a player to increase their level, rather than beings with realistic pain responses and motives. Enemies simulate pain responses, but given that they are simply "projections" their suffering carries no consequence to the player. Likewise, killing an enemy is a means of advancement. Dead enemies may simply disappear after falling in battle. Were the consequences of violence strictly relegated to fictional worlds, there would perhaps be little reason for concern, however, *Inception* demonstrates that violence in dream worlds does not always remain confined to those worlds.

Inception portrays the ways in which violence in imagined worlds can become violence in the real world. After completing his first mission for Saito, Cobb spins his top: a "totem" that helps him determine whether he is dreaming or awake. While the top spins, Cobb casually lifts a gun. While he stops short of pointing it at his head, his stance suggests he is prepared to do so should the totem indicate he were dreaming. Once the top falls, he sets the gun back on the table, seemingly satisfied that he is in the real world. Ultimately, and rather disturbingly, Cobb's life comes down to the spinning of a top. The spinning of a top is all that Cobb has to indicate for him the distinction between waking and dreaming. This is all that maintains the thinnest of

boundaries between the alternative dream coherence of death and the real one. Through the tragic character of Mal, *Inception* portrays the consequences of a breach in that thin boundary. Because of the idea Cobb planted in her mind, Mal commits suicide based on the delusion that she must wake up into reality. Her willingness to engage in an act of real-world violence towards herself is based on her false understanding of what is real and what is not. As literature above states, internet addiction in adolescents is correlated with a higher propensity towards aggression. So while it would be inappropriate to suggest a causal link, it is not difficult to imagine the possibility of a player who struggles to maintain the distinction between a real world coherence of violence and a fictional one. Indeed, it is this very narrative that propagates societal debates regarding video game violence and an individual's suspension of the distinction. Violence, however, is not the only thing distorted in *Inception*. Nolan also presents the distortion of identity.

Distortions of Identity

As described above, one of the attractive features of MMORPGs and in fact video games in general is their ability to allow for identity realignment. *Inception* demonstrates similar constructs that parallel the way virtual worlds routinely allow for identity distortion. The primary example of this is Eames. Eames is the team's "forger," an expert in mimicking voices, mannerisms, and appearances to fool a target into thinking he is someone who the target knows or trusts. To infiltrate Fischer's mind, he takes on personas including an attractive young woman and Peter, Fischer's trusted confidant. Eames's portrayal of Peter causes Fischer to be more suspicious of Peter in the next deeper layer of the dream. When Eames is adopting one of these identities he looks into a mirror and practices the mannerisms of the person he is portraying. Rather than his own reflection, the mirror contains the image of the person he is becoming.

MMORPGs similarly allow people control over the persona they adopt. Players control the appearance and actions of their character, in a sense forging a new identity. While certainly a useful skill for a dream infiltrator, the ability to present a false version of one's self is clearly used to deceive in *Inception*. Similarly, MMORPG players are not required to represent themselves accurately online. The anonymity of such games and the extent to which a character can be customized may not be inherently deceptive given that other players are aware of the customization aspect of the game, however it would certainly be possible for a person to misrepresent themselves through other forms of in-game communication such as messaging and chat. Eames's ability is not the only form of deception in the film.

Cobb adopts engages in a similar practice of distortion by taking on the false identity of "Mr. Charles." Mr. Charles is a persona Cobb created to pose as a dream security expert who is allied with the target's mind. By persuading Fischer that Mr. Charles is a helpful projection of Fischer's own mind, Cobb turns Fischer against his other mental projections. Combined with Eames's portrayal of Peter, Cobb is able to use the Mr. Charles persona to turn Fischer against his own mind. As the literature above states, MMORPGs appeal to players' natural senses of competition and reward. Because players who are engaged in a game are players who will spend money on the game, game developers are understandably motivated to produce games that keep a player involved. In a sense, these games are designed to do what Mr. Charles does, taking the natural and beneficial desire to be successful in life's challenges and hijacking it to keep the player engaged in the game. MMORPG players find in *Inception* a warning about those who understand and make use of the mind's characteristics. These deceptions are not inconsequential, and again *Inception* uses the character of Mal to demonstrate the most tragic extent of an issue.

Mal serves as a major argument for the consequences of losing one's sense of identity. When Mal and Cobb spent their years together in limbo, she became enamored with the world they created and chose to hide from herself the fact that it was not reality. She willingly became lost in the dream, unable to recognize it for what it was. Then, because of Cobb's inception, she lost her sense of place in the world which led to her acting harmfully towards her children and her husband, as well as her suicide. Cobb's guilt and lack of acceptance of Mal's death caused him to create a projection of her which is dark and insidious, nothing like the woman he actually loved. Because of the dreams, Mal lost her sense of reality and Cobb lost his true memory of the woman he loved. If MMORPGs are viewed through *Inception*, social commentary narrative warns against the substantial risks of personal identity being too strongly affiliated with an online world or persona. Similar to the psychological research presented earlier, such affiliation cannot help but have harmful elements for the individual, and also painful implications for that person's loved ones. However, as demanded by most film narratives, problems presented in *Inception* are ultimately connected to potential solutions for the protagonist.

A Cautionary Tale with Redemptive Solutions

While this paper has examined some of the darker textual themes of MMORPGs, its ultimate goal is to examine how the film at hand resolves the societal dilemma of their existence. Specifically, *Inception* casts a cautionary portrayal of the dangers inherent in human negotiation of fictional realities. However, a close reading of *Inception* also suggests some potential solutions that may be equally applicable for MMORPG players who find themselves lost in "limbo." To be clear, the nature of this paper evaluates neither the veracity nor the validity of the solutions but offers them as cultural artifacts in and of themselves.

One of these solutions is the "kick." In the film, a kick refers to the feeling of falling that is used to waken a dreamer. When Yusuf creates the chemical compound necessary for the team to enter a deep enough dream state to accomplish their goal, he does so in a way that it will leave the inner ear, and thus the sense of balance, completely active. Hussain, Griffiths, and Baguley propose a similar solution, suggesting that gamers be forcibly logged out after a certain duration and citing research that suggests that gamers could otherwise be penalized for excessive play time.[64] It seems plausible that there are other ways in which a kick could be created, either by game developers or by the players themselves. Like Yusuf, who crashes a van in the dream world to induce a kick, players who understand the addictive "chemistry" of online gaming could design a kick for themselves to stay grounded in the real world. Kicks are not the only thing, however, that can keep someone from getting lost in a dream.

Likewise, throughout the film, a character who is outside of a dream will place headphones on a dreaming character and begin playing a familiar song. The sound of the music is distorted due to the stretched perception of time that takes place in every deeper layer of the dream, but this audio cue gives dreaming characters ample warning as to the time remaining before they will be awakened by a kick. Perhaps self-aware gamers could enlist those around them to fulfill this role: someone outside of the influence of the game world to keep them grounded and to let them know when it is time to "wake up." In some cases, however, a musical cue may not be enough to bring someone back to the real world. A friend may have to be willing to do much more than press the play button.

Inception also portrays the ability of a strong relationship to bring someone out of their fictional world. Ariadne's relationship with Cobb proves critical in bringing him back to reality.

[64]. Hussain, Griffiths, and Baguley, "Online Gaming Addiction," 369.

At one point, she comes upon Cobb already dreaming and enters his private dream. Therein she discovers that he is continually dreaming about his memories of Mal, despite his earlier caution to Ariadne to not utilize memories to construct dreams. Cobb is using something akin to a cage of memories to keep his projection of Mal prisoner, leading Ariadne to confront Cobb about the events that led to his wife's death. Cobb insists that these "are moments I regret, they're memories that I have to change," despite the obvious irrationality of such a statement. While dreamers in *Inception* can influence present dreams, they cannot change either their memories or past events.

Another hint to Cobb's avoidance of confronting Mal's death is the design of his dream world. With his memories organized as different building floors accessed by an elevator, Cobb's memory of Mal's suicide is accessed by pushing the "B" on the elevator panel, presumably for "basement." This basement imagery may be symbolic of the memory's placement deep in Cobb's subconscious. On the other hand, it may simply reflect the dark, foreboding nature of basements and the unwanted status of items discarded there. In either interpretation, it is clear that this is not a place Cobb frequents himself, let alone one which he would be comfortable sharing with someone else. After breaking into this area, Ariadne takes the first step in a process that is instrumental in helping Cobb confront the reality of his wife's death and banish her dark projection. Ariadne tells Cobb that either she will accompany him on the heist, or he must show Arthur these memories so he will understand the nature of the threat these dark memories of Mal represent. Cobb opts to have Ariadne join the team, rather than disclosing his personal struggle to Arthur, a sign that he is resistant to sharing the depth of his struggle with Mal even with a trusted associate. Throughout the various levels of dreams they explore, Ariadne stays close to Cobb. She asks him questions and pushes him towards a necessary confrontation. Cobb finally

confesses to his projection of Mal that it was he who performed the inception that led to her death. The projection invites him to stay with her, but Cobb refuses for the sake of the other people sharing his dream. He confesses to this projection of his wife that his memory of her could never live up to the complexity of the woman he loved in the real world. Eventually, Cobb finds the strength to perform the same role for Saito that Ariadne performed for Cobb. In the final moments of the film, Cobb searches through the near-endless world of limbo to bring Saito back to reality. *Inception* demonstrates the way in which a friend who is willing to be confrontational can help bring a lost dreamer back to the real world. Cobb's remarks about Mal's projection affirm the value of staying grounded in the real world. The projections found in a virtual world lack the nuance of reality. Cobb's realization would not have been possible without Ariadne's willingness to force him to acknowledge this truth. Though *Inception* portrays grave dangers present in leaving reality, it also shows that characters who take precautions and maintain strong relationships with people around them are capable of successfully navigating the dream world while remaining grounded in the real one.

Conclusion

This close reading of *Inception* finds that the film cautions individuals who enter virtual worlds, such as those found in MMORPGs, regarding a variety of hazards. Being literate in both film and digital entertainment enhances artistic understanding of the former with application to the latter. Applying a cultural rhetorical approach to examine the interactions between the technological texts of film and MMORPG, analysis reveals the darker side of immersive online worlds. While dream worlds offer benefits such as unparalleled creativity, they also operate under an alternative coherence of violence. This portrayal of the human subconscious as inherently violent towards others highlights how that violence can bleed over into the real world

when someone loses the ability to distinguish between reality and dream. This also reflects the societal fear that those who highly identify with alternative personas are driven to deceive others, simultaneously risking the loss of their own identities and harm to those they love.

Moreover, a close reading of this text reveals recommended safeguards for those who approach fictional realities. These elements are consequential for examination, explanation, and discussion of dialectical tensions often found related to video games.[65] Nolan depicts how planning ahead and the intervention of others can help an individual retain or regain a sense of reality when navigating alluring dream worlds. Society is coming to grips with elements of immersive worlds such as MMORPGs, and leakage of those tensions is reflected in a range of artistic artifacts such as philosophy, film, and literature.[66] These increasingly prevalent online diversions, while benign artistic experiences to many, for some are dangerous and problematic. Fortunately, digital literacy also enables the comprehension of counter-strategies such as self-monitoring and outside intervention. MMORPG literacy expands and aids in the comprehension of these messages which are otherwise difficult to comprehend. As such, they encourage literacy regarding both MMORPGs and the broader cultural context in which they reside. More than ever, this points to an increasing need for scholarly examination of appropriate literacies for engaging with digitally-informed texts.

[65]. Michael J. Blouin, "A Western Wake: Difference and Doubt in Christopher Nolan's "Inception," *Extrapolation* 52, no. 3, (2011): 318-37, doi:10.3828/extr.2011.52.3.4.

[66]. Nicholas Diel, "Socratic Film." *Journal of Aesthetics & Art Criticism* 74, no. 1, (2016): 23-34.

References

Anderson, Sky LaRell "The Corporeal Turn: At the Intersection of Rhetoric, Bodies, and Video Games." Review of Communication 17, no. 1 (2017): 20, doi:10.1080/15358593.2016.1260762.

Bacchini, Dario, Grazia De Angelis, and Angelo Fanara. "Identity Formation in Adolescent and Emerging Adult Regular Players of Massively Multiplayer Online Role-Playing Games (MMORPG)." Computers in Human Behavior 73 (2017): 191-199, doi:10.1016/j.chb.2017.03.045.

Barnett, Joshua H. and Leanna Archambault. "The Gaming Effect: How Massively Multiplayer Online Games Incorporate Principles of Economics." TechTrends 54, no. 6 (2010): 29-35.

Blouin, Michael J. "A Western Wake: Difference and Doubt in Christopher Nolan's "Inception." Extrapolation 52, no. 3 (2011): 318-337, doi:10.3828/extr.2011.52.3.4.

"Box Office / Business for Inception." imdb.com. Accessed November 22, 2017, http://www.imdb.com/title/tt1375666/business?ref_=tt_dt_bus.

Bouchard, Matt. "Playing with Progression, Immersion, and Sociality: Developing a Framework for Studying Meaning in APPMMAGs, A Case Study." Journal of Comparative Research in Anthropology & Sociology 6, no. 1 (2015): 3-25.

Bourgonjon, Jereon, Geert Vandermeersche, and Kris Rutten. "Perspectives on Video Games as Art." CLCWeb: Comparative Literature and Culture 19, no. 4 (2017): 2-10, doi:10.7771/1484-4374.3024.

Brummett, Barry. Techniques of Close Reading. Thousand Oaks, CA: Sage Publications Inc., 2010.

Business Wire. “Global Massively Multiplayer Online (MMO) Gaming Market - Forecast to Reach $44.6 Billion by 2022 - Research and Markets.” Business Wire (English), November 15, 2011, https://www.businesswire.com/news/home/20171115005641/en/Global-Massively-Multiplayer-Online-MMO-Gaming-Market.

Capps, Robert. “Q&A: Christopher Nolan on Dreams, Architecture, and Ambiguity.” wired.com, Accessed November 22, 2017, https://www.wired.com/2010/11/pl_inception_nolan/.

“Christopher Nolan.” imdb.com. Accessed November 22, 2017. http://www.imdb.com/name/nm0634240/.

Clark, Joseph. “The Environmental Semiotics of Virtual Worlds: Reading the 'Splash Aquatics' Store in Second Life.” Graduate Journal of Social Science 8, no. 3 (2011): 48-61.

Craig, Russel and Joel Amernic. “Exploring the Public Accountability Communications of a CEO Through ‘Close Reading’ Analysis: A Teaching Primer.” International Journal of Management Education 8, no. 2 (2009): 75-82, doi:10.3794/ijme.82.280.

Dalton, Mary M. “Bad Teacher is Bad for Teachers.” Journal of Popular Film & Television, 41, no. 2 (2013): 78-87, doi:10.1080/01956051.2013.787352.

Diehl, Nicholas. "Socratic Film." Journal of Aesthetics & Art Criticism 74, no. 1 (2016): 23-34.

Dorpenvo, Isidore Kafui. "Mapping a Space for a Rhetorical-Cultural Analysis: A Case of a Scientific Proposal." Journal of Technical Writing & Communication 45, no. 3 (2015): 226-242, doi:10.1177/0047281615578845.

Ebert, Roger. “Inception.” rogerebert.com. Accessed November 22, 2017, https://www.rogerebert.com/reviews/inception-2010.

Elson, Malte, Johannes Breuer, James D. Ivory, and Thorsten Quandt. "More Than Stories With Buttons: Narrative, Mechanics, and Context as Determinants of Player Experience in Digital Games." Journal of Communication 64, no. 3 (2014): 521-542.

Eisenberg, Mark. “‘Inception’ Viral Campaign Posters Get Real.” June 6, 2010, screenrant.com. https://screenrant.com/inception-viral-campaign-posters/.

Engebretsen, Eivind. “The Catholic Counter-Reformation and the Idea of Hunger: A Close Reading of Two Appeals for Alms from the Paris Area in the Year 1662.” Social History 38, no. 4 (2013): 477-496, doi:10.1080/03071022.2013.846993.

Fisher, Mark. “The Lost Unconscious: Delusions and Dreams in Inception.” Film Quarterly 64, no. 3 (2011): 37-45.

Games, Newzoo. "Global Games Market Report: An Overview of Trends and Insights." (2016), https://cdn2.hubspot.net/hubfs/700740/Reports/Newzoo_Free_2016_Global_Games_Market_Report.pdf

Granic, Isabela, Adam Lobel, and Rutger C. M. E. Engels. "The Benefits of Playing Video Games." American Psychologist 69, no. 1 (January 2014): 66-78. doi:10.1037/a0034857.

Hagström, David and Viktor Kaldo. “Escapism Among Players of MMORPGs-Conceptual Clarification, Its Relation to Mental Health Factors, and Development of a New Measure.” CyberPsychology, Behavior & Social Networking 17, no. 1 (2014): 19-25, doi:10.1089/cyber.2012.0222.

"Inception (2010)." rottentomatoes.com. Accessed November 22, 2017, https://www.rottentomatoes.com/m/inception/.

Kutz, Steven. "NFL took in $13 billion in revenue last season–see how it stacks up against other pro sports leagues." MarketWatch (July 2, 2016), https://www.marketwatch.com/story/the-nfl-made-13-billion-last-season-see-how-it-stacks-up-against-other-leagues-2016-07-01

Lasley. Elizabeth A. "Twenty-first Century Literacy, Game-based Learning, Project-based Learning." Journal of Literacy and Technology 18, no. 3 (2017): 38-55.

Leff, Michael. "Dimensions of Temporality in Lincoln's Second Inaugural." In Readings in Rhetorical Criticism, Third Edition, edited by Carl R. Burgchardt, 200-204. State College, PA: Strata Publishing, Inc., 2010.

Maiorani, Arianna. "Reading Movies as Interactive Messages: A Proposal for a New Method of Analysis." Semiotica, no. 187 (2011): 167-88, doi:10.1515/semi.2011.069.

Maiorani, Arianna. "'Reloading' Movies into Commercial Reality: A Multimodal Analysis of the Matrix Trilogy's Promotional Posters." Semiotica: Journal of the International Association for Semiotic Studies/Revue De L'Association Internationale De Sémiotique, 166, no. 1-4 (2007): 45-67.

Mia Mask, "The Precarious Politics of Precious: A Close Reading of A Cinematic Text," Black Camera 4, no. 1 (2012): 96-116.

Miklitsch, Robert William. "Fear of a Red Planet: I Was a Communist for the F.B.I. and 'Black Film.'" Journal of Popular Film & Television 41, no. 1 (2013): 43-54, doi: 10.1080/01956051.2012.694380.

Nolan, Christopher, Leonardo DiCaprio, Ken Watanabe, and Joseph Gordon-Levitt. Inception. [DVD]. Burbank, CA: Warner Bros. Entertainment, Inc., 2010.

Owens, Kim Hensley, "Reviews and Reactions: A Rhetorical-Cultural Analysis of The Business of Being Born." Rhetoric Review 30, no. 3 (2011): 293-311, doi:10.1080/07350198.2011.581947.

Paumgarten, Nick. “How Fortnite Captured Teens’ Hearts and Minds.” May 21, 2018, newyorker.com, https://www.newyorker.com/magazine/2018/05/21/how-fortnite-captured-teens-hearts-and-minds.

Pérez-Latorre, Óliver, Oliva Mercè, and Reinald Besalú, "Videogame Analysis: A Social-Semiotic Approach." Social Semiotics 27, no. 5 (2017): 591, doi:10.1080/10350330.2016.11911.

Pötzsch, Holger. Borders, Barriers and Grievable Lives: The Discursive Production of Self and Other in Film and Other Audio-Visual Media." NORDICOM Review 32, no. 2 (2011): 75-94.

Russell, Patrick Kent. “Christopher Nolan’s The Dark Knight Trilogy as a Noir View of American Social Tensions.” The Noir Vision in American Culture 33, no. 1 (2016): 171-186.

Tan, Elizabeth. "The Only Way You Can Dream: Interfaces and Intolerable Spaces in Christopher Nolan's Inception." Continuum: Journal of Media & Cultural Studies 30, no. 4, (2016): 408-418, doi:10.1080/10304312.2016.1141869.

Savci, Mustafa, and Ferda Aysan. “Technology Addictions and Social Connectedness: Predictor Effect of Internet Addiction, Social Media Addiction, Digital Game Addiction and Smart Phone Addiction on Social Connectedness.” Dusunen Adam:

The Journal of Psychology and Neurological Sciences 30, (2012): 202-216, doi:10.5350/DAJPN2017300304.

Shi, Xu. "China's National Defence in Global Security Discourse: A Cultural–Rhetorical Approach to Military Scholarship." Third World Quarterly 36, no. 11 (2015):2044-2058, doi:10.1080/01436597.2015.1082423.

Sisson, Diana and Betsy Sisson, "The Renaissance of Close Reading: A Review of Historical and Contemporary Perspectives," The California Reader 47, no. 4 (2014): 8-16.

Stavropoulos, Vasilis, Daria J. Kuss, Mark D. Griffiths, Peter Wilson, and Frosso Motti-Stefanidi. "MMORPG Gaming and Hostility Predict Internet Addiction Symptoms in Adolescents: An Empirical Multilevel Longitudinal Study." Addictive Behaviors 64 (2017): 294-300, doi:10.1016/j.addbeh.2015.09.001.

Son, Dinh Thai, Junko Yasuoka, Krishna C. Poudel, Keiko Otsuka, and Masamine Jimba. "Massively Multiplayer Online Role-Playing Games (MMORPG): Association Between its Addiction, Self-control and Mental Disorders Among Young People in Vietnam." International Journal of Social Psychiatry 59, no. 6 (2013): 570-577, doi:10.1177/0020764012445861.

Sourmelis, Theodoros, Andri Ioannou, and Panayiotis Zaphiris. "Massively Multiplayer Online Role Playing Games (MMORPGs) and the 21st Century Skills: A Comprehensive Research Review from 2010 to 2016." Computers in Human Behavior 67 (2017): 41-8, doi: 10.1016/j.chb.2016.10.020.

Weaver, Andrew J. and Nicky Lewis. "Mirrored Morality: An Exploration of Moral Choice in Video Games." Cyberpsychology, Behavior, and Social Networking 15, no. 11 (2012): 610-4, doi: 10.1089/cyber.2012.0235.

Zaheer, Hussain, Mark D. Griffiths, and Thom Baguley. “Online Gaming Addiction: Classification, Prediction and Associated Risk Factors.” Addiction Theory & Research 20, no. 5 (2012): 359-371, doi:10.3109/16066359.2011.640442

Journal of Literacy and Technology Special Edition
Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Emergently Digital in Grade Two: Another case of "3.6 Minutes Per Day*?*"

Kathleen A. Paciga, PhD
Columbia College Chicago
kpaciga@colum.edu

Abstract

This case study examines the presence of digital tools and the inclusion of digital activities in a grade two classroom for one unit of study on the countries of the world. The researcher sought to: identify the range of web literacy activities and digital skills; describe the ways in which the teacher and students balanced analog and digital texts; and, present the features of the tools and texts used in literacy instruction in the classroom. Data were collected across six hours of classroom observation time spanning three days of instruction. Field notes, photographic stills, and audio-recorded and transcribed teacher interviews served as data sources for the study. 100 randomly selected entries in the field notes and the remaining data from the stills and interviews were coded using a constant comparative method for a range of variables related to the users, tools, texts, modes of meaning in the texts, curricular places, and web and digital skills and competencies. Results indicate 1) there were limited opportunities for children to participate in web literacies, despite the many opportunities to write/compose and read/consume digital media; 2) there is a balance between printed and analog text, and students move fluidly between the paper and the screen; 3) more modes of meaning are utilized in reading/consuming texts than in writing/composing them.

Keywords*:* technology, digital tools, web literacy, emergent literacy

Children come into class as the morning bell rings. They unpack their bags. Many place their own devices on the teacher's table to be signed on to the network—a task the teacher has to manually manage for every device children bring from home, every day. They begin their day with the language arts block. During this time the class is routinely engaged in The Daily 5 (Boushey & Moser, 2014). A blend of digital and analog text types are present in the room. Miss Littlefield is conducting fluency checks with a small group of children at the guided reading table. Children here are reading a pictureless PDF of a grade-level text on one device and Miss Littlefield is recording running records through an app called Timed Reading (K12 Inc., 2013). After the fluency checks, the group rehearses for a readers' theatre performance, with scripts printed on paper.

Two children engaged in "listen to reading" choose Tumblebooks (KidsClick!, 2000), an online picturebook library, and one other student grabs Miss Littlefield's iPod to listen to e-book applications. The two children who have selected Tumblebooks struggle to get started: they untangle their headphones, and discuss with one another how to get the pop-out window right-sized for their screens. They call me over for help; the images are "cut off." While we are reloading the window, the student on the iPod asks me to help her update an application she would like to listen to—a fairy tale e-book app. Four children have selected "read to someone" and are focusing on self-selected narrative text in paperback chapter books. Two other students have selected "read to self" and are engaged reading digital or analog texts for their ongoing writing projects—a report on a country of the world. When six students come back from out of the classroom special education or ELL services, they begin to "work on writing" with assistance from the paraprofessional. They are summarizing the digital and analog texts they've read for their country reports. A few other children are engaged in "word work" with word parts to sort words and practice in identifying patterns within words.

After the Daily 5, Miss Littlefield gathers the class for a whole-group mini lesson on taking notes from a digital resource—one piece of her unit on nonfiction writing that was inspired by Cummins' work on nonfiction text (2013). Miss Littlefield uses the Culturegrams (Proquest, 2014) and Kidsinfobits (Gale,

2014) database websites as part of her demonstration. She focuses specifically on reviewing how to login to the databases, and how to search for entries within each database about a specific country of the world. In addition she briefly reviews how to extract key ideas related to the goals of the writing task, and how to understand whether the images contained on the websites could be used in the presentations the students are preparing. Miss Littlefield reminds the class that there is a "listen" function on PebbleGo (PebbleGo, 2014) *and on Culturegrams if the children should need an assist with decoding the text. She then prompts the children to continue working on their projects. Students pick up their writing research projects and some begin to engage in their work as Miss Littlefield had modeled in her demonstration; they are successfully taking notes, citing sources, and/or creating their presentation visuals in Google Slides, while other children struggle to engage until a peer, paraprofessional, or teacher comes to help.*

Throughout the time I spent engaged in the case study of Miss Littlefield's grade two classroom I present in this paper, I observed a diverse range of tools and resources throughout the various goal-oriented activities occurring in the literacy block. Such tools and resources mirror many of those that are present in general early learning contexts (Blackwell, Wartella, Lauricella, & Robb, 2015).

Manderino and Wickens (2014) argue that in some contexts, notably those that engage with older students, these tools and resources have allowed disciplinary literacy practices to shift from individual to collaborative, from text-centric to multimodal, and from disconnected to networked. The wider range of tools and materials for the conduct of literacy practices, like those in the web-based digital interactive space, allow an observer to view a parallel set of [digital] skills and [web] literacies in action.

Web Literacy, Digital Skills, and Learning Standards

Belshaw's work on web literacies (2011), the work of those in the connected learning movement (Ito, Gutierrez, Livingstone, Penuel, et al., 2013), and those who study new literacies (e.g., Leu, Kinzer, Coiro, & Cammack, 2004; New London Group, 1996), have put forward the idea that multimodal, mobile and connected literacies are something special in and of themselves, beyond the more traditional forms of literacy that are exchanged with analog tools. In digital spaces and places, students work toward mastery

of "21st century skills" as they participate, write, and read the web and the world around them. Accordingly, the *"...technology is critically important because it literally has redefined what it means to be literate these days"* (Teale, as quoted in Turner, 2018).

Mozilla, the company behind the Firefox web platform, offers a Web Literacy interactive map that serves as a "framework for entry-level web literacy & 21st century skills" (n.d., see Figure 1). The web literacy framework suggests that web literate persons read, participate, and write in digital forms to problem solve, communicate, create, and collaborate. These forms of web literacies extend beyond interpretation and composition of written text and integrate multiple modes of meaning—including visual and aural modes. The activities presented around the outside of the web literacy map (i.e., remix; revise; compose; code; design; share; contribute; open practice; protect; connect; search; navigate; synthesize; evaluate) facilitate a range of embedded competencies (i.e., skills), which likely emerge as do most other literacy skills: that is to say they develop and emerge over time. Such development likely hinges on multiple experiences with a given activity that involve someone who is more expert in the skill scaffolding a novice as their practice matures.

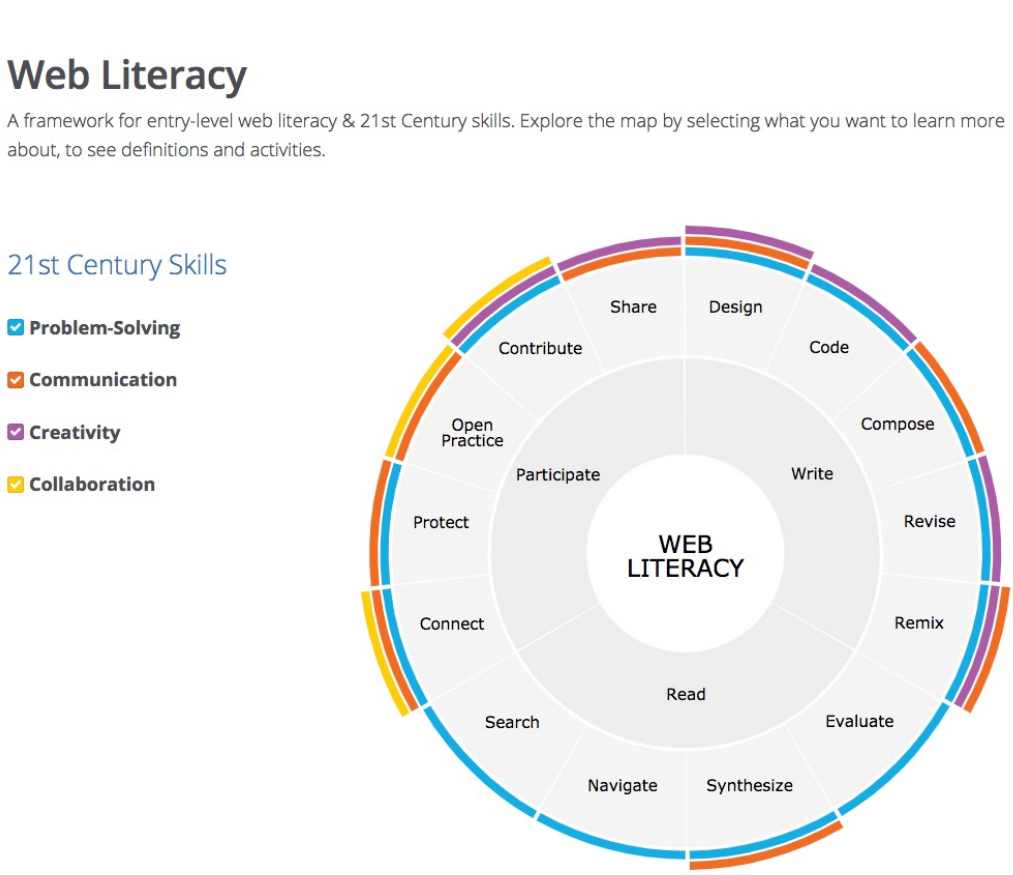


Figure 1. Web Literacy Map (Mozilla, n.d.)

(available interactive tool at https://learning.mozilla.org/en-US/web-literacy)

As an example, the "compose" activity engages problem solving and communication skill sets and is defined as "building, organizing, and sharing digital content that is accessible and approachable." Composition contains the following embedded skills:

- Curating digital content and organizing it into a system for building and sharing.
- Organizing information, digital content, and hyperlinks to add to a webpage or online space.
- Embedding multimedia, hyperlinks, and digital content on a web page.
- Creating web resources in ways appropriate to the medium/genre.
- Setting up and controlling a space to publish on the web.

- Using appropriate permissions and licenses.

While these web composition skills are very discrete and specific, the presentation of digital composition in the Common Core State Standards [CCSS] relies far less on specifying discrete skills and resorts to a more generalized statement:

> *To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, and report on information and ideas, to conduct original research in order to answer questions or solve problems, and to analyze and create a high volume and extensive range of print and nonprint texts in media forms old and new. The need to conduct research and to produce and consume media is embedded into every aspect of today's curriculum. In like fashion, research and media skills and understandings are embedded throughout the Standards rather than treated in a separate section* (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010, p.4).

Table 1 presents a list the CCSS anchor standards and corresponding grade two standards that contain any explicit reference to digital text or media tools. I have utilized bolded italic font to draw attention to the key terms ***digital, media,*** and ***technology***. In addition I have utilized bolded font to draw attention to the key terms around multimodal meaning making: **visual, images, illustrations, orally** and **audio**. By comparing the presence or absence of key terms from anchor to grade two standards, it is clear that there is not a one-to-one match in the appearance of the key words from anchor to grade level standards: e.g., grade two standard CCSS.ELA-Literacy.W.2.8 contains ***digital***, but the anchor standard CCSS.ELA-Literacy.CCRA.W.8 does not specify ***digital***, whereas the multimodal key words always appear in both the anchor and the grade level CCSS whether they are addressing reading, writing, speaking and listening, or language.

Table 1. Common Core State Standards guiding children's use of digital technologies in the classroom: College and Career Readiness Anchor and Grade 2 Standards (***Bolded italic*** emphasis added to key terms: ***digital, media, technology***; **Bolded** emphasis added to **visual, images, illustrations** and **oral, audio**.)

Domain		Anchor Standard		Grade 2 Standard
Writing	CCSS.ELA-Literacy.CCRA.W.6	Use ***technology***, including the Internet, to produce and publish writing and to interact and collaborate with others.	CCSS.ELA-Literacy.W.2.6	With guidance and support from adults, use a variety of ***digital*** tools to produce and publish writing, including in collaboration with peers.
Writing	CCSS.ELA-Literacy.CCRA.W.8	Gather relevant information from multiple print and ***digital*** sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.	CCSS.ELA-Literacy.W.2.8	Recall information from experiences or gather information from provided sources to answer a question.
Reading	CCSS.ELA-Literacy.CCRA.R.7	Integrate and evaluate content presented in diverse ***media*** and formats, including **visually** and quantitatively, as well as in words.	CCSS.ELA-Literacy.RL.2.7	Use information gained from the **illustrations** and words in a print or ***digital*** text to demonstrate understanding of its characters, setting, or plot.
Reading	CCSS.ELA-Literacy.CCRA.R.7	Integrate and evaluate content presented in diverse ***media*** and formats, including **visually** and quantitatively, as well as in words.	CCSS.ELA-Literacy.RI.2.7	Explain how specific **images** (e.g., a diagram showing how a machine works) contribute to and clarify a text.
Speaking & Listening	CCSS.ELA-Literacy.CCRA.SL.2	Integrate and evaluate information presented in diverse ***media*** and formats, including **visually**, quantitatively, and **orally**.	CCSS.ELA-Literacy.SL.2.2	Recount or describe key ideas or details from a text read aloud or information presented **orally** or through other ***media*.**
Speaking & Listening	CCSS.ELA-Literacy.CCRA.SL.5	Make strategic use of ***digital media*** and **visual** displays of data to express information and enhance understanding of presentations.	CCSS.ELA-Literacy.SL.2.5	Create **audio** recordings of stories or poems; add drawings or other **visual** displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.
Language	CCSS.ELA-Literacy.CCRA.L.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.	CCSS.ELA-Literacy.L.2.4.e	Use glossaries and beginning dictionaries, both print and ***digital***, to determine or clarify the meaning of words and phrases.

The cohesion between the multimodal components of digital and media literacy in the CCSS speaks to the prominence of multiple modes of meaning-making when digital tools are included. The web literacy framework also integrates the centrality of the visual and audio modes of meaning-making, with key terms *multimedia, visual, audio* appearing in the following selected web literacy activities and skills (there are many additional examples of multimodal meaning in the web literacy framework):

- Compose - Embedding multimedia, hyperlinks, and digital content on a web page.
- Read - Recognizing the common visual cues in various web services.
- Revise - Incrementally adding or removing individual components (i.e., text, audio, image, video) in digital work.
- Revise - Incrementally repositioning individual components (i.e., text, audio, image, video) while revising digital work.

Miss Littlefield utilized the CCSS for planning for reading and writing with digital tools. It was arguably clear that she should integrate opportunities for her students to make meaning from and with multiple modes while using digital tools and resources for literate activity. For the purposes of this case study Google Slides was considered an "online space" even though it was a protected environment that was managed by the teacher and administered by the school district and the content was never published openly on the web.

Developing Emergent Digital Web Literacies

Developmental and sociocultural theories of learning support my research work. Accordingly, I am one who is interested in how individuals, from birth through age eight, begin to become literate in their worlds: how the social experiences and tools utilized in the conduct of literate acts shape a child's literacy development. In my work the theory of emergent literacy (Teale & Sulzby, 1986; Teale, Hoffman, Whittingham, & Paciga, 2018) offers insights into what literacy research and instruction ought to attend to. If we want digitally literate citizens who can nimbly navigate the various parts of the networked web, then the early social interactions children have with and around these digital and

interactive tools are important. The tools themselves are important, as well, because they often define the range of possible interactions, understandings, and outcomes for children's literate thought and action. After all, the CCSS identify that the end goal is to have students who:

> *..use technology and digital media strategically and capably…to enhance their reading, writing, speaking, listening, and language use. They tailor their searches online to acquire useful information efficiently, and they integrate what they learn using technology with what they learn offline. They are familiar with the strengths and limitations of various technological tools and mediums and can select and use those best suited to their communication goals (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010, p.7).*

Given the essentiality of the visual and audio modes presented in the digital standards of the CCSS (see Table 1), an arts and media approach to early education could help build those enduring understandings in young children. In a media literacy approach, children "don't automatically learn what they need to know about technology from their environment...Verbal play-by-play [from teachers through modeling] introduces key vocabulary and helps children see tablets and computers as tools that offer more than games or videos…[and] provides opportunities to engage children in the practice of asking relevant questions" (Rogow, 2015, p. 95). Moreover, teacher modeling functions as a mechanism to help children identify strategies for finding answers to their authentic inquiry. Teachers who enact a media literacy approach also provide children carefully scaffolded opportunities to create media with digital tools: stories and reports that use images, sounds and words for communication and persuasion. When we "pair the use of technology with decision-making opportunities and conversation" (Rogow, 2015, p. 98), even 5-year-olds can demonstrate media literate outcomes.

Kress (2000) suggested, too, that technologies are changing how we communicate in a connected world: "the written language is coming under new, intense strains...computing devices will make available new routes to making speech visible, not handled by the hand and the pen, or by the hand on the

keyboard...writing will become much more affected by visual considerations…[making] the visual lexicon of a five-year old girl...commonplace" (pp.7-8). In other words, the sorts of graphic languages utilized by young children (Edwards, Gandini, & Forman, 1998), which often utilize images, audio, and embodied action to convey their meanings, are found more frequently in the texts composed and exchanged through digital means, but there is little utilization of these digital means of communication in early school contexts (Blackwell, et al., 2015; Hutchison & Reinking, 2011).

All of this is to say that I believe web literacies and digital skills also develop emergently in our young children, and that we, as a field, have much work to do understanding how these skills and literacies develop across the early childhood age span. Also important is developing a wider knowledge base about how teachers and parents can thoughtfully foster these ways of thinking and doing in a digital world in developmentally appropriate (Bredekamp, 1987) ways.

Duke's (2000) groundbreaking study of informational text in the primary grades was, for me in my graduate studies, one of those pieces of research that struck a chord. I think, perhaps, it is because I sort of have been blessed to see the historical and political effects of that study on the lives of children everywhere. Duke's study put forward the notion that young children need more than 3.6 minutes per day of nonfiction, disciplinary texts to do and learn the disciplinary literacy. This was accomplished by documenting the absence of these analog texts/tools in first grade classrooms. Digital tools span across disciplines, and integrate visual, interactive, and audio features that are otherwise not present in print-based texts. Given this, I wonder whether children might also need academic experiences with digital tools to engage in discipline-specific digitally literate practice? In addition, how do digitally-mediated activities look, feel, and sound in the early years…in schools that are perceived by experts to be doing technology well? What are the cohesive themes that tie the research and practice surrounding the use of these tools and objects for digital children in schools? Does any of this matter?

I was curious to learn more about the action in classrooms in the nexus of digital and literacy within a period of child development in which many children are transitioning from beginning readers to

fluent readers. I wanted to better understand some of the realities of bringing in digital experiences to a primary grade classroom, and I wanted to learn from someone who others perceived to know technology well (a similar approach was taken by Nikolopoulou and colleagues (2014) in their investigation of educational software use in Greek kindergartens). We know from Hutchison and Woodard's work with the TPACK framework (2014) that teachers need the technological pedagogical content knowledge to do this work well in any grade. So, I engaged in a case study to try to further understand some of these things I had been thinking about. I specifically was interested in exploring the following:

- What web literacy activities and digital skills are observable in a primary grade classroom with a teacher who experts perceive to be technology savvy and a digital leader?
- How do the teacher and her students balance analog and digital in the classroom?
- What are the features of the tools and texts used in literacy instruction in a tech-forward school and classroom?

Method

An exploratory descriptive case study methodology (Yin, 2003) was used to examine the classroom-based digitally-oriented activities, actions, and tools of a 2nd grade teacher, identified as "high-tech " by a professor in her reading specialist Master's program. I observed her and her students at the end of the school year. The school was in a suburban elementary (K-5) public school within 50 miles of a major city in the Midwest. Approximately 37% of the student population was low income and 39% of the student population was white. Participants consented to participate in the research. All names are pseudonyms.

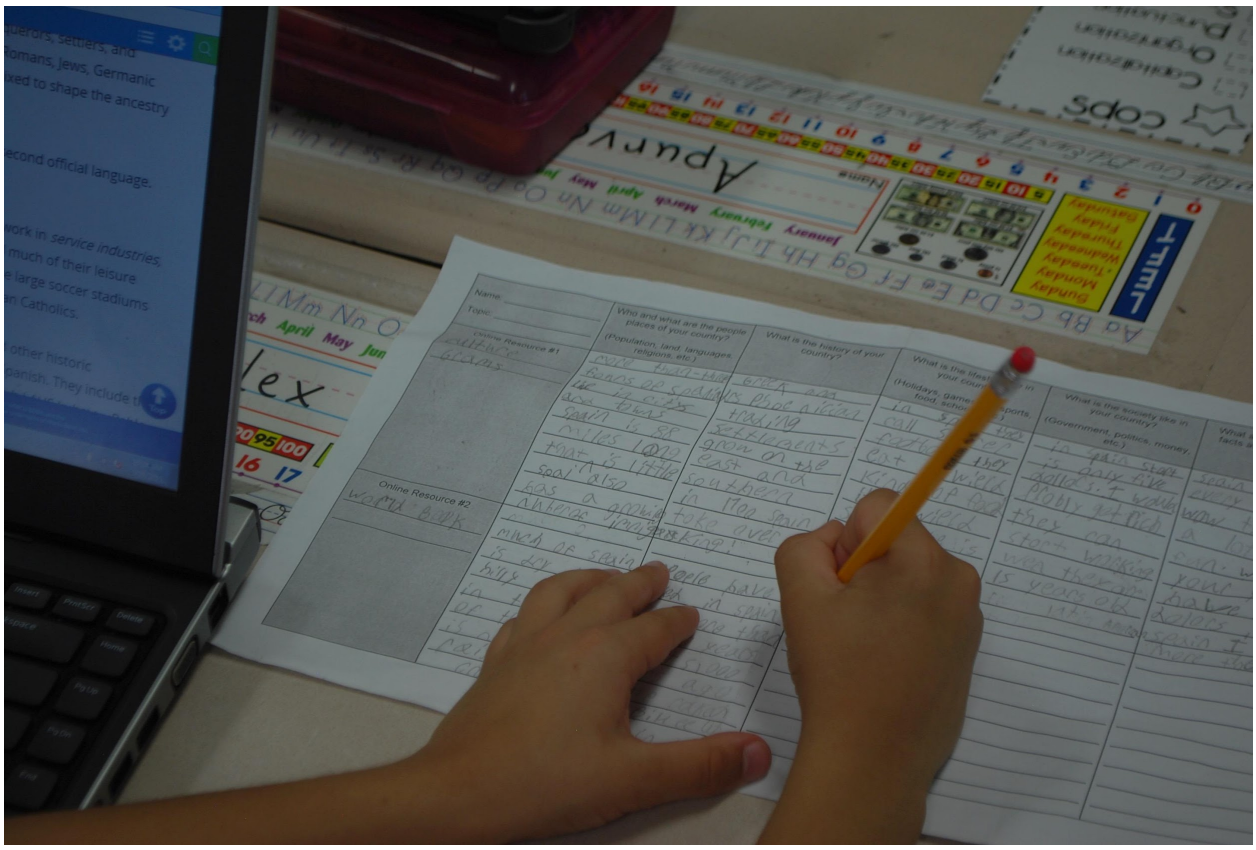


Figure 2. Note taking sheet utilized in unit of study

Miss Littlefield's class was engaged in a nonfiction unit of study that required students to read and write on the web. Instruction and activity throughout the three observation periods centered on an English Language Arts/Social Studies research project of a specific country. The students utilized a range of digital tools and resources in their work: they read multiple digital and printed resources about an assigned country of the world, took notes about key ideas from each source with appropriate citation or attribution, synthesized notes across sources using a note-taking worksheet (Figure 2), and presented synthesis in the form of a Google Slides presentation. Miss Littlefield provided the class with a presentation template/shell with topic headings aligned to the questions on the note-taking worksheet, guidelines for the amount of text to appear on each slide, and required that students include three images in their presentation visuals. At the end of the unit, students presented their findings to their peers and the

students' work was printed as a book and displayed on a board in the classroom. A paper copy was sent home to parents.

Data were collected over three two-hour observation periods near the end of the school year. Field note triangulation was achieved through follow-up interviews with the teacher and still photograph data. A mounted camera was set bird's eye view in the room to capture a still snapshot of the room every two minutes. These bird's eye view snapshots were utilized to garner a sense of how frequently two focal students who did choose to engage in the Bring Your Own Device [BYOD] program utilized these devices as well as to help determine the overall time spent per focal child on any devices for literacy activity.

Throughout the observations, I moved through the classroom environment and stopped to engage students perceived to be challenged or particularly successful by asking: "What are you trying to do? What steps did you take? How can you find out what to do to help you solve your problem?" and "What did you just do? Why? How?" I utilized field notes and camera stills snapped from a handheld camera I carried with me to document what students were doing on their individual screens and the ways in which the students worked with the materials/tools in their classroom environment. I used shorthand codes for device and text types and presentation notes in the margins of my field notes each time I observed a new child. To maximize the data I collected, I used a vibrating timer in my pocket to cue me every two minutes to a new child. I moved unsystematically through the room.

Audio-recorded interviews with the classroom teacher followed the 2nd and 3rd observations, and were transcribed and utilized to triangulate findings from the other data sources. Member checking occurred six months after the observation to validate trends emerging from the data set. Following data collection and transcription, the interview transcripts and field notes were coded using constant comparative methods (Corbin & Strauss, 2008) and an activity theory frame (Leontyev, 1981)—attending to the tools, subjects, objects, rules, community, and division of labor related to digitally-oriented activities. Table 2 presents the parent and child nodes of code that emerged from the data set.

Table 2. Parent- and child-nodes coded in data set

Parent-node	**Child-nodes**
User	student; teacher; interventionist/specialist; other
Tool/Device type	none/analog; laptop; teacher computer; iPad; BYOD [insert device type]
Text type	printed/paper text; digital text – web; digital text – mobile app
Digital text presentation mode	visual still; visual animated; written text; narrated text; audio/sound accompaniment; combination [add descriptive notes]
Composition method	paper/pencil; copy/paste; voice text; type labored; type fluently
Search method	search & find keyword; scroll; site map or index; no search
Curricular place	Daily 5; Guided Reading; ELA Block; Writing Block
Web literacy activity	remix; revise; compose; code; design; share; contribute; open practice; protect; connect; search; navigate; synthesize; evaluate
Digital skills/competencies	see Chung, Gill, and O'Byrne (n.d.)

Analysis and Results

This section presents the analysis and results for each of the three research questions. Field notes contained 160 different entries about the children in Miss Littlefield's classroom. One hundred of the entries were randomly selected for analysis for this study. In general, and unless otherwise specified, frequency counts of the number of instances of each parent- and child-node code were utilized to describe the relationships existing among variables.

Web literacy activities and digital skills

To address the first research question, *"what web literacy activities and digital skills are observable in a primary grade classroom with a teacher who experts perceive to be technology savvy and a digital leader?",* I culled the curricular place and web literacy activity variables from the data. I found

that the majority of the activity around digital text fell in the read and write portions of the Mozilla Web Literacy framework. In other words, second grade students in this classroom, for this particular unit of study, had multiple opportunities for specific, albeit narrowly defined, reading and writing activities on the web, but there were no opportunities to build their emergent understandings of *how* or *why* to participate in any of the web literacies on the connected web because these were not modeled and children were not asked to participate in any such activity. Table 3 presents the frequency of codes for each activity type.

Table 3. Frequencies of web literacy activities observed

Read		Write		Participate	
Activity	*Frequency*	*Activity*	*Frequency*	*Activity*	*Frequency*
Search	6	Design	0	Share	0
Navigate	7	Code	0	Contribute	0
Synthesize	20	Compose	42	Open Practice	0
Evaluate	0	Revise	28	Protect	0
		Remix	0	Connect	0

From Table 3 it is obvious that there were a few focused web literacy activities and the same statement could be made about the digital skills housed within each activity. Specifically, the following skills web literacy skills/competencies were the observed and coded in the data set:

- Read-Search
    - Using and revising keywords to make web searches to find information more effectively.
    - Detecting information in a website using the internal search engine.
- Read-Navigate
    - Accessing the web using the common features of a web service.

- Read-Synthesize
    - Coalescing information shared on one webpage to make meaning.
    - Incorporating information shared across two pages on one website to make meaning.
    - Combining information shared across pages on two or more websites to make meaning.
- Write-Compose
    - Organizing information, digital content, and hyperlinks to add to a webpage or online space.
    - Embedding multimedia, hyperlinks, and digital content on a web page.
- Write-Revise
    - Incrementally adding or removing individual components (i.e., text, audio, image, video) in digital work.
    - Incrementally repositioning individual components (i.e., text, audio, image, video) while revising digital work.

No additional competencies identified by Chung and colleagues (n.d.) were observed. It is important to note that the majority of children demonstrated novice-level skill in each of the above competencies, with the exception of a) the more complex synthesis competencies, b) the embedding competency of the compose activity, and c) the repositioning competency in the revise activities. Fewer students were successful in their attempts to demonstrate their ability in these three areas, and just two students of six observed were able to successfully embed an image on their slides unassisted. Repositioning components (text and image) occurred several times, but was accidental in every case except one. When repositioning was accidental students were observed with hands on heads in concern, often asking "what happened?" My interpretation was that the student would grab the text box on the slide and move it unintentionally across the slide template because text box positions were not locked in place.

With respect to searching I found that most children scrolled through the web page to find what they needed. When a student was unsuccessful in his or her scroll and scan, they frequently abandoned

the search on that web resource and opened another one to repeat the process. One student utilized the control plus find function to search for a keyword within a web page.

Balancing analog and digital tools

The second research question asked, "*how do the teacher and her students balance analog and digital tools in the classroom?* " The photos from the camera stills provided 180 images for review. Digital tools and texts were utilized by second grade students as part of the following curricular places in the ELA block: Daily 5 - listen to reading; guided reading; writing mini lesson; writing research; and writing composition.

Across the entire ELA block, fifty percent of the camera stills (54 images) were examined for two focal children who were identified by red dots they wore on their shoulders throughout the observations. Zoom was used to code for the tool/device type child-node based on the materials the children had on their desks and in their hands in each image. This analysis revealed approximately 36% of the images (n=19) coded across the three observations indicated that a focal child had a device for independent work, oftentimes utilized alongside printed/analog tools and materials such as books, pencils, and papers as visible in Figure 2. All of the children's note-taking for this unit was done with paper and pencil and then children transferred notes onto Google Slides. Observations indicated and interviews with the teacher confirmed that children's typing was slow and laborious, yet field note observations revealed zero students utilizing alternate modes for composition despite at least two being aware of the possibility to use voice text.

An additional 6% of the images (n=3) contained a whole-group screen. 88% of the images showed focal children with devices on loan from the Library/Media Center [LMC]. Only 22% of the images with screens showed the child with a BYOD, despite the BYOD school wide initiative. In other words, the majority of the focal children's time was spent with printed/analog tools for the observation periods, rather than with screens provided by the school, or with screens the children brought to school from home. This finding, that printed materials remain the predominant materials used for instruction,

was not a surprising one: it adheres to the discussion around screen time in school and home contexts (see, e.g., Straker, Zabatiero, Danby, Thorpe, & Edwards, 2018; Paciga, Quest, & Lisy, 2018), which purport that children's interactions with screens ought to be limited. Given the result that there was more independent use of technology tools than there were modeled or co-created experiences, these results stray from the recommendations that screen time for children up to eight years of age is best when mediated by an adult.

Tools and text types

Parent nodes for 1) tool/device type and 2) text type were utilized to answer the third research question, which asked, "*what are the features of the tools and texts used in literacy instruction in a tech-forward school and classroom?"* Analysis revealed that children accessed and utilized printed texts for reading and writing more frequently than digital texts. Moreover, these trends varied as a function of whether children were primarily reading or writing: there were more opportunities for children to engage in writing activities on a laptop compared to tablets, and there was more reading activity on tablet device types.

There were several options for device type available to the children in the classroom. The LMC at the school had both laptops and iPads the teacher or children could check out. In addition, the children could bring devices from home for use, or could utilize the teacher's iPod or desktop computer. Analysis for the second research question determined that focal children minimally utilized the device they brought from home and interviews with the teacher confirmed this. Miss Littlefield reported, "They spend so much time getting their own devices to connect. They won't let it go. Finally I'm just like, 'it's time to use a school device!'" Because of this, LMC iPads were more commonly used for consuming text during the Daily 5 or for writing research. A few students traded in the LMC iPads for LMC laptops when it came time to compose. There was one students composing with an LMC iPad and no student utilized a home device for composition. These trends could be potentially related to the accessibility of the keyboard on a laptop, or could, perhaps relate to the biased notion that tablets are not tools for writing

(i.e., see Rideout's survey items (2017), which do not mention any form of writing, specifically). Table 4 compares the frequency of device types observed, as indicated by field note child-nodes.

Table 4. Frequency of tool/device types utilized during the English Language Arts block observations

	LMC-Laptop	LMC-iPad	BYOD-iPad	BYOD-Kindle	T-Computer	T-iPod
Reading	23	31	14	26	0	6
Writing	92	8	0	0	0	0

All three text types (i.e., printed/paper, digital-web, and digital-app) were observed in reading, whereas only two of the three text types (i.e., printed/paper and digital-web) were observed in writing, with printed/paper texts being the most commonly observed text type across the reading and writing domains. Table 5 compares the text types observed.

Table 5. Frequency counts of text types appearing in field notes

	Printed/paper	Digital – web based	Digital – mobile application
Reading	51	43	6
Writing	72	28	0

These text types are important to consider while addressing the research question because the digital domains include broader definitions of what counts as "text": these include hyperlinked content, audio components, video components, and searchable content. Mobile applications are installed via download onto tablets, and can be utilized free of an internet connection, whereas web-based digital content requires the device to be connected to the internet to engage in the activity. Both digital forms of text type, web-based and mobile applications, afford students opportunities to easily "uproot a text from one context and transport it into another context, thereby re-contextualizing the meaning of that text" (Beach & O'Brien, 2005, p.50). Such opportunities are minimal, or require significantly more effort in

printed/paper contexts, and are generally only applicable to the printed words, rather than the visual content/images in the paper contexts.

When I examined the modes presented in the digital texts I found that children read/consumed a wider range of modes when reading text than when creating/composing text. To arrive at this conclusion, each text described in field notes was described as containing one or more of one or more visual presentation mode (i.e., visual still; visual animated) and one or more mode for presenting the printed text on screen (i.e., written text only; narrated (i.e., audio) text; audio/sound accompaniment to written text). When multiple audio or visual components were present in a digital text at the moment of observation, these were coded as combination. This is to say that the sum of visual still plus visual animated plus combination adds to 100%. Because the number of digital texts observed in field notes varied across reading and writing, I utilized a percentage (instead of a frequency count) to allow for more equitable comparison. This percentage was calculated based on the number of instances presentation modes appeared in field notes codes divide by the total number field notes codes for presentation modes in reading or writing. These results are presented in Table 6.

Table 6. Comparison of presentation modes observed in texts

	Visual still	Visual animated	Written text	Narrated text	Audio/sound accompany	Combination
Reading	67	24	76	24	5	9
Writing	100	0	100	0	0	0

Table 6 reveals that there are fewer modes of meaning making called upon in writing/composing than in reading and writing.

When Miss Littlefield and I had met to discuss her plans for the unit, I had anticipated seeing the students integrating digital assets such as sound files with national anthems and videos of culturally authentic food preparation into their compositions about their assigned country of study. So, while the

students did hear the anthems, could download the MP3 file from the CultureGrams website (Proquest, 2014), and did see food being prepared in the digital encyclopedia entries they read in their research process, no child integrated such components into their writing. Miss Littlefield did model in a whole group demonstration how to integrate and give attribution for copied/pasted still visual images into the Google Slides, but had not yet demonstrated how to integrate other visual or audio content, the ways that children engaged in the note-taking process (see Figure 2) did not afford students opportunity to think about how the ways in which these other forms of conveying meaning might contribute to their compositions.

Discussion

As the framing for the CCSS rightly point out, we need the arts to make sense of the range of media we read and write in digital word. So much of the media we consume/read in the world contains modes of meaning making that go beyond the printed world. As we write in the digital world GIFs, emojis, bitmojis, vines, snaps, infograms, instagrams, and vlogs allow authors to make meaning in ways that rely more significantly, if not wholly, on visual images and/or audio. This study shines a spotlight on the ways in which these modes of meaning play out in one second English Language Arts classroom with a teacher who is considered to be technology savvy.

The data collected demonstrate clearly at least three key findings. First, a limited range of the web literacy activities appeared in the observation contexts: there were limited opportunities for children in the focal classroom to engage in the participate domain of the web literacies map, despite the many opportunities to write/compose and read/consume digital media. Second, screen-driven activity does not dominate in this technology-friendly classroom—there is a balance between printed and analog text and evidence suggests that students move fluidly between the paper and the screen. Third, more modes of meaning are utilized in reading/consuming texts than in writing/composing them.

While this study is limited by its exploratory nature and small sample size, it is quite feasible that attending to the texts and tools and web literacy practices is important enough to warrant the field's

attention. Similar advances have been made by Edwards and Bird (2015) in their efforts to harness the power of popular media and digital tools in children's play. I believe the idea of emergent web or digital literacy is a real phenomenon, and that the range of activities, tools, and experiences we provide children will determine the extent to which these skills emerge and develop in children, and the timing of such emergence.

It is entirely possible that the timing of the observation at the end of the school year and the disciplinary practices (i.e., reading, social studies, and writing) for the unit of study constrained what was observed during the six hours I spent in the classroom, but my interviews with the teacher suggested this was not the case. According to Miss Littlefield, she had never thought to engage students in the participate portion of the web literacy framework. She could have done this by sharing drafts of the presentation slides and soliciting feedback from peers, or by sharing the final product with a larger authentic audience. Or, she could have expanded the research process or form of the final product to allow for more creative or collaborative means of demonstrating understanding of the history, key people, key landmarks, and traditions of the countries of the world the children studied. Examples of such expansion of process include email or video chat exchanges with a primary source. Examples of such expansion of form might include an annotated Google Earth map, a tourism commercial, an interview with a local child from the country studied, an interactive game in which students tour a digital replica of a key event in the country of study, or a diorama with a video tour in which all of the information is presented.

Miss Littlefield recognized these ideas as valid and of value to her in planning of future units of study, but also pointed out that she had previously not been exposed to the web literacies framework and so was only beginning to think about participating and remixing and coding as part of her responsibilities as a second grade teacher. Arguably, despite being identified as a technology-savvy teacher by professors in her Master's program, there was still additional room for growth in her Technological Pedagogical and Content Knowledge [TPACK] (Mishra & Koehler, 2006), so that her application of technology could

redefine or modify literacy practices, rather than simply substitute or augment them (Puentedura, 2006). Miss Littlefiled's broader than most, but narrower than Mozilla's definitions of reading and writing constrained the range of web literacy activities and resulted in students' experiencing a limited range of opportunities to practice digital skills.

If fewer opportunities across all portions of the web literacies frame—like those with zeros in Table 3 such as design, code, evaluate, participate, contribute, connect, and share—are provided in children's early years, the children *could* have under-developed or later emerging dispositions for and interest in these web literate, 21st century ways of thinking and doing. In this case study, collaboration and creativity were largely omitted from the activities I observed. It is probable that students' foundational vocabularies and skills could prohibit their abilities to navigate through complex digital text and activities that rely on modes beyond printed words with visual stills as accompaniment, such as those created by Miss Littlefield's students using Google Slides in this case study. Work in the field of emergent literacy point toward validating these hypotheses (e.g., Paciga, 2015; Paciga, Lisy, & Teale 2013; Plowman, 2012; Wohlwend, 2015), but further work is needed to validate the observational framework employed here, and to develop professional development to nudge educators to critically examine the ways in which the types of tools, subjects, objects, rules, community, and division of labor (Leontyev, 1981) surrounding the digital activities in classrooms.

With Jessica Hoffman and Bill Teale I have written about how the Common Core State Standards use language like "begins in grade 2" and about the apparent disconnect between anchor standards and the early childhood breakdown of those standards (Paciga, Hoffman, & Teale, 2015; Hoffman, Paciga & Teale, 2014). We have argued, "upping their daily participation in collaborative experiences with teachers and peers around complex literacy tasks that are better aligned to later grade level and anchor standards, e.g., modeling and discussion through think-alouds and guiding questions in interactive read-alouds of complex texts and shared writing activities" is essential. Here I'll add that it is especially essential to model complex web literacy skills with texts that adequately reflect the range of media utilized in the

world if we are to have adolescents who "use technology and digital media strategically and capably" (NGA & CCSO, 2010, p. 7).

It is important to remember that students require much collaborative practice with complex literacies in early childhood before they will be able to demonstrate proficiency in such skills independently in later grades. In addition to upping participation around complex literacy tasks that are carried out with analog tools, I argue that we also need to up children's literacy experiences in which children and their teachers examine and create digital texts for authentic, discipline-specific activity that includes multiple modes for conveying meaning. Leu, Forzani, Timbrell, and Maykel (2015) have commented that the CCSS under-specify learning goals with respect to the internet and online activities. Miss Littlefield got there in spite of the underdetermined nature of the standards presented in Table 1, but largely missed opportunities for participating in web literacy as well as composing with the visual and audio modes of conveying meaning.

Recently, Dintersmith and Behr contributed a feature to the *Pittsburgh Post* that highlighted learning in schools that participate in the Remake Learning (2015) initiative: "In Western Pennsylvania, teachers, librarians, curators and others are showing parents the way, equipping kids to thrive with a mix of high-tech tools and low-tech mindsets — along with plenty of art, science, activism and problem-solving. From the urban core to the rural farms, they're remaking learning for the modern world: students film documentaries about changing neighborhoods, engineer real solutions to community problems and code software for their peers. They collaborate, communicate and think critically while making the world a better place than they found it." For me, several questions remain: if our projects, activities, and media inputs and outputs we have in our technology-oriented early childhood classrooms fall short of the kinds of activities Dintersmith and Behr describe, will we accomplish the goal of having web literate students? Will we have another case of Duke's "3.6 Minutes Per Day" (2000) with digital texts? Will web literacies emerge? Additional research that a) documents the range of early experiences children have with web

literacies and digital skills and b) connects experiences to later demonstrations of strategic and capable use of technologies to create, problem solve, communicate, and collaborate is needed.

References

Beach, R. & O'Brien, D. (2005). Playing texts against each other in the multimodal English classroom, English in Education, 39:2, 44-59, DOI: 10.1111/j.1754-8845.2005.tb00616.x

Belshaw, D. (2011). What is 'digital literacy'? Doctoral dissertation, Durham University. Available https://dmlcentral.net/wp-content/uploads/files/doug-belshaw-edd-thesis-final.pdf.

Blackwell, C., Wartella, E., Lauricella, A.R., & Robb, M. (2015). *Technology in the lives of educators and early childhood programs: Trends in access, use, and professional development from 2012 to 2014*. Evanston, IL: Northwestern School of Communication Center on Media and Human Development. Retrieved from http://www.fredrogerscenter.org/wp-content/uploads/2015/07/Blackwell-Wartella-Lauricella-Robb-Tech-in-the-Lives-of-Educators-and-Early-Childhood-Programs.pdf

Bredekamp, S. (1987). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8. Washington*, DC: NAEYC.

Chung, A., Gill, I.B., O'Byrne, W.I. (n.d.). Web literacy 2.0. Mozilla Whitepaper. Available https://mozilla.github.io/content/web-lit-whitepaper/#web-literacy-skills

Cummins, S. (2013). *Close reading of informational texts: assessment-driven instruction in grades 3-8.* New York, NY: Guilford.

Dintersmith, T., & Behr, G. (2018, April 14). Mr. Rogers' autonomous trolley. *Pittsburgh Post-Gazette*. Retrieved from http://www.post-gazette.com/opinion/Op-Ed/2018/04/15/div-class-libPageBodyLinebreak-Mr-Rogers-autonomous-trolley-br-div/stories/201804150031

Duke, N.K. (2000). 3.6 minutes per day: The scarcity of informational texts in first grade. *Reading Research Quarterly, 35*(2), 202-224.

Edwards, S., & Bird, J. (2015). Observing and assessing young children's digital play in the early years: Using the Digital Play Framework. *Journal of Early Childhood Research*. https://doi.org/10.1177/1476718X15579746

Edwards, C., Gandini, L., & Forman, G. (Eds.). (1998). *The hundred languages of children: The Reggio Emilia approach--*

Hoffman, J.L., Paciga, K.A. & Teale, W.H. (2014). *Common Core State Standards and early literacy instruction: Confusions and conclusions*. Chicago, IL: University of Illinois at Chicago Center for Literacy.

Hutchison, A., & Reinking, D. (2011). Teachers' perceptions of integrating information and communication technologies into literacy instruction: A national survey in the United States. *Reading Research Quarterly*, *46*(4), 312–333. https://doi.org/10.1002/RRQ.002

Hutchison, A., & Woodward, L. (2014). A Planning Cycle for Integrating Digital Technology Into Literacy Instruction. *The Reading Teacher*, *67*(6), 455–464. https://doi.org/10.1002/trtr.1225

Ito, M., Gutiérrez, K., Livingstone, S., Penuel, B., Rhodes, J., Salen, K., Schor, J., Sefton-Green, J., & Watkins, S.C. (2013) Connected learning: an agenda for research and design. Digital Media and Learning Research Hub, Irvine, CA, USA.

Kress, G. (2000). *Early spelling: Between convention and creativity.* London: Routledge.

Leu, D.J., Forzani, E., Timbrell, N., & Maykel, C. (2015). Seeing the Forest, Not the Trees: Essential Technologies for Literacy in the Primary-Grade and Upper Elementary-Grade Classroom. *The Reading Teacher*, *69*(2), 139–145. https://doi.org/10.1002/trtr.1406

Leu, D.J., Kinzer, C.K., Coiro, J.L., & Cammack, D.W. (2004). Toward a theory of new literacies emerging from the Internet and other information and communication technologies. In R.B. Rudell & N.J. Unrau (Eds.), *Theoretical models and processes of reading* (5th ed., pp. 1570–1613). Newark, DE: International Reading Association.

Leontyev, A. N. (1981). *Problems of the development of the mind*. Moscow: Progress Publishers.

Mishra, P., & Koehler, M.J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1017–1054.

National Governors Association Center for Best Practices, Council of Chief State School Officers. (2010).

Common Core State Standards: Appendix A. Washington D.C.: National Governors Association Center for Best Practices, Council of Chief State School Officers.

Nikolopoulou, K. (2014). Educational software use in kindergarten. In C. Karagiannidis, P. Politis, & I. Karasavvidis (Eds.), *Research on e-Learning and ICT in Education* (pp. 39–57). New York, NY: Springer New York. Retrieved from http://doi.org/10.1007/978-1-4614-6501-0_4

Paciga, K. A. (2015). Their teacher can't be an app: Preschoolers' listening comprehension of digital storybooks. *Journal of Early Childhood Literacy*, *15*(4), 473–509. https://doi.org/10.1177/1468798414552510

Paciga, K. A., Lisy, J. G., & Teale, W. H. (2013). Better start before kindergarten: Computer technology, interactive media and the education of preschoolers. *Asia-Pacific Journal of Research in Early Childhood Education*, *7*(2), 85–104.

Paciga, K.A., Hoffman, J.L., & Teale, W.H. (2015, March 30). The CCSS don't say we should exclude the play. http://preschoolmatters.org/2015/03/30/the-ccss-dont-say-we-should-exclude-the-play/

Paciga, K. A., Quest, M., & Lisy, J. G. (2018). As easy as E-C-E: Retaining the 'early childhood essentials' with technology in early childhood education. *The Active Learner: HighScope's Journal for Early Educators*, *2*(1), 4–10, 36.

Plowman, L. (2012). *Press for play: Using technology to enhance learning in the early years*. London: Technology Enhanced Learning Research Programme. Retrieved from http://tel.ioe.ac.uk/wp-content/uploads/2011/11/PressForPlay_WebTP.pdf

Puentedura, R.R., (2006). Transformation, technology, and education. Available http://hippasus.com/resources/tte/

Remake Learning Council. (2015). *Remake learning playbook: Building collaborative innovation networks for teaching and learning*. Pittsburgh, PA: The Sprout Fund. Retrieved from http://downloads.sproutfund.org/playbook/remake-learning-playbook-20151022.pdf

Rideout, V. (2017). *The Common Sense census: Media use by kids age zero to eight.* San Francisco, CA: Common Sense Media. Retrieved from https://www.commonsensemedia.org/research/the-common-sense-census-media-use-by-kids-age-zero-to-eight-2017

Rogow, F. (2015). Media literacy in early childhood education: Inquiry-based technology integration. *Technology and Digital Media in the Early Years: Tools for Teaching and Learning*, 91–103.

Straker, L., Zabatiero, J., Danby, S., Thorpe, K., & Edwards, S. (2018). Conflicting guidelines on young children's screen time and use of digital technology create policy and practice dilemmas. *The Journal of Pediatrics*, *202*, 300–303. https://doi.org/10.1016/j.jpeds.2018.07.019

Teale, W.H., Hoffman, E.B., Whittingham, C., & **Paciga, K.A.** (2018). Starting them young: How the shift from reading readiness to emergent literacy has influenced preschool literacy education. In C. Cassano & S. Dougherty (Eds.) *Pivotal research in early literacy: Foundational studies and current practices* (pp. 181-200). New York: Guilford.

Teale, W. H., & Sulzby, E. (Eds.). (1986). *Emergent literacy: Writing and reading* (2nd ed.). Norwood, NJ: Ablex Publishing.

The New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard educational review*, *66*(1), 60-93.

Turner, J.D. (2018). Nurturing Young Children's Literacy Development through Effective Preschools, Practices, and Policies: A Conversation with Dr. William H. Teale. *Language Arts*, *95*(3), 176–181.

US Department of Education, & US Department of Health and Human Services. (2016a). *Advancing Educational Technology in Teacher Preparation: Policy Brief*. Washington, DC. Retrieved from http://tech.ed.gov/files/2016/12/Ed-Tech-in-Teacher-Preparation-Brief.pdf

US Department of Education, & US Department of Health and Human Services. (2016b). *Policy brief on early learning and use of technology*. Washington, DC. Retrieved from http://tech.ed.gov/files/2016/10/Early-Learning-Tech-Policy-Brief.pdf

US Department of Education. (2015a). Future Ready Schools Framework. Retrieved April 12, 2016, from http://dashboard.futurereadyschools.org/framework/framework-overview

US Department of Education. (2015b, October 29). Open Education [US Department of Education: Office of Educational Technology]. Retrieved November 6, 2015, from http://tech.ed.gov/open-education/

Wohlwend, K.E. (2015). One Screen, Many Fingers: Young Children's Collaborative Literacy Play With Digital Puppetry Apps and Touchscreen Technologies. *Theory Into Practice*, *54*(2), 154–162. https://doi.org/10.1080/00405841.2015.1010837

Yin, R.K. (2003). *Applications of case study research.* Thousand Oaks, CA: Sage.

List of Digital Tools Referenced

KidsClick! (Project). (2000). *TumbleBook library: E-books for e-kids* [web application]. Toronto, ON: TumbleBook Library.

K12 Inc. (2013). *Timed reading & comprehension practiceI* [iOS application]. Available https://itunes.apple.com/us/app/k12-timed-reading-comprehension-practice/id660702629?mt=8

PebbleGo (2014). *PebbleGo: Social studies* [web application]. Capstone. Available www.pebblego.com.

Proquest. (2014). *CultureGrams: Kids edition* [web application]. Available https://proquest.libguides.com/culturegrams

Journal of Literacy and Technology Special Edition
Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Reading, Writing, Cheetahs, Oh My!: Literacy, Collaborative Learning, and Making Movies

Melanie Reaves
Montana State University Billings
melanie.reaves@msubillings.edu

George Kamberelis
Western Colorado University
gkamberelis@western.edu

Journal of Literacy and Technology Special Edition
Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Abstract

Despair, hopelessness, frustration—this is how some children feel in school when they struggle with reading and writing. This is where our story begins for 9-year-old Katy (pseudonym) and her tutor, Melanie (first author). In this article, we describe interest-based, purpose-driven literacy activity mediated by digital technology tools as Katy and Melanie composed an informational *iMovie* about cheetahs. Using a case study design in which the tutoring dyad was our case, we drew upon the construct of *attunement* (Kaye, 1982) to understand how the emergent and contingent nature of their collaborative work unfolded and propelled both Katy's development as a literate person and Melanie's development as a teacher forward. Through this work we have come to understand *art, collaboration,* and *production* in new ways. The *iMovie product* and (related products) generated through Katy and Melanie's collaborative activity revealed *processes* (or what we have come to call *micro-productions*) that became key artifacts of their *aesthetic play* (Latta, 2004) that contributed greatly to their "final" product. Katy's play involved learning new technologies and literacy practices; Melanie's play also involved learning new technologies, as well as experimenting with putting literacy theory and research into practice. The dyad's artistic endeavors provide insights into the affordances of collaborative productions. Their movie could not have happened as it did without both Melanie and Katy contributing their ideas, questions, problems, materials, experiences, knowledge, and skills. More importantly, we know that each *micro-production* was saturated with affect—how Katy and Melanie invested their intensities, passions, and feelings/emotions (Deleuze & Guattari, 1987; Massumi, 2015). It was art-in-motion. Process art. Art that produces material and affective transformations in those who create it.

Despair, hopelessness, frustration—this is how some children feel in school when they struggle with reading and writing. Students who need it the most are getting the least amount of time to engage in motivating and meaningful literate activity (e.g., Allington & Walmsley, 2008) and instead, are often given skills-based activities largely involving worksheets. This is where our story begins for 9-year-old Katy (pseudonym) and her tutor, Melanie (first author).

In this article, we describe interest-based, purpose-driven literacy activity mediated by digital technology tools as Katy and Melanie composed an informational *iMovie* about cheetahs. We have come to understand *art, collaboration,* and *production* in new ways. The *iMovie product* and (related products) generated through Katy and Melanie's collaborative activity revealed *processes* (or what we have come to call *micro-productions*) that became key artifacts of their *aesthetic play* (Latta, 2004) and contributed greatly to their "final" product. Katy's play involved learning new technologies and literacy practices; Melanie's play also involved learning new technologies, as well as experimenting with putting literacy theory and research into practice. The dyad's artistic endeavors provide insights into the affordances of collaborative micro-productions. What we mean by *micro-productions* is somewhat counterintuitive in that they refer to intensive activities or processes that propel a project forward or alter its direction in significant ways. We construe these activities or processes as products of a certain kind because they were pivotal "moments" over the course of the overall macro-production of cultural artifacts like the Cheetah movie. Importantly, the Cheetah movie only happened as it did because both Melanie and Katy constantly contributed ideas, questions, problems, materials,

experiences, knowledge, and skills, and some of these contributions (which we are calling *micro-productions*) turned out to be fundamentally important in the overall production of the movie. More importantly, we know that each *micro-production* was saturated with affect—how Katy and Melanie invested their intensities, passions, and feelings/emotions (Deleuze & Guattari, 1987; Massumi, 2015). It was art-in-motion. Process art. Art that produces material and affective transformations in those who create it.

Conceptual Framing: Attunement

Only connect! That was the whole of her
sermon. Only connect the prose and the passion, and both will
be exalted,
And human love will be seen at its height.
Live in fragments no longer.
Only connect. . .
E. M. Forster, *Howards End* (1910/2008)

Attunement is the construct around which the entire argument in this article pivots. We have borrowed this term from theory and research on interactions between children and their caregivers and adapted it to think about learning-teaching interactions between tutors and students. In his book, *The Mental and Social Life of Babies: How Parents Create Persons* (1982), Kenneth Kaye used a decade of longitudinal research to argue that early learning and development are rooted in social relationships—more specifically, the interactions and relationships between infants and their caregivers grounded in caregivers' projections of intentionality onto infants. As described by Kaye, such "exchanges with

adults that facilitate sensorimotor and later linguistic development require little from the infant at first except regularities in behavior and expressive reactions that parents tend to interpret *as if* they were meaningful gestures" (p. 3). Kaye viewed learning and development in apprenticeship terms. Guided by his initial insights about how projection functioned in early social relationships, he mapped the development of turn-taking between adults and babies—beginning with what seem to be natural maternal responses to infants' nonverbal cues to interactions with adults. Then, the adult responds to what they perceive/project to be infants' intentions to symbolic verbal interaction or dialogue. This mapping led Kaye to believe that the development of the infant's mind occurs as a function of a dialogic process in which the parent continuously pulls the child forward, eventually achieving a full partnership.

Drawing on Kaye's insights, Terman (1988/2013) claimed that "the shaping, molding, and structuring of internal states. . . occurs by way of the vicissitudes of attunement" (p. 125). In fairly simple terms, attunement involves harmony between infants and caregivers; they achieve an empathic, synchronous state together. Other musical metaphors such as resonance, rhythm, and chorus come to mind in this regard. According to Stern (1985), attunement is the "performance of behaviors that express the quality of feeling of a shared affect state without imitating the exact behavioral expression of the inner state" (p.142). Successful attunement between infants and caregivers involves a kind of empathic matching. For example, when an infant expresses joy, pain, need, or frustration, the mother matches those feelings empathically and responds to enhance or mitigate them.

Thinking with this construct in relation to interactions between teachers/tutors and students, we propose attunement refers to states in which their affective and cognitive dispositions are aligned, almost homologous. During these states, the people involved experience a sense of communion during which they want to be with each other, to share ideas and feelings with each other, and to dwell together in the moment or activity. Attunement typically involves emotional sharing, a joint focus on the activity at hand, and feelings of excitement, enjoyment, and satisfaction. In this way, we feel a connectedness to Csikszentmihalyi's (1982) concept of *flow* within teaching/learning in which there is "a deep, spontaneous involvement with the task at hand…[and through which] one is freed of the confines of the social self and may feel an exhilarating sense of transcendence, of belonging to a larger whole" (p. 22). More specifically, Csikszentmihalyi described the process of achieving flow within learning/teaching experiences to involve the essential affective element of *enjoying* the task at hand, and when the tasks involve others, enjoying those social interactions as well.

Critical Review of Research: Attunement in Practice

Among other things, attunement contributes to people's ability to relate to and learn from each other (Harvey & Kelly, 1993; Kaye, 1982; Maté, 1999), and it typically involves the following dimensions: (a) engagement in natural, pre-personal connections; (b) seeing possibilities in the unexpected; (c) embracing the ruptures and interruptions; (d) providing participants with psychological safety through affective engagement; (e) being cognitively challenged; and (f) enjoying satisfying dialogic experiences (Giles, 2010; Hamm, Farmer, Dadisman, Gravelle, & Murray, 2011; Lysaker, 2000; Lysaker, McCormick, & Brunette, 2006; Reeve, 2006; Reeve & Jang, 2006; Stevens, van Werkhoven, & Castelijns, 2001). In

the following sections, we review exemplary theory and research on each of these dimensions.

Engagement in Natural, Pre-Personal Connections

When there is attunement between teachers and students, students usually experience much more autonomy, choice, and latitude for inquiry. This, in turn, helps teachers attune to students' needs and desires (Giles, 2010; Hamm et al., 2011; Reeve, 2006; Stevens et al., 2001). In essence, the teaching-learning interactions take on a more natural quality—teachers look for teaching opportunities within student-led activities.

As teachers respond to students' interests and activity, they often do so in ways that are more or less unknown to students. Some scholars have referred to this as the teacher's "invisible hand" (Bierman, 2011; Gest-Rodkin, 2011; Hamm et al., 2011; Hughes & Chen, 2011; Farmer, Lines, & Hamm, 2011; Kindermann, 2011; Luckner & Pianta, 2011). This metaphor represents the rarely considered role teachers play in students' peer relations, intentionally or not, that contribute to the social dynamics of the classroom (Farmer et al., p. 247). Teachers who are well- attuned to their students, balance routines and student autonomy, as well as the social needs of the classroom community and the individual needs of each student (Hamm et al., 2011). They also more readily recognize social similarities and differences in their students, helping them recognize complementary social relationships, such as leaders and followers and victims and bullies (Farmer et al., 2011). This becomes useful information for those critical moments in teaching—using their invisible hand to suggest work groups and peer support teams for learning.

As described by Parshad, Joshi, and Sanbighna (2012), this sort of pre-personal aspect of attunement bears a strong family resemblance to the Heideggerian concept of

Daesein's "being- with-others…almost a subliminal connection between people" (Parshad et al., n.p.). This could be why reflexivity on the part of the teacher is so critical to attuning to students. In this regard, Lysaker et al. (2006) discovered that less successful tutors who struggled to make meaningful connections with their reading buddies "demonstrated little reflection in their writings and often positioned themselves as experts" (p. 42) while at the same time placing the onus of non-success on the buddy's lack of ability, background experiences, or motivation. In contrast, more successful tutoring pairs had pre-service teachers who went beyond describing what happened in tutoring encounters to wondering about what they saw, why it happened, what role they played, as well as puzzling over the emotional and relational needs of their buddy.

Seeing Possibilities in The Unexpected

To make such connections, Stevens et al. (2001) found teachers needed to take on the perspective that even the students who struggled with the prescribed curriculum were able to achieve their goals. This required the teacher to view the experiences from the student's perspective. Stevens et al. also posited that, if teachers reconsidered what they interpreted as *off- task behavior* as behavior born out of a sensible decision (possibly to avoid failure or perceived lack of skill/knowledge), they became more readily attuned to their students. Similarly, Lysaker et al. (2006) found more successful tutors exhibited ongoing hopeful visions of the future possibilities for their reading buddies—visions from "just getting better at reading and writing to wishes for empowerment" (p. 32).

Drawing on Merleau-Ponty's concept of *embodied knowledge*, Latta (2004) extended this thinking of envisioning to include both teachers and students. Among other things, she found that both teachers and students form their perceptions through the

"anticipation of the whole; the lived conjunction of body-world in an ever organizing/reorganizing movement" (p. 220). She described ongoing work between teacher and students as *aesthetic play* where *aesthetic play* refers to the "attunement to the creating process grounded in the act of making" (p. 213 in "uncharted ground [that] requires fragile exploration in order to make one's way as a student and teacher" (p. 222) and involves "qualities of attentiveness, personal involvement, emotional commitment, felt freedom, dialogic inquiry guided, projective, and self-consciousness, folding, unfolding, and feeding back into each other and themselves" (p. 219). Latta also noted that teachers had a Dewey-like confidence in the possibilities of their experiences, using time as a "necessary aspect in order for teachers and students to be able to dwell in learning situations long enough to wonder, question, and actively participate in learning encounters" (pp. 214-215).

Ruptures and Interruptions

One key dimension of *aesthetic play* Latta (2004) describes is the fact that the creative process is inherently fragile:

> Undoubtedly, *fragility* stirs much unease in educational communities....as I participated with teachers and students negotiating curriculum…I saw the continual creation of space for teaching and learning perpetuating this fragile nature. The ruptures and interruptions demanded attunement to process. Teachers constantly facilitated learning connections with students. (p. 212)

Latta also noted that the more teachers exhibited confidence in the creative process, the more students echoed their confidence by approaching learning as adventure, following curiosity and interests, and taking responsibility for their engagement in "open-ended and interdisciplinary" (p. 215) investigations. Attunement redefined!

The fragility involved in attunement processes requires teachers and students to pay close attention to one another and to develop a sensitivity to how they feel and think, which drives them to listen more and to want to know others' wants and needs (Reeve, 2006). When ruptures, interruptions, and other fragile moments arise, they want to feel close to one another, engaged in a kind of relationality that fosters happiness, sensitivity, responsiveness, hope, positive tone, reciprocity, and reflexivity" (Lysaker et al, 2005, p. 29). In this regard, Lysaker (2000) analyzed a tutoring experience she had with Paul, a disenfranchised boy in first-grade whose activity during reading time in the classroom could be described as wholly-disinterested. Yet even after one tutoring session, Paul reciprocated Lysaker's investment in him. Upon seeing Lysaker enter the classroom, he immediately gave her a hug; arranged their work space, often placing a book he felt confident reading in a special corner; and placed two chairs side-by-side, close together for the two of them to sit, legs and shoulders touching. Theirs was fragile work that led Lysaker to realize her experiences with Paul were opportunities to re-imagine literacy learning as primarily relational and involving attunement to/with one another.

Providing Participants with Psychological Safety Through Affective Engagement

To be psychologically safe is to recognize and act upon the melding of affective and cognitive dimensions of being and doing with others—in essence, attuning to one another. In Massumi's (2015) terms, such attunement involves:

> snapping us to attention together, and correlating our diversity to the affective charge this brings, energizing the whole situation. And it's the idea that this happens at a level where direct bodily reactions and our ability to think are so

directly bound up with each other that they can't be separated out yet from each other, or from the energizing of the event. (p. 115)

The work of Poulsen and Fouts (2001) is instructive here. They found that upper elementary-age children's content learning improved when their teacher built an infrastructure designed to promote affective attunement. Interestingly, their modification for "attunement teaching" was more nuanced or indirect than that of many other attunement scholars. Instead of teaching social studies and mathematics in traditional ways (e.g., textbook/worksheets), teachers had children engage in drama-based role-playing and imaginative play in connection with the targeted content. Overall, when they found that with more instances of teacher-student attunement, students' academic achievement was also higher. Yet they also found that the children were "more emotionally expressive and involved with the teacher, resulting in the matching and sharing of internal states between teacher and student" (p. 189), creating safe psychological and affective spaces for learning.

Stevens et al. (2001) revealed such safe spaces are not only important for students; they are also important for teachers. They found learning to teach from an attunement disposition is not easy, takes time and patience, and requires the internalization of a belief in attunement strategies, as well as changing how one perceives students (Stevens et al., 2001). Their work demonstrated the importance for teachers to also have a safe space in which to practice. The key to psychological safety for both students and teachers appears to be the intentional focus on affective dimensions within relationships.

Giles (2010) described this as an "embodied process of 'being-in-the-play' [involving] a dynamic reciprocity as each person is a 'becoming' that opens in the movement of the situation" (p. 1512). "Being-in-the-play" involves being-in-relationship

to, with, through one another, which allows the players to share ideas and have "a resourceful mind that is called into play in, and responds uniquely to, the situation in which these ideas are to be realized" (Dunne quoted in Giles, p. 1512). Revisiting Lysaker's (2000) work with young Paul, we can view their collaborative literacy work as embodied ways of "being-in-the-play"—student-arranged seating for bodies to touch, intentional placement of psychologically safe texts, and hugged greetings. It can be considered "more-than-Oneness of the body [that] is always already collective, cutting as it does between life-welling and life-living…activating the body-becoming" (p. Manning, 2010, p. 117).

Cognitive Challenge

Attunement between teachers/tutors and their students facilitates being connected-present-with-to each other in the moment, thus enhancing focus and attention, interest in the tasks at hand, motivation for prolonged engagement for teachers and students, and joint purposing (Hinchion, 2016; Latta, 2004; Lysaker, 2000; Lysaker et al., 2006). Yet joint purposing "is something to be worked toward, rather than something necessarily present at the beginning of the creating process" (Latta, 2004, p. 223), which makes the whole process cognitively challenging for teachers/tutors and students. Additionally, Latta found attunement- based teaching/learning experience fostered participants' meta-awareness of themselves as *thinkers* who are involved in making and creating, of things, ideas, skills and more holistically, who they are as humans.

Making, creating, thinking—these are all emergent process that "have to be extracted from the field of complexity on the fly, performatively" (Massumi, 2015, p. 116). Such unpredictability and chaos can create insecurity, which Massumi and Luhmann

(1979) agree is wed to security. In fact, based on Luhmann's work, Massumi suggested "to produce security with any regularity…you have to produce the insecurity it's predicated on" (p. 116). This does not always align well within normative systems in which most teachers and students work where learning is quintessentially tied to individual performance and achievement and not relational activity. In fact, Stevens et al. (2001) suggested that "in school, relationship is mediated through performance instead of (what is naturally the case) performance being mediated through relationship" (p. 15). Contrary to this system, scholars and educators who have studied attunement in teaching/learning experiences have firmly demonstrated the nature of learning to be intrinsically tied to attending to the whole person—cognitive, affective, embodied, and social.

Satisfying Dialogic Experiences

When teachers and students attune to each other, their relationships are different—they are in constant *dialogue*. Here we mean *dialogue* in its holistic Freireian sense—joint meaning-making that takes place through words *and* actions and that blurs the lines between "teacher" and "student:"

> Through dialogue, the teacher-of-the-students and the students-of-the-teacher cease to exist and a new term emerges: teacher-students with students-teacher. The teacher is no longer merely the one-who-teaches, but one who is himself taught in dialogue with the students, who in turn while being taught also teach. They become jointly responsible for the process in which all grow. (Freire, 1986, p. 67)

Lysaker et al.'s (2006) study of pre-service teachers' tutoring work with their young reading buddies is a good example of this phenomenon. More successful tutoring pairs operated in more dialogic ways. For example, one tutor wrote in her journal, "My buddy

and I read for enjoyment. I read *Seed Folks,* while he read more poems. Then we shared what we read" (p. 35). In many of the journal entries collected by Lysaker et al., tutors used the word "we" to describe their co-learner stance. Latta (2004) described such interactions as *dialogues of faith* in which participants "venture into the unknown with an audacity and tentativeness. . . [and] respond to the call [that] necessitates centering/embracing fragility as a productive power alive within the act of creating" (p. 224).

Concluding Thoughts

Thinking across this body of literature, we are struck by how little attunement in teaching/learning is fostered in formal learning environments. Not much has changed since Dewey (1919/1944) introduced the understanding that learning in most formal learning environments is divorced from our natural inquiry processes. Instead of attunement, we seek compliance, conformity, and individual achievement from the students. And time and again teachers are subjected to professional development that they perceive to be irrelevant to what they need to improve their day-to-day practice (e.g., Jones & Dexter, 2014; Stevenson, 2004). Yet students want to be heard and understood as "cognitive and socially competent co-players with the teachers" (Stevens et al., 2001, p. 15). The research we report in this article was conducted in a space that valued, even encouraged, attunement—a space in which a tutor and her tutee could be creative, could find joy in learning, and could grow with one another both personally and academically (Miller, 2000).

Methods

Research Question and Research Design

A two-fold question guided this study: How might responsive tutoring activity between a tutee and her tutor unfold, and how might these processes fuel the learning and

development of both tutee and tutor? To address this question, we used a case study design (Stake, 1995) in which the tutoring dyad was the case. Following Cole and Engström's (2007) insistence that units of analysis for studying human activity should be molar—involving all aspects of the activity system under study—our unit of analysis was *the-dyad-in-activity-using-cultural-tools-to-accomplish-a-task-with-a-defined-goal*.

Setting and Participants

This study took place within a responsive literacy tutoring program serving children (grades K-6) at a university located in the Rocky Mountain region of the United States. The program foregrounded children's interests and learning purposes as individual curriculum was designed for each student. Tutors were students in graduate literacy education (masters/doctoral) and mentored by professors in literacy education. Tutors and tutees had access to many different newer technologies, such as *Apple* and PC computers and printers, the Internet, *iPads*, cameras, video recorders, videos, and a host of software. Although their work was not focused on these technologies, tutoring pairs used them seamlessly with more traditional tools such as white boards, journals, books, magazines, and many different art and writing tools.

Tutee. Katy was a student in third-grade who was referred to the program by her parents because she had been labeled a struggling reader, especially with respect to decoding, fluency, and comprehending informational texts. She exhibited negative views of literacy and was apprehensive to engage in traditional school-based literacy activities (e.g., reading books, writing stories/reports). When this study began, she was participating in two literacy intervention programs at her school—one-on-one and in a small group.

Tutor. Melanie was an experienced elementary teacher and literacy specialist in her third year of doctoral studies in literacy education. Importantly, Melanie was a full

participant-observer-researcher in this project. This positioned her as a critical inquirer invested in the "we" she and Katy brought into being (Jones, 2017)—a "we" that was "already speaking before it [uttered] any words" (Butler, 2015, p. 156). Finally, because this "we" was an ever-becoming phenomenon, Melanie's presence as an "insider" was extremely helpful in coming to understand how Katy and Melanie attuned to/with one another across several months of collaborative activity (Jones, 2017).

The Project

During 10 one-hour tutoring sessions, Katy and Melanie read about cheetahs and composed a multimodal information report using a number of digital tools including *iMovie*. The sessions were not always held a week apart. As happens in many tutoring situations, there were some weeks that Melanie had other obligations and others in which Katy was ill or on trips with her family. Altogether, their work on this project encompassed three and one-half months. In this project, Melanie foregrounded Katy's interests (cheetahs) and purpose (making an *iMovie* to show her family and friends) during all of their work together. This meant that the course of each session emerged in a more organic fashion than is usually found in most formal tutoring/intervention programs (e.g., Allington & Walmsley, 2008).

Data Collection and Analysis

We audiotaped all sessions and Melanie transcribed them; we collected all artifacts produced; Melanie wrote observational notes and reflective journal entries related to Katy's literate activity and her own questions, concerns, and reactions regarding her teaching.

Our analyses unfolded rather emergently. First, Melanie created a timeline of the talk and social interaction between her and Katy across the entire Cheetah movie-making project (approximately 10 hours). Although this process allowed us to become very familiar with our data, it did not yield many analytic, interpretive, or explanatory insights. Disappointed and flummoxed by this realization, George recalled Erickson's (1996) seminal insights about the relations between talk and social interaction and the rhythmic quality of musical scores, and thought they might be useful. He explained to Melanie that Erickson's insights are based on the Greek terms for time, "kronos" and "kairos." "Kronos" refers to the rhythmic cadence performed by prosody and body motion. "Kairos," refers to the time of tactical appropriateness, the time or timing that feels right for a particular purpose. When interlocutors are attuned, both "kronos" and "kairos" are synchronized; when they are not, these aspects of time and timing are dissonant, out of synch. George then suggested that Melanie mine the data for instances of interactional rhythm/attunement and instances of interactional dissonance/discord and determine whether and how these interactional patterns resonate or align with our theoretical framing constructs.

Working with these basic ideas, Melanie closely examined the entire set of interactions between her and Katy looking for instances of interactional harmony and instances of interactional dissonance. What she found was quite amazing. She identified seven clear instances of interactional dissonance in the data set, and she noticed that each instance was somehow resolved and followed by a clear instance of interactional harmony or attunement. Furthermore, each of these dissonance-attunement pairs involved some crucial dimension of literacy learning and development (e.g., categorization, spelling, comprehension, fluency). Much

like how Erickson (1996) mapped the rhythmic organization of questions and answers in classroom discourse, Melanie then mapped the rhythmic organization of moments of interactional dissonance and interactional attunement that occurred between her and Katy as they produced their *iMovie* about cheetahs, eventually creating a dissonance-attunement pair chronology (see Table 1). In the table, we show the range of dissonance and attunement within each pivotal moment by placing a "K" (Katy) and an "M" (Melanie) on an attunement continuum. When both the "K" and the "M" are in the center of the continuum, Katy and Melanie are perfectly attuned. When the "K" and/or the "M" is toward the end if its side of the continuum, that person or persons experienced dissonance. The distance of the "K" or the "M" from the center of the continuum indicates the degree of dissonance experienced by Katy or Melanie. In addition to this graphic representation of dissonance and attunement, we provided brief descriptions of Katy's and/or Melanie's cognitive, relational, and affective behaviors that we used as evidence for our dissonance-attunement judgements.

Table 1
Attunement and Dissonance Chronology

Session	Attunement/Dissonance	Katy	Melanie
	Dissonance Attunement Dissonance Katy Melanie		
Before 1st Session	***Dissonance Moment #1*** K_____M	Apprehension toward school-based literacies + distraction talk about cheetahs in 3 consecutive sessions	Reading about affect and learning.
1	***Attunement Moment #1*** _____KM_____	Ask to make a Cheetah movie	Redefine "distracted talk" about cheetahs as "affective investment" - Introduce reading/writing about cheetahs
2	***Dissonance Moment #2*** K_____M__	Disengagement with traditional texts	Present traditional cheetah resources (e.g., books, magazines, videos), talk with mentor
3	***Attunement Moment #2*** _____KM_____	Excited talking, full engagement! Content-based file-naming	Introduce "image-first" approach to composition
4	***Dissonance Moment #3*** _____K_____M	Continued excitement	Feeling lost as a teacher—allowing Katy to take the lead
	Attunement Moment #3 _____KM_____	Organizing pictures into themes about cheetahs—where they live, what they eat, how they move, etc.	In awe of Katy's sophisticated text structure
	Dissonance Moment #4 _K_____M_____	Reading online—struggling/frustrated with comprehension and vocabulary; resists a word wall	Trying to support—reading texts aloud/talk, suggesting word wall
5	***Attunement Moment #4*** _____KM_____	Identify new vocabulary, writing narration (first writing of connected text in front of Melanie)	Read literature on comprehension and vocabulary—introduce "Vocab Convo" to support self-monitoring
6	***Dissonance Moment #5*** _K_____M_____	Sensitivity to unconventional spelling, difficulty reading her writing	Introducing voice recording of narration
7	***Attunement Moment #5*** _____KM_____	Excited about typing and spell check, asking to re-read her text to get it "just right"	Suggesting typing—use of spell-check improving decoding by reading through the entire word, supporting fluency
8	***Dissonance Moment #6*** _____K_____M	Frustrated with recording but can't figure out why	At a loss, talk with technology expert
9	***Attunement Moment #6*** _____KM_____	Using *Audacity,* "Hey! I didn't pause at all!"	Pointing out no pause using visual voice frequency with *Audacity*
	Dissonance Moment #7 _K_____M_____	Frustration with editing in *iMovie*	Instinct—to take on more of the work, is this right?
10	***Attunement Moment #7*** _____KM_____	Completing the *iMovie,* showing it to family and classmates, "Can I write another one on ferrets?"	Tears of joy regarding their accomplishment!

Finally, following Geertz's (1973) strategies for constructing "thick description," We (Melanie and George) worked together to unpacked each dissonance-harmony pair in as much detail as possible. This accounted not only for what Katy and Melanie were thinking, saying, and doing but also for how their thinking, saying, and doing had particular meanings and effects based on the various aspects of context including their goals, the task at hand, the details of their inquiry, their emotional states and investments, their emerging social relationship, and various webs of social relationships in which their emerging relationship was embedded. Our theoretical framing constructs were very useful for doing this analytic, interpretive, and explanatory work.

Findings

Again, we identified and unpacked seven key moments of dissonance and attunement that propelled the literate activity, Katy's learning, and Melanie's teaching in powerful ways. In the early tutoring sessions, Melanie tried to tap into Katy's interest in *iPad* technologies to support her literacy learning. They read interactive electronic stories in which the story was moved forward through a series of choices and playing games. Through these interactions, Katy began to become less self-conscious about reading aloud to Melanie but she refused to show Melanie her writing. She wanted to keep notes on the story they were reading but would do so in a notebook shielded from Melanie's view, and she always took this notebook home with her at the end of each session. Also during these sessions, Melanie noted Katy participated in the reading activity yet she was often distracted from the story and engaged Melanie in conversations outside of the current task. She also counted down the minutes until the sessions were over. Overall, she was compliant but less than enthusiastic about the activities Melanie had designed.

It was clear to Melanie that motivation would be a key factor in supporting Katy's literacy learning. She immersed herself in that literature and created a motivation checklist

to use as they made decisions about what types of literacies would be a part of their work together. Drawing on scholars such as Guthrie, Hoa, Wigfield, Tonks, and Perencevich (2006), Alexander and Murphy (1998), and Turner and Paris (1995), Melanie constructed the following guiding questions as a checklist:

- How is this activity linked to Katy's interests in people, animals, things, ideas, or processes?
- What choices does Katy have with regard to texts and processes?
- How do the texts and tasks fit with Katy's level of literacy development?
- How can Katy have autonomy over the learning process?
- How can Katy and I collaborate—sharing knowledge and skills?
- What meaning is Katy interested in constructing?
- How can our activity have meaning in the real world of Katy's life?

Using this list of guiding questions, the activity that unfolded looked and felt dramatically different than anything Melanie had experienced before. It was structured, but not; planned and emergent; completely obstructed at times; propelled forward at others. Melanie identified this experience as a transforming one for her as well as for Katy. We identified seven key moments in which Katy and Melanie became attuned to one another. During these moments of attunement, their learning and development was propelled forward. Yet the moments of dissonance were just as important because they indexed a problem to address and pointed them toward a productive flow of activity that led to attunement.

Attunement Moment #1: Introducing Reading and Writing about Cheetahs

Upon reviewing her fieldnotes from previous sessions, Melanie noted Katy's interest in cheetahs. She had categorized these conversations as "distracted talk" because

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

they appeared to distract them from engaging in the focal literate activity of reading and interacting around the *iPad* story. Yet based on her readings on the role of affect within learning, she recognized Katy's interests as intense investments. Massumi (1995) described affect as intensity owned and qualified through emotions. This concept fit with other scholars' thinking in which motivation in literacy has been tied to personal investment (Alexander & Murphy, 1998) and situated motivation that supports general motivation (Guthrie et al., 2006). Melanie had made notes about a change in Katy's voice, gestures, and facial expressions when talking about cheetahs. She had talked excitedly using her hands and sometimes her whole body to show how cheetahs moved; she had used animated facial expressions that revealed her passion and excitement about them; and she had mentioned family members who loved cheetahs too.

Feeling a sense of dissonance with Katy even though she was compliant, Melanie paid closer attention to these somatic and social affective markers, and she came to view their cheetah conversations very differently—seeing them as passionate intensities charged with emotions—or *affective investments* (Bialostok & Kamberelis, 2012). Based on this change, Melanie decided to ask Katy if she would like to learn more about cheetahs during their time together. Katy immediately asked if she could make a movie about them! She also identified a real-life purpose for her composition: "Then my family and people at school they can watch my movie and learn about cheetahs too!" Melanie showed her a number of digital stories and short informational videos online to show her different movie genres and Katy chose to make an informational movie using *iMovie,* a tool with which she already had some familiarity.

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

As Melanie reflected upon this interaction in her researcher journal, she recognized this moment as affectively different from what she had experienced previously with Katy:

> *I was shocked at her immediate response to this suggestion! Wow! What a change in her motivation! The implications this has for the role of affect within literacy intervention is huge! Of course, we'll have to see how it plays out but this is definitely the most excited I've seen her since we started. And, she identified a real purpose for the activity. I think this is huge. All the motivation stuff I've been reading by Guthrie and others all have "authenticity" as a key aspect of motivation. Yet, I admit that although I've been trying to tap into her interests with mysteries, all the literate activity I had suggested were really just for literacy sake. This is what I've always done through a Reading Recovery type approach. [Katy] has made me really challenge my practice—to make it match my beliefs as Harste, Woodward, & Burke (1984) talk about.*

This was one of the first times Melanie had a meta-understanding of transformations that were taking place in her own thinking, feeling, and acting. In and through her work with Katy, Melanie was transforming her practice as well as how she felt about that practice as well.

Attunement Moment #2: Taking the "Image-First" Approach to Multimodal Composing

As Melanie prepared for the next session, she read selected journals and book chapters centered on the creation of digital stories and other kinds of texts (e.g., Albers & Sanders, 2010; Bowen & Whithous, 2013). She noted that many of these authors suggested a similar creative path: research the topic and outline the story plot (or other

text structure), create a storyboard to plan out the text/images, write the script, locate multimodal elements (images, sound, words) to accompany the script, and finally edit all items together in a digital media tool (e.g., *iMovie*). To begin their research, she brought in a collection of books and magazines on cheetahs. When Katy saw the materials, she commented, "What happened to the movie idea?" A bit surprised by her response and the dissonance it indexed, Melanie explained the process involved in making a movie, beginning with research. As they moved forward, reading a few magazine articles, Katy's excitement waned rapidly; she had little interest in reading the books and magazines Melanie had brought even though they were about cheetahs. Noting the dramatic change in Katy's affect, Melanie made the decision in the middle of the session to put the books aside and begin to find online resources about cheetahs. Katy's excitement for the work returned almost immediately. They were once again attuned to each other and the task at hand. This dramatic rupture made Melanie realize how fragile their partnership was (Latta, 2004). She learned the importance of paying close attention to Katy's affective states, especially Katy's rapid changes in affect in either direction. In this instance, Katy's affect become positive and the dyad experienced a new sense of closeness (Latta, 2004) almost immediately after Melanie refocused their activity to Internet-based research. They were developing what Lysaker et al. (2006) saw in successful tutoring pairs, an environment in which things like happiness, sensitivity, and hope dwell.

However, Melanie began to feel some professional dissonance about the approach she was taking, an approach that was quite different from the types of literacy interventions she had facilitated in the past. Even when she focused the activity on topics of the child's interest, she had always designed the sessions with a set protocol of

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

comprehension work, vocabulary support, writing composition support, and word work, and she was uncomfortable with so little "structure." Yet Katy challenged her previous experience because she rejected (flat out refused at times) these more traditional forms of instruction (e.g., book-reading, writing with pencil and paper). Melanie shared her concerns with George (mentor and second author), and he encouraged her to trust her instincts, which were based on the research and theoretical literature they had been reading and discussing. She noted in her reflective journal, "*This feels so weird! Like uncharted territory. Well, I think I'll trust George and see where she can take it next!"*

As the next session began, Melanie suggested, "So I was thinking about our cheetah project, and I thought you might like to find some pictures today for it!" Katy responded, "Cool! I know how to do it! You just go to Google!" With unusual focus, Katy diligently found and downloaded over 20 images talking excitedly about what she noticed and wondered about them. She also created content-based file names when saving pictures—names such as "get him" (cheetah charging prey) and "cool yum" (cub chewing a fresh piece of meat). With many of the file names, she asked Melanie for spelling support. She also actively constructed knowledge about cheetahs—noting cheetah attributes, behaviors, habitats, etc., and generated questions to pursue. This experience was exciting and motivating for Melanie too, as indicated in the following reflective journal entry:

> *I couldn't write fast enough to document all the amazing literacy work she was doing! Right there within this activity that she couldn't get enough of were supports for comprehension through building of background knowledge and asking questions, as well as her spelling [words within file names]!*

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Both Katy and Melanie were surprised when the session was over, and Katy asked if she could stay longer—a definite moment of attunement for which there are many discursive markers in our data set. For example, both Melanie and Katy referred to their work as a collaborative project. They almost always used the words "we" when talking about their co-laboring and "our" when referring to the project. Although this was Katy's choice of topic and product, Melanie became just as invested in it as Katy did. Attending to moments of dissonance and attunement turned out to be important in guiding Melanie in her growth as a teacher. In fact, she began seeing Katy as *her teacher*. Her work was becoming what Matusov (2009) would describe as *dialogic.* They were thinking, making, and creating together (Massumi, 2015) and they both were beginning to feel more secure, a quite welcome change from the insecurity they both had experienced when they first started working together. Melanie began to recognize changes in her identity and practice—she recognized the symbiotic relationship between insecurity and security (Luhmann, 1979; Massumi, 2015), between dissonance and attunement. She was becoming a different teacher who was doing things differently than she had done before.

Attunement Moment #3: Thematically Organizing Her Text

As we mentioned, Melanie's experience with Katy was very different from her experience tutoring other children. In particular, it was much less predictable, more contingent, and more emergent. This induced some dissonance in Melanie, but this dissonance was mitigated by the fact that Katy seemed to be developing increasing amounts of knowledge about various dimensions of literacy, as well as metacognition about her own literacy knowledge, skills, and purpose. Increasingly, Melanie trusted that Katy would lead them in directions they needed to go to complete the *iMovie* project successfully. This trust

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

was pivotal in Melanie's growth as a teacher. She realized that, although she espoused "student-led" learning, she had never fully trusted it—a very interesting paradox. Her concerns were both theoretical and practical as is evident in this excerpt from her reflective journal written right after the image gathering session we just described:

> *This session was inspiring! It makes me think that maybe literacy intervention doesn't have to be structured with literacy tasks for literacy learning sake. We did a ton of word work today and she wasn't even really aware of it. Well, that's not accurate, she was FULLY aware and engaged but she didn't see it as work. Essentially, what we did today is what we all do when we are interested in something—we use literacy to accomplish our goals. It makes me wonder why we think that in order to learn more conventional literacy skills we have to do something decontextualized? If what we need to teach children is what they are going to need for their everyday lives, can't we teach it within what they want to do within their everyday lives? Food for thought…*

For the next session, Melanie printed out the pictures Katy had saved and laid them out on the floor (Figure 1).

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

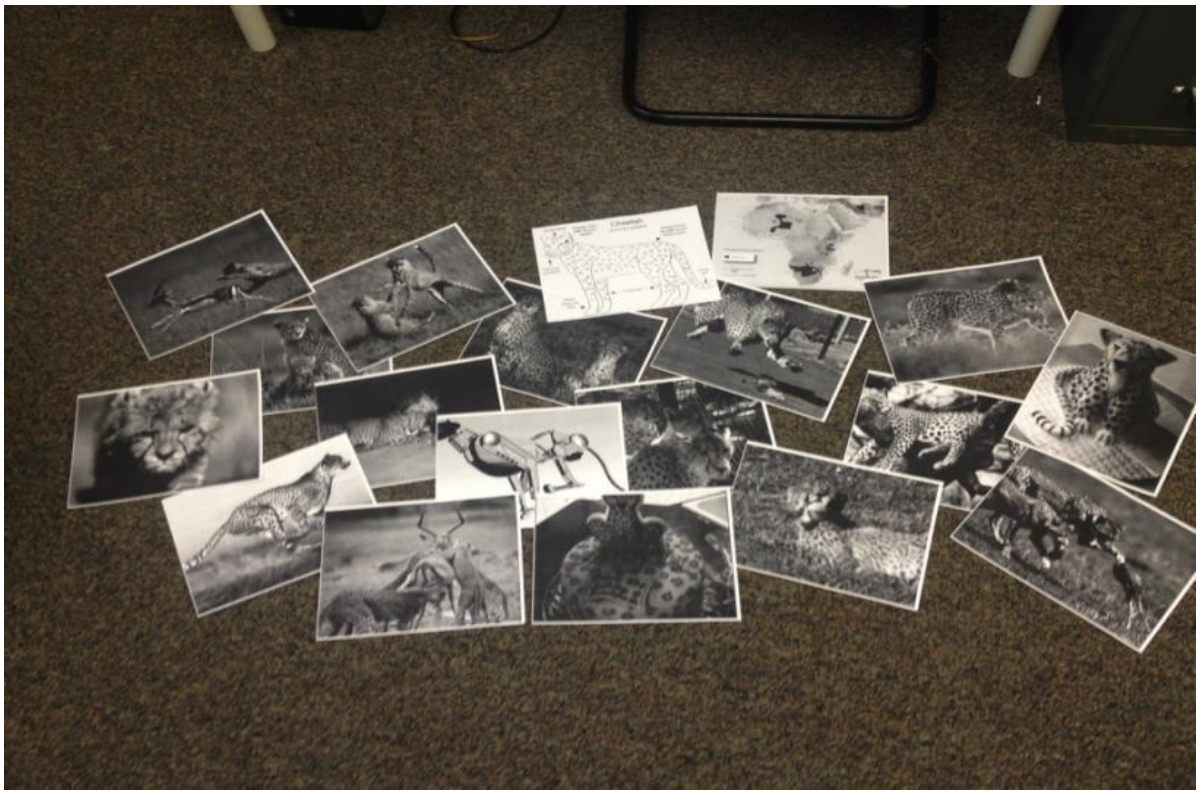


Figure 1. Cheetah Pictures Waiting to be Organized.

Shrieking, "My cheetah pictures!" when she arrived at the session, Katy asked, "What are we going to do with them?" Considering the goal of giving Katy autonomy over the process, Melanie responded, "I don't know. What do you think we should do with them?" They stood silently together, surveying the images. Melanie reflected on this moment later, "*It was so hard to just stand there! But before I knew it, she was circling the pictures like a cat on the prowl*." Katy, however, soon took action, "Hey! These two are about how cheetahs sleep, so I think I'll put them together … and these ones are about what they eat. Those could go together too!" She continued to organize the pictures until she had created eight categories— sleep, body, playing, family, art, eating, living, and attacking (Figure 2).

Figure 2. Katy Organizes Her Cheetah Composition Beginning with the Pictures.

She also wanted to write title cards for the categories and put the pictures from each category into a different folder to keep them organized.

Another important breakthrough occurred in this session. Previously, Katy had always hidden her writing from Melanie—both while composing and after she was finished composing. In this session, Katy wrote in front of Melanie for the first time. Although Katy was not aware that Melanie noticed this, Melanie was fully aware of it; and her awareness was deeply affective, almost bringing her to tears:

> *As I watched her write the title cards and folder titles filled with misspellings I began to understand her hesitancy to letting me see her writing previously. I*

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

wonder, how have adults responded to her writing in the past that she has been so reluctant to let me see it?

In that moment of attunement, not only were their practices aligned but Katy's and Melanie's hearts appeared to beat with the same rhythm as well. Katy seemed to feel safe enough to risk allowing Melanie to see her writing, and Melanie felt empathy for what she envisioned were many painful experiences when Katy's writing (especially her spelling) had been criticized, perhaps even ridiculed.

Here we are reminded of Lysaker's (2000) insights into the role of empathy in attunement. Reflecting on her interactions with her often disenfranchised tutee, Paul, she pondered how by entering into his meaning-making processes she found it much easier to meet his literacy learning needs in comparison to "meeting the needs of the alienated young person he was becoming" (p. 483). Melanie also felt this pull, to invest herself in Katy not only as a literate person, but as a person who had legitimate things to offer the world.

Attunement Moment #4: Writing Self-Selected Vocabulary and Script Narration

Once the images were organized, Katy engaged in lines of inquiry about each category. For example, after viewing the images of cheetahs sleeping she asked, "I wonder if cheetahs snore?" For each category, she created a list of questions she wanted answered; then Katy and Melanie took to the Internet to try to answer them. During this activity, Melanie realized that Katy needed to learn how to evaluate sources. Katy had typed "Do cheetahs snore?" into her Google search. She clicked on the first response, which was on answers.com. The response simply said, "Yes, a cheetah does snore!" She immediately

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

wrote it down without checking to see who wrote it. Using her knowledge in this area, Melanie modeled for her how to evaluate online sources. Perhaps because this was Katy's first experience with fact-checking, Katy broke the process down into two essential questions, and she wrote them on what she called an "Evaluation Card:"

- Who wrote it and what makes them an expert? (author credibility)
- Does the person want me to think something about cheetahs? (Author bias) Katy eagerly taped her card to the top of the computer screen to use as a guide and as they continued their research, and she usually referred to it after each click.

Yet Katy experienced some dissonance as she struggled with some of the vocabulary words in the texts she was reading. Many of these online texts were not ones Katy could read on her own. She needed support with decoding and vocabulary. Recognizing the large amount of new vocabulary Katy was encountering, Melanie suggested a word wall where she could keep track of the words she was learning. Katy rejected this strategy immediately saying, "I don't want to use a word wall." By this point, Melanie was more accustomed to having her suggestions rejected, especially ones that involved more traditional literacy tools. So, although this moment threatened to be a dissonant one, Melanie didn't belabor the issue as is evident in a response she recorded in her reflective journal:

> *Her resistance to a word wall was interesting. It makes me wonder if they use them at school and so just the name of this tool immediately makes her not want to use it! I guess we'll figure out something else.*

In essence, Melanie and Katy had developed a *dialogue of faith* (Latta, 2004) with one another— they felt audaciously yet tentatively comfortable, venturing into the unknown of their work together. They were recognizing the productive power inherent in their "fragile moments."

Melanie became accustomed to turning to professional literature in such moments, which is what she did between the 4th and 5th sessions. Reading literature on effective vocabulary instruction, she noticed the importance of talk to support vocabulary learning (e.g., Dawes, 2004; Swain, 2000). This reminded her of her own experience with learning new vocabulary words in high school Spanish classes. Her teacher had introduced them to a strategy she called "Vocab Convo"—in which they would ask to have a "Vocab Convo" (conversation with the teacher or another student) when they encountered a word they did not know. As they returned to reading in the 5th session, Melanie suggested this approach. She introduced the strategy, name and all, to Katy and suggested that, when Katy read an unfamiliar word, she could let Melanie know she needed a "Vocab Convo," and they could talk about the word. Katy was enthusiastic about this strategy and would often, in a playful yet formal voice, say something like, "Oh! Another vocab convo, I would suggest" when she ran across an unknown word. Additionally, Melanie and Katy would often have extensive conversations about words—discussing how the unknown word reminded them of other words, how they knew a part of the word, or where they had seen the word used before.

As time went on, however, Melanie noticed that Katy was not remembering the meanings of words they had already encountered and talked about. When she mentioned this to Katy, Katy decided to write each new vocabulary word down on a card, along with its

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

meaning. Knowing Katy's proclivity for the visual, Melanie encouraged her to draw an image to go along with the definition to help her remember it (e.g., Manyak et al., 2014). Melanie reflected later on how this turn of events linked to what she had read about the role of autonomy in literacy learning:

> *Turner and Paris (1995) said,* "A significant goal of literacy education is to support learners' independence and versatility as readers. When teachers and students share control, students learn to make crucial literacy decisions themselves" (p. 667). *I couldn't help but to think that Katy's vocabulary card activity was similar to what I had suggested in a word wall but the most important thing that happened here is that it was* ***her idea****.*
>
> *Isn't this exactly what Turner and Paris are talking about—being a literate person who can identify when we need support and creating that support for ourselves as needed?*

In subsequent sessions, whenever they were reading, Katy made cards and kept them on a metal ring for easy access. She consulted these cards regularly, often saying something like, "I think I made that card already." She also continued creating cards for new unknown words, often saying something like "I think I'll make a card for that one." On a few occasions, she refined the definition she had originally written on a card based on the connotation of the word in a new textual context.

We are reminded here of Massumi's (2015) construct of the *biogram*—a "cartography of potential…[that shows a life] modulating its own course under conditions of complexity" (p. 117). Importantly, the *biogram* is a social construct that involves "moving inventively together in concerted action—crucially, without erasing the attuned

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

differences" (p. 117). We consider this moment in Katy and Melanie's work to be a *biogram* where we can see their attunement trajectory (word wall→vocab convo→word cards) as powerful meaning-making activity.

It was also during this session that Katy began to write the narration for the movie—the first writing of connected text she had done in front of Melanie; previously her writing had only consisted of generating individual words or bulleted definitions. Like the vocabulary cards, Katy chose, on her own, to begin the narration because she worried she would not be able to remember what she was learning about cheetahs as she continued to conduct research on each category she had identified as important. Yet she was overwhelmed with the amount of information she was encountering about each category, and she commented that she did not want to write it all down. Melanie drew upon her previous knowledge of supporting students' ability to summarize texts. She explained to Katy that readers cannot possibly hold all the information they read in their brain so they make it smaller by focusing on the key details. She provided explicit instruction on summarizing techniques using Katy's narration script as a vehicle. In her reflective journal, Melanie noted the sophisticated literacy work this entailed, as well as Katy's perseverance in the activity:

> *Katy read and re-read texts to identify the key details, noted them with bullets on a card, and then worked to connect the details with compelling narration her viewers would want to hear. I was awestruck in how hard she worked! At one point she turned to me and said, "Man, this is really hard! But, I like it" and kept working.*

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

This series of interactions also marked a watershed in Melanie's growth as a teacher, especially with respect to affective dimensions of Katy's learning and the importance of affective attunement in teaching:

> *I couldn't help but think back to the girl who counted down the minutes until we were done and who avoided any kind of extended writing or reading and be amazed at the difference! Seriously, I can't imagine ever going back to the way I've engaged in literacy intervention! In fact, as I look back on my years of that kind of work I feel bad for the students that I subjected to the decontextualized learning activities. I guess this is one of those times that Harste et al. (1984) talk about in "Language Stories and Literacy Lessons"—I'm outgrowing myself! Thank goodness!*

At about this same time, Melanie was taking a class in which she read three chapters from the *Handbook of Reading Research, Volume IV* (Freebody & Freiberg, 2011; Kucan & Palincsar, 2011; Wilkinson & Son, 2011). Together the chapters illuminated how children have been positioned within the schools as "struggling readers" using cognitive profiling in the areas of decoding, vocabulary, and comprehension resulting in the narrowing of the curriculum in which they participate (Kucan & Palincsar, 2011). The content of these readings broke Melanie's heart, which is indexed in the following response:

> *I thought of all the children over the past 10 years that* [sic] *have been labeled as "at-risk" or "struggling," or quite literally as in need of "corrective reading" as designated so in bold letters on the white board with their name listed underneath. I thought of what those labels meant for what would be done to them at school (positioning) and how this "doing" has taught these children the*

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

> *"right" and "wrong" ways to behave, not just in social and physical ways, but in literate ways. I thought of the children who were walked each day to "intervention" in which they were given a text to read, given tasks to perform on those texts, given letters to manipulate for given words, and given a topic to write about—interventions I have "performed"…. It makes me cry to think of my part in this fiasco!*

Melanie's growth as a teacher went far beyond this individual learning/teaching experience. It transformed her identity as a teacher. She no longer viewed literacy learning as accumulating content and strategies; and she no longer desired to teach in a fashion that construed literacy learning as a "pill to swallow."

Attunement Moment #5: Honing Spelling Skills

During the 6th session, Katy talked at length with Melanie about her nervousness regarding spelling words wrong. "At school, I have to erase a lot, that's why I don't like to write," she mentioned after looking up from one of her texts. Melanie explained she would be happy to help her with her spelling if she felt it was important. She also explained that since she would be saying the narration for her movie, she would be the only one to see her spelling so she could choose whether she wanted to edit her writing for spelling or not.

After this discussion, Katy asked for support for spelling occasionally, and Melanie engaged in some traditional spelling instructional activities, such as word-sorting and morphological analysis. However, their spelling work really picked up when Katy had difficulty reading her own writing for her narration. Melanie suggested she type what she had written. When Katy inquired about the red lines under some of her words (spell-check within Microsoft Word program), Melanie showed her how she could use the mouse to

right-click to see if the word she wrote was spelled correctly. When Katy first started using spell-check, she automatically chose the first word on the list. Melanie was not surprised because she had noted in her embedded assessments that Katy often relied heavily on her visual cuing system when decoding words but only applied the strategy to the beginning of the word. After Katy had engaged in this not very effective strategy three times, Melanie showed her how to read through the ends of words to locate the correct one. Quite often she recognized the conventional spelling and differentiated it from a corresponding homophone, such as "raze" and "raise." The following excerpt from Melanie's fieldnotes several sessions later indicates how this strategy became a part of Katy's word decoding repertoire:

> *Katy read the following paragraph from* Nat Geo's *page on cheetahs:*
>
> "The cheetah is the world's fastest land mammal. With acceleration that would leave most automobiles in the dust, a cheetah can go from 0 to 60 miles (96 kilometers) an hour in only three seconds. These big cats are quite nimble at high speed and can make quick and sudden turns in pursuit of prey."
>
> http://animals.nationalgeographic.com/animals/mammals/cheetah/
>
> *She stopped to decode the following words:*
>
> - *Mammal*
> - *Acceleration*
> - *Automobiles*
> - *Kilometers*
> - *Nimble*
> - *Pursuit*

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

> *Usually, she reads the first few letters and guesses at the rest (usually incorrectly). Today, she pointed as she decoded each word and silently read through the entire word before reading it aloud. The only words I helped her with were "kilometers," "nimble" (also a "Vocab Convo word), and "pursuit."*

It was also after this session that Melanie reflected upon their attunement as a collaborative activity using the metaphor of a dance:

> *I'm also noticing how much more comfortable she is with me. It's like we are two people just helping each other instead of her viewing me as teacher and her student. It makes me think of Judy's [e.g., Lysaker, 2000; Lysaker et al., 2006] work on the relational aspects of learning/teaching. Key to this, I think, is that I've purposefully put myself in the facilitator's role—a sort of "what do you want to do and how can I help you?" role. Now, we've grown comfortable with these roles and Katy has no problem letting me know when something is bothering her that she wants to fix and I also am comfortable pointing some things out to her (although I'm careful to choose how much and when). It's really like a dance we do in which sometimes I lead and other times she leads. We're also making up the dance. It isn't a steady waltz but more like a dual interpretive dance! I've never really seen two people dance like that, improvisational together. But it's what I think of when I think of how we've grown together in our work together. I'm sure that if two dancers were to take this style on, the amount of trust they have in each other would be important. [Katy] and I have grown to trust one another.*

This was also a moment that propelled Melanie's desire to explore the professional literature on reading students' needs, pacing, and dialogic pedagogy:

> *This actually makes me wonder about this on my end. I have needed Katy's trust as I venture on this new path. I've never taught like this and at the beginning it was like I was saying "trust me, Katy.. It will all work out," but I wasn't sure it would. Now I truly believe it! There isn't anything that Katy needs literacy-wise that isn't coming to the forefront of our activity. However, I have to be careful in how and when I respond as to not overwhelm her. How do I make those choices? I'm not sure. One thing I know I do is ask myself, "what would help her the most right now?" and then I look down the road to see how much work it will take and decide how much modeling and shared activity she may need to feel comfortable with it. Sometimes, I think she's ready and other times I offer more scaffolding. I'm not really sure how this all happens. I wonder if there is research that has looked into this aspect of teaching.*

Throughout this moment of attunement, the importance of its affective dimensions of learning-teaching interactions became abundantly clear. Katy and Melanie were *settling in* with one another. Often, we associate "settling in" with moments of slowing down, rest, and stillness. Yet in this experience, their *settling in* led to excitement and harder/more work on their project. This is not unlike how adults and babies become "partners in action" as described by Kaye (1982, p. 230)—making themselves an active part of their achievements. As we mentioned earlier, attunement usually involves emotional sharing and feelings of excitement, enjoyment, and satisfaction, which perfectly describes Katy and Melanie's attunement at this time in the project.

Attunement Moment #6: Honing Fluency Skills

As the project moved forward from researching multiple aspects of cheetahs toward actually producing an *iMovie*, Melanie recognized a great opportunity to support Katy's oral reading fluency. They were just about to record the narration track for the *iMovie.* Melanie had noted in her embedded assessments during their various *iPad* reading experiences that Katy needed support in her oral reading with fluency—expression/volume, phrasing/intonation, smoothness, and pace (Rasinski & Padak, 2005). Melanie had also noted that Katy was dysfluent even when reading simpler texts, and she had entered the following "wondering" in her reflective journal: "*It was as if she had built a disfluent style of reading."* Melanie had read that one of the most effective strategies to support students' fluency is re-reading (e.g., Young & Rasinksi, 2013). So, Melanie thought that having Katy tape record her narration might offer an opportunity to understand Katy's dysfluency and perhaps begin to help her "undo" it. She considered the traditional fluency practice she had seen and used in which students are given a short passage to read and then asked to re-read it repeatedly to become more accurate and faster. Such activities are generally not motivating to students. In fact, Melanie remembered the sunken shoulders and sighing that often accompanied such activities she had seen when she was a classroom teacher. In this project, though, she thought things might be different because Katy had a compelling purpose to read and re-read—to produce a flawless, powerful narration for the *iMovie*. Having this purpose appeared to make a difference in Katy's motivation as recorded in Melanie's fieldnotes:

> *After she was finished typing, she printed it out and then practiced to re-record it. As she practiced it the first time, she said "snores" instead of "snoring" so she wanted to try it again. The second one was pretty fast so I encouraged her to*

listen to it again to see if it was just the speed she wanted it. After listening she commented, "That seemed a little fast," so she recorded it one more time and was happy with it.

By the 8th session, Katy had become quite adept at recording the narration for her movie. She recorded, listened, and re-recorded multiple times to get it to sound just how she wanted it to sound—constantly improving her fluency. However, when reading her narration in this session, Katy did not like how it sounded, but could not determine what needed to be fixed. Melanie knew what the problem was; Katy read her script very rapidly, ignoring pretty much all punctuation. Because Melanie sensed Katy was not in an affective space to hear criticism or to deal with this literacy need at this time, she suggested a change in their activity from writing/recording to more research. This suggestion, however, did not appear to change Katy's overall affective stance toward the project, which Melanie recorded in her fieldnotes:

We had about 15 more minutes so we started gathering information on the next section, "Living." As we got out the images she had chosen for that category, I asked her, "When you look at these pictures, what questions do you have about how they live?" She responded, "I don't know." So I prompted her with "What is different about "these cheetahs" (ones that were in a fenced enclosure)? She said, "They're living in a cage." I prompted, "So, what does that make you wonder?" She said she didn't know. It was evident that she was highly distracted because she tried to sing a song she wrote for me and asked several times how much time we had left. I prompted one more time, "Why do you think they live in a cage?" She told me she didn't know so I introduced the word "captivity" to her

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

> *and we typed into Google, "How many cheetahs live in captivity?" The first click was a Wiki answer that said, "a lot." I asked her, "Well, does that help us?" She responded, "No." The second click took us to a woman who has dedicated her life to preserving cheetahs. I began to read some of the text on the screen, but I could tell that Katy was pretty much finished for the day. I bookmarked the site and said we would start there next week.*

In this interaction, we see Melanie pushing Katy during a moment of dissonance. Although she had grown in her ability to read Katy and respond in a way that propelled their work in positive directions, in this moment she seemed to misread Katy. It took Katy's multiple attempts at passively refusing to engage in the learning experience for Melanie to correctly read her and put an end to their work on the project for that day.

Pondering this moment of dissonance, Melanie wondered why she did not recognize Katy's need to stop. Could it have been her old teaching dispositions creeping back in, making her think that this project was taking too long? Here she felt a connection to Stevens et al.'s (2001) discussion on the seemingly impossible chasm between attunement teaching and the normative system of school:

> The individual learning process of pupils cannot be predicted, nor can it be run according to plan. Education cannot be standardized, in the same way as standard educational results cannot be prescribed. Something that can be done, and which is the professional obligation of a teacher, is to create the circumstances that aim to do full justice to the development potential of pupils. (p. 29)

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Yet Stevens et al. (2001) do not see these as mutually exclusive perspectives. Curriculum standards can be in place, and with a shift of our focus on the students instead of the curriculum, we just might better see new paths toward achieving the standards.

The following day, Melanie shared with a colleague in educational technology what had taken place when working on fluency with Katy. He suggested creating a visual display of her fluency using the audio editing program, *Audacity.* Melanie got really excited about this suggestion for several reasons but especially because she knew Katy leaned toward using visuals to process information. In the next session, she showed Katy how to download her recording into *Audacity* and explained to her how to read her vocal frequency read-outs. After listening and watching her recording the first time through, she immediately pointed to the screen and said, "Hey! I didn't pause at all! There's lines all across!" referring to the absence of any spaces in the visual read-out, which denotes no pausing while speaking. Melanie suggested they look back at Katy's text and decide where her voice should pause. Katy circled periods and commas in the written text and then practiced reading it several times, trying out several different phrasing and intonation. She even asked Melanie to read it aloud to her before she settled on how she wanted it recorded. From that point on, Katy insisted they put the recordings of her readings in *Audacity* so she could see her speech. She also began to pay much closer attention to the proper use of punctuation, which took some explicit teaching on Melanie's part.

By this point in the tutoring, Melanie's view of the importance of collegial discussion as a professional activity to support more effective responsive teaching became more solidified as seen here in a reflective journal entry:

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

> *When Katy immediately noticed her fluency error on the screen, I almost jumped out of my seat! What if I hadn't had mentioned what we were doing to Blake (pseudonym)? Just that short conversation with him made a huge impact on my teaching and Katy's learning! How often is this studied? It reminded me of the "hallway conversations" we used to have when I was teaching that often resulted in trying something new out in my classroom.*

We see here that Melanie was not only growing in her teaching practice but also in her understanding that "it takes a village" to raise a teacher/scholar.

Attunement Moment #7: Pride in Their Art

When Katy came to the sessions following the one in which her motivation appeared to plummet, Melanie noted her excitement was back. She finished recording her entire narration and inserted it into *iMovie* with the images she had collected. At this point, Katy appeared to become frustrated by the tedium of the editing process. Melanie provided a bit of direct instruction on how to get the timing of the images and her narrations synchronized, and Katy picked up on this process very quickly but her stamina waned. Melanie decided to take on more of the editing role (yet, she did question this in her head) and they finished editing her movie and then burned two copies onto blank DVDs—one for her family and one to take to school. She immediately wanted to show her movie to her mother who was working in the same building. After descending three flights of stairs, Katy skipped toward her mother's office, DVDs in hand. Noticing that George was in his office as well, Melanie invited him to be an audience with her mother. The four of us stood there huddled around George's computer as we watched Katy's movie. Katy clung to her mother's arm with a huge smile on her face as her movie

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

played. We both (Melanie and George) had tears in our eyes upon the completion of her movie. We knew what an accomplishment this was—both for Katy and Melanie. Katy's mother hugged her tightly; she told her how great the movie was; and she told her she was sure her grandmother would be excited to see it and learn about cheetahs too. George also congratulated Katy on her hard work and talked about aspects of the movie he really liked.

After this premier showing, Katy ejected the DVD from the computer, and she and Melanie went back upstairs to the tutoring room to celebrate. While they munched on some snacks together, they excitedly talked about the movie and they re-watched it several times. After one of the viewings Katy turned to Melanie and asked, "Can I write another one on ferrets?" Melanie assured her that she could make a movie about ferrets if she wanted to. However, she was already thinking back about ideas Katy had recently shared about other possible future projects, which she wrote about in her reflective journal:

> *I'm not sure where we will go from here! Katy did ask if she could make another movie about ferrets, so we can see if that is what she decides. I've also noticed she's been talking a lot about poetry she has been reading and writing at school, so that may be something cool to explore.*

This "noticing" had become regular practice for Melanie and indeed, Katy chose poetry over ferrets for her next project. Their work continued to be dialogic with Melanie offering project ideas sometimes and Katy suggesting them at other times. Their continued work together involved things like writing/illustrating poetry using paper and digital illustrations, comprehending country music lyrics/videos (you haven't lived until you work through

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

vocabulary in a Luke Bryan song with an 11-year-old), and composing a digital e-cookbook—the constants in their work? Togetherness, excitement, hard work, and technology.

Concluding Thoughts

We conclude by pondering what was actually produced by this collaborative experience that Katy and Melanie could not have done alone. The obvious product from their work together was the cheetah *iMovie*. Through many collaborative micro-productions, it became a *language art,* from the words that were composed, to the inflections in the narrations, and through the images that tied it altogether. Like Kaye (1982), we view what was produced as micro-productions of apprenticeship that were propelled through "turn-taking" moving from insecurities to security (Massumi, 2015). From a new place of security with Melanie as her support, Katy ventured into the unknown and learned new literacies to help her accomplish her meaning- making goals, such as comprehending/composing informational texts, spelling, grammar, oral reading fluency, and vocabulary. More importantly, she developed as a new/different literate person. Following this project, Katy never hid her literacies. She met new challenges with tenacity and excitement.

Yet just as Melanie was there for Katy, Katy was there for Melanie. In Melanie's previous work with students who struggled with aspects of literacy, she was always able to connect them to new literacies using more traditional tools and practices. Yet when viewed through her experience with Katy, she now sees how many times students were merely compliant, mostly fostered through the relationships they built. Missing in these past experiences were the students' passions and intensities. This is what Katy taught her. Katy's refusal to comply with Melanie's

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

traditional forms of teaching/learning taught Melanie to search deeper into the heart of the matter, for Katy's affective intensities (Deleuze & Guattari, 1986; Massumi, 2015). However, it is her development as a teacher that excites her the most. She is a different teacher because of Katy and their work/play together. She is a teacher who foregrounds the affective dimensions of collaborations *between* and *with* all of her students. She works hard to read new students the way she learned to read Katy. And like the tutors in Lysaker et al.'s (2006) study, she finds much more happiness, hope, and reciprocity in her work/play.

We often play Katy's *iMovie* for the pre-service teachers we teach to inspire their future practice. And when we do, we are still moved to tears. Our hearts are moved by this experience. This quite possibly is the most powerful product that emerged. Katy and Melanie's *aesthetic play* (Latta, 2004) became the norm, steeped in their collaborative work. It was art-in-motion saturated with affect that became their mode of being. Perhaps even more important is the fact that aesthetics was frequently the engine that drove Katy and Melanie from dissonance to attunement. They wanted something that looked pleasing, that felt pleasing, that was pleasing. When a dissonant chord was struck, everything in their beings wanted it to be resolved—to find resonance again. Finding resonance propelled their learning and development forward. Like the caregivers and babies from Kaye's (1982) work, Katy and Melanie became partners-in-action who inspired hope in one another. The various dimensions of attunement we have discussed throughout had to be in place to create the trust, synergy, and reciprocity that made the entire endeavor so successful for both of them.

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

We have also pondered how, even in moments of attunement between Katy and Melanie, external socialization forces (e.g., public school norms, policies, and practices) may have created dissonance for them. At the beginning of this project, Melanie was thrilled to see Katy take up literacy in new ways. However, the methods Melanie was using to support her were not aligned with her professional socialization as a teacher or how schools typically work. As she stated in her reflections, it "felt weird" to teach so emergently. Thankfully, George had the patience and time to support her as she "surpassed herself" (Bereiter & Scadamalia, 1993) and became a different kind of teacher. Similarly, Katy's early resistance to Melanie's support may have also been tied to her socialization as a student. Yet like George, Melanie had the patience and time to support Katy as she, too, "surpassed herself" and became a different kind of learner. Socialization takes time (Stevens et al., 2001). Re-socialization takes even more time. For both Katy and Melanie, the elements of patience and time were crucial for their learning and development. Like the teachers in Stevens et al.'s study, they needed time and a safe space to make mistakes, a space where they were not too quickly judged, a space for reflection and renewal.

In this space, their development was not linear. As they learned to dance together, at times their steps fell out of sync with one another (moments of dissonance). Yet even within the moments of attunement, their dance was characterized by unexpected side-stepping (e.g., Katy's suggestion of making cards for vocabulary learning) and even large sweeps across the floor (e.g., Melanie's reflexive response to positioning "struggling readers"). We are reminded here of Vygotsky's (1978) *zone of proximal development* (ZPD), especially Engeström's (2009) (re)rendering of the ZPD as a "terrain of activity to be dwelled in and explored" (p. 313). Both Melanie and Katy were enabled to do a bit more

than they could have done on their own by becoming each other's more *knowledgeable other* and being allowed to dwell in and move about their activity terrain fairly freely.

What does this say about the role of apprenticeship in dialogic learning/teaching experiences? Returning back to Kaye (1982), we consider the more natural consideration of the teacher as the more knowledgeable other who apprentices the student toward skilled literacies. Yet we believe our mapping of moments of attunement and dissonance offer an expanded understanding of apprenticeship—one that is more bidirectional. In this case, we not only see Melanie's apprenticing of Katy pulling her forward toward more effective ways of making meaning in and of her world (being literate), but we also see that Katy apprenticed Melanie, pulling her forward into being better at her craft of teaching. Katy knew what she needed from Melanie and didn't settle for less. As suggested by Harste et al. (1984), she became an informant into her literate world.

Implications

Literacy learning has typically been theorized and operationalized as several related processes that can be taught and studied separately (e.g., comprehension, fluency, vocabulary development), as largely cognitive in nature, and as something that happens inside the heads of individuals. Our findings challenge these notions suggesting that affect (and perhaps even distributed affect) is far more important than extant theory and research suggest—making learning always more transpersonal or intersubjective. Literacy instruction for students who struggle with aspects of reading and writing is becoming more and more structured in efforts to target specific skills that students need. The reading and writing students are doing in tutoring and small group instruction is usually targeted and focused toward their needs, yet it is usually divorced from their affect intensities. The

tutoring we explored through responsive teaching within interest-based, purpose-driven literacy activity mediated by digital technology tools has the potential of not only helping students learn the literacy skills they need but the added bonus of doing so in ways they are excited about through their own meaning-making goals. Simply put, it *has it all.*

Yet recognizing and responding to students' needs requires teachers to work on the edge of their knowledge (Bereiter & Scardamalia, 1993). In any teaching/learning activity, the teacher makes moment-by-moment instructional decisions that are complex and dynamic (Avila, Zacher, Griffo, & Pearson., 2011; Clay, 2013). In her work with Katy, Melanie became more aware of what she didn't know and turned toward extant theory and research to expand her expertise. Few studies have articulated how contingent, unpredictable, and emergent most teaching-learning interactions are. Nor have many studies highlighted how important it is for teachers to interact (responsively and strategically) with the academic literature during this process as ways to attune to their students. Since one of the primary goals of educational research is to inform instructional practice (Lodico, Spaulding, & Voegtle, 2010), exploring tutoring as affect-based, intersubjective, and responsive, seems rife with possibilities for deepening our understanding of teaching-learning interactions.

Finally, we agree with Lysaker (2000) in believing that being literate is a "personal and social task learned through relationship" (p. 483). This relationally-oriented approach to literacy learning/teaching also fits with the more recent calls for students to develop 21st century skills, such as emotional intelligence, effective communication, critical thinking/problem-solving, teamwork/collaboration in diverse contexts, effective use of ever-changing technology, and project management (Trilling & Fadel, 2009). To foster such

skills, we must acknowledge, value, even celebrate social and affective dimensions of learning. The emerging body of theory and research on the fundamental importance of attunement in learning/teaching interactions seems to offer many insights useful for further "humanizing" and "aestheticizing" teaching and the teaching profession.

References

Albers, P., & Sanders, J. (Eds.) (2010). *Literacies the arts and multimodality.* Urbana, IL: National Council of Teachers of English.

Alexander, P. A., & Murphy, P. K. (1998). Profiling the differences in students' knowledge, interest, and strategic processing. Journal of Educational Psychology, 90, 435–447.

Allington, R. L., & Walmsley, S. A. (Eds.) (2008). *No quick fix: Rethinking literacy programs in America's elementary schools (The RTI edition)*. New York: Teachers College Press.

Avila, J. A., Zacher, J. C., Griffo, V. B., & Pearson, P. D. (2011). Conducting instructional intervention research in the midst of a state takeover. *Pedagogies: An International Journal, 6*(1), 30-45. doi: 10.1080/1554480X.2011.532085

Bereiter, C., & Scardamalia, M. (1993). *Surpassing ourselves: Inquiry into the nature and implications of expertise.* Chicago, IL: Open Court.

Bialostok, S., & Kamberelis, G. (2012). The play of risk, affect, and the enterprising self in a fourth-grade classroom. *International Journal of Qualitative Studies in Education, 25,* 417-434.

Bierman, K. L. (2011). The promise and potential of studying the "invisible hand" of teacher influence on peer relations and student outcomes: A commentary. *Journal of Applied Developmental Psychology*, *32*(5), 297-303.

Bowen, T., & Whithous, C. (Eds.) (2013). *Multimodal literacies and emerging genres.* Pittsburgh, PA: University of Pittsburgh Press.

Butler, J. (2015). *Notes toward a performative theory of assembly.* Cambridge, MA: Harvard University Press.

Clay, M. (2013). *An observation survey of early literacy achievement, third edition.* Portsmouth, NH: Heinemann.

Cole, M., & Engström, Y. (2007). Cultural-historical approaches to designing for development. In J. Valsiner & A. Rosa (Eds.), *The Cambridge handbook of sociocultural psychology* (pp. 484-507). New York: Cambridge University Press.

Czikszentmihalyi, M. (1982). Intrinsic motivation and effective teaching: A flow analysis. *New directions for teaching and learning*, *1982*(10), 15-26.

Dawes, L. (2004). Talk and learning in classroom science. *International Journal of Science Education*, *26*(6), 677-695.

Deleuze, G., & Guattari, F. (1987). *A thousand plateaus: Capitalism and schizophrenia.* Minneapolis, MN: University of Minnesota Press.

Dewey, J. (1944). *Democracy and education: An introduction to the philosophy of education.* New York, NY: Free Press (Original work published 1919).

Engeström, Y. (2009). The future of activity theory. In A. Sannino, H. Daniels & K. D. Gutierrez (Eds.), *Learning and expanding with activity theory* (pp. 303-328). New York: Cambridge University Press.

Erickson, F. (1996). Going for the zone: The social and cognitive ecology of teacher-student interaction in classroom conversations. In D. Hicks (Ed.), *Discourse, learning, and schooling* (pp. 29-62). New York: Cambridge University Press.

Farmer, T. W., Lines, M. M., & Hamm, J. V. (2011). Revealing the invisible hand: The role of teachers in children's peer experiences. *Journal of Applied Developmental*

Psychology, *32*(5), 247-256.

Forster, E. M. (2008). *Howards end (ebook).* Retrieved from https://www.gutenberg.org/files/2946/2946-h/2946-h.htm (Originally published 1910).

Freire, P. (1986). *Pedagogy of the oppressed*. New York: Continuum.

Freebody, P., & Freiberg, J. M. (2011). The teaching and learning of critical literacy. In M. L. Kamil, P. D. Pearson, E. B. Moje, & P. P. Afflerbach (Eds.), *Handbook of Reading Research, Vol. IV* (pp. 432-452). New York: Routledge.

Geertz, C. (1973). *Interpretation of cultures.* New York, NY: Basic Books.

Gest, S. D., & Rodkin, P. C. (2011). Teaching practices and elementary classroom peer ecologies. *Journal of Applied Developmental Psychology*, *32*(5), 288-296.

Giles, D. (2010). Developing pathic sensibilities: A critical priority for teacher education programmes. *Teaching and Teacher Education*, *26*(8), 1511-1519.

Guthrie, J. T., Hoa, L. W., Wigfield, A., Tonks, S. M., & Perencevich, K. C. (2006). From spark to fire: Can situational reading interest lead to long-term reading motivation? *Literacy Research and Instruction, 45,* 91-117.

Harste, J.C., Woodward, V. A., & Burke, C. L. (1984). Language stories and literacy lessons. Portsmouth, NH: Heinemann. (pp. ix-- 14).

Hinchion, C. (2016). Embodied and aesthetic education approaches in the English classroom. *English in Education*, *50*(2), 182-198.

Hamm, J. V., Farmer, T. W., Dadisman, K., Gravelle, M., & Murray, A. R. (2011). Teachers' attunement to students' peer group affiliations as a source of improved

student experiences of the school social–affective context following the middle school transition. *Journal of Applied Developmental Psychology*, *32*(5), 267-277.

Harvey, S., & Kelly, E. (1993). Evaluations of the quality of parent-child relationships: A longitudinal case study. Arts in Psychotherapy, 20(5), 387-395.

Hughes, J. N., & Chen, Q. (2011). Reciprocal effects of student–teacher and student–peer relatedness: Effects on academic self efficacy. *Journal of applied developmental psychology*, *32*(5), 278-287.

Jones, S. H. (2017). Assembling a we in critical qualitative inquiry. In N. K. Denzin & M. D. Giardina (Eds.), *Qualitative inquiry in neoliberal times* (pp. 130-135). New York, NY: Routledge.

Jones, W. M., & Dexter, S. (2014). How teachers learn: The roles of formal, informal, and independent learning. *Educational Technology Research and Development*, *62*(3), 367- 384.

Kaye, K. (1982). *The mental and social life of babies: How parents create persons.* Chicago, IL: University of Chicago Press.

Kindermann, T. A. (2011). Commentary: The invisible hand of the teacher. *Journal of Applied Developmental Psychology*, *32*(5), 304-308.

Kucan, L., & Palinscar, A. S. (2011). Locating struggling readers in a reconfigured landscape: A conceptual review. In M. L. Kamil, P. D. Pearson, E. B. Moje, & P. P. Afflerbach (Eds.), *Handbook of Reading Research, Vol. IV* (pp. 341-358). New York: Routledge.

Latta, M. A. (2004). Attunement to the creating process in teaching and learning. *Journal of the Canadian Association for Curriculum Studies*, *2*(1), 211-226.

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Lodico, M., Spaulding, D. T., & Voegtle, K. H. (2010). *Educational research: From theory to practice.* San Francisco: Jossey-Bass.

Luckner, A. E., & Pianta, R. C. (2011). Teacher–student interactions in fifth grade classrooms: Relations with children's peer behavior. *Journal of Applied Developmental Psychology*, *32*(5), 257-266.

Luhmann, N. (1979). *Trust and power.* New York, NY: John Wiley and Sons.

Lysaker, J. (2000). Beyond words: The relational dimensions of learning to read and write. *Language Arts*, *77*(6), 479-484.

Lysaker, J., McCormick, K., & Brunette, C. C. (2004). Hope, happiness, and reciprocity: A thematic analysis of preservice teachers' relationships with their reading buddies. *Literacy Research and Instruction*, *44*(2), 21-45.

Manning, E. (2010). Always more than one: The collectivity of *a life. Body and Society, 16*(1), 117-127. doi: 10.1177/1357034X09354128

Manyak, P. C., Von Gunten, H., Autenrieth, D., Gillis, C., Mastre O'Farrell, J., Irvine McDermott, E., Baumann, J. F., & Blachowicz, C. L. (2014). Four practical principles for enhancing vocabulary instruction. *The Reading Teacher*, *68*(1), 13-23.

Massumi, B. (1995). The autonomy of affect. *Cultural Critique, 31,* 83-109.

Massumi, B. (2015). *The politics of affect.* Cambridge, UK: Polity Press.

Maté, G. 1999. *Scattered*. New York: Penguin Putnam.

Matusov, E. (2009). *Journey into dialogic pedagogy.* New York, NY: Nova Science Publishers.

Miller, R. (2000). *Caring for new life: Essays on holistic education.* Brandon, VT: Foundation for Educational Renewal.

Parshad, R., Joshi, D. P. L., & Sanbighna, S. R. (2012). Hierarchic understanding of student teacher inter-relation. *International Journal of Research in Social Sciences and Humanities, 1*(4), n.p.

Poulsen, J., & Fouts, G. (2001). Facilitating academic achievement through affect attunement in the classroom. *The Journal of Educational Research*, *94*(3), 185-190.

Rasinski, T. V., & Padak, N. (2005). *Three-minute assessments: Word recognition, fluency, and comprehension.* New York: Scholastic.

Reeve, J. (2006). Teachers as facilitators: What autonomy-supportive teachers do and why their students benefit. *The Elementary School Journal*, *106*(3), 225-236.

Reeve, J., & Jang, H. (2006). What teachers say and do to support students' autonomy during a learning activity. *Journal of educational psychology*, *98*(1), 209.

Stake, R. E. (1995). *The art of case study research.* Thousand Oaks, CA: SAGE. Stern, D. (1985), *The Interpersonal world of the infant.* New York, NY: Basic Books.

Stevens, L., van Werkhoven, W. & Castelijns, J. (2001) The attunement strategy: reclaiming children's motivation by responsive instruction (Geneva, Unesco/IBE). Retrieved from http://unesdoc.unesco.org/images/0012/001247/124793e.pdf

Stevenson, H. J. (2004). Teachers' informal collaboration regarding technology. *Journal of Research on Technology in Education, 37*(2), 129–144.

Swain, M. (2000). The output hypothesis and beyond: Mediating acquisition through collaborative dialogue. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 97-114). Oxford, England: Oxford University Press.

Terman, D. (2013). Optimum frustration: Structuralization and the therapeutic process. In A. Goldberg (Ed.), *Learning from Kohut: Progress in self psychology, volume 4* (pp. 113- 126). Hillsdale, NJ: The Analytic Press (Originally published 1988).

Trilling, B., & Fadel, C. (2009). *21st century skills: Learning for life in our times*. San Francisco: Jossey-Bass.

Turner, J., & Paris, S. (1995). How literacy tasks influence children's motivation for literacy. *The Reading Teacher, 48,* 662-673.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

Wilkinson, I. A. G., & Son, E. H. A dialogic turn in research on learning and teaching to comprehend. In M. L. Kamil, P. D. Pearson, E. B. Moje, & P. P. Afflerbach (Eds.), *Handbook of Reading Research, Vol. IV* (pp. 359-387). New York: Routledge.

Young, C., & Rasinski, T. V. (2013). Student-produced movies as a medium for literacy development. *The Reading Teacher, 66,* 670-675.

Journal of Literacy and Technology Special Edition
Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Unboxed: Expression as Inquiry in Media Literacy Education

Theresa A. Redmond
Appalachian State University
redmondta@appstate.edu

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Abstract

With the proliferation of digital tools and devices for communication and creation, people of all ages and backgrounds may find themselves in the role of the 'producer,' authoring texts, images, videos, memes, and other media. Yet, what does production look like as part of learning? This paper shares research investigating how media production may serve to develop and extend students' learning in an undergraduate media literacy course. Through multiple qualitative methods, including image elicitation, I examined both my changing curriculum and students' values and perspectives regarding media making. Findings suggest media making comprises a student-centered, democratic pedagogy that incorporates multimodality and critical framing as essential aspects of learning.

Keywords: digital literacy, media literacy, media production, media making, expression, inquiry, qualitative research, visual methods, image elicitation

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Introduction

As early as 1998 in the United States, Renee Hobbs documented the climate regarding media literacy education practice indicating a lack of consensus in seven distinct areas and calling these the "great debates in media literacy" (Hobbs, 1998). One key area of discord concerned production and Hobbs articulated a question that many media literacy teachers and advocates were asking: "should media production be an essential feature of media literacy education?" (Hobbs, 1998, p. 20). Fast-forward twenty years and the digital landscape has radically evolved, making production work possible for more people and with more ease. Beyond access and ease, the structures of youth interactions have shifted from physical to digital spaces, suggesting a generation of youth are already engaging in media making outside of school (Antin & Itō, 2010; Hobbs & Moore, 2014; Hobbs, 2017; Jenkins, 2009; Jenkins, 2016; Knobel, 2017; Lange, 2016). Despite shifts in availability, access, and engagement, the question remains: how is media production included in media literacy education?

The purpose of this paper is to share insights gathered from my larger study of media literacy teaching in higher education called "Navigating the Nonlinear." One facet of my work in this research is to investigate how media production may serve to develop and extend learning by providing a reciprocal process to the critical analysis comprised by media literacy education. My reasons for including production in media literacy are multifaceted, including an interest in the intersections between expression and communication, a desire to enrich students' learning experiences, and objectives to make learning visible through the multimodal nature of translating cognitive understandings through the focused curation of language, image, and sound. The implications of my work are important for teachers and administrators at all levels who seek to cultivate critical pedagogy in their schools and professional learning communities and contribute to initiatives that frame new competencies for twenty-first century learning.

Background

Defining Production

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Within digital literacy, there are myriad ways to define and enact production. Production, or media making, may refer to the documentation of learning events using digital devices or forms. For example, taking photographs to chronicle an experiment in Science class or recording an audio snippet of peers reading out-loud in English Language Arts might both constitute production. Conceptions of production may also move beyond the curation or capture of digital content to refer to the active design and editing processes related to message construction. For instance, students might collaborate to create a class news show or produce a Public Service Announcement (PSA) video. However, teasing out the nuances of how media production may characterize the *critical competencies* of media literacy education—beyond the basics of digital literacy skills— is more challenging. In this section, I will offer organizational definitions for media literacy while also introducing a brief history of its enactment in classrooms, including how this history has impacted production practice. Ultimately, I will suggest new directions for a paradigm shift in creative media production as indispensable for media literacy education. In providing an operational definition of production for this work, I encourage readers to consider Sheridan and Rowsell's (2010) description of *producers*. They explain:

> Producers are problem-solvers who redesign conventional responses by re-seeing and re-spinning given materials; they are also problem-seekers who create new ways to approach information so that they, and others across their digitally mediated networks who build upon their approaches, come up with fresh responses…production calls people to understand something in a unique way. When people bring their ideas to fruition, they deal with various problems that challenge how things were supposed to go, which helps producers understand the complexity of both their ideas and the communication of these ideas. (p. 111).

In this sense, defining production requires attention to the media makers who produce and create as indispensable. Production, in turn, comprises the active and inquisitive meaning-making practices of learners as they solve, seek, and communicate problems related to their learning using contemporary forms of expression.

Media Literacy and Production

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

A relatively standard definition for media literacy education across international communities provides agreement that media literacy includes not only the abilities to analyze and evaluate media messages, or *decode*, but also the abilities to create media, or *encode*. The National Association for Media Literacy Education (NAMLE) in the United States describes media literacy as "the ability to access, analyze, evaluate, create, and act using all forms of communication" (NAMLE, Media literacy defined, n.d.). The Office for Communication (OFCOM) in the United Kingdom similarly writes that media literacy is "the ability to use, understand and create media and communications in a variety of contexts" (OFCOM, About media literacy, n.d.). Finally, Canada's Association for Media Literacy (AML) defines media literacy as:

> …an educational initiative that aims to increase students' understanding and enjoyment of how the media work, how they produce meaning, how they are organized, and how the media construct reality. AML is concerned with helping students develop an informed and critical understanding of the nature of the mass media, the techniques used by media industries, and the impact of these techniques. Media literacy also aims to provide students with the ability to create their own media products. (AML, n.d.).

Collectively, these explanations of media literacy education extend traditional reading and writing skills to include non-print sources and modernize literacy as a multimodal concept for the digital age that includes media creation, or making media, as a vital reciprocal to analysis and evaluation. According to Peppler & Kafai (2007) "creative production refers to youths' designs and implementations of new media artifacts such as web pages, videogames, and more" (p. 2). Yet, *how* media education incorporates media making and production is less well-defined. Creating media as an aspect of media literacy education requires a deeper attention to the more complex objectives of media literacy suggested by the aforementioned definitions, and the organizations' extended documents. Beyond digital literacy, media literacy education recognizes that all media are *cultural forms* (Buckingham, 2007) that are intimately connected to media industries and power structures. All media have social and political purposes and effects and, in this sense, media literacy "must entail a form of 'critical framing' that enables the learner

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

to take a theoretical distance from what they have learned, to account for its social and cultural location, and to critique and extend it" (Buckingham, 2007, p. 45). With the cultural and critical purposes in mind, what does it then mean to create media? What examples of practice exist? In considering the power of production to provide for inquiry, how might media makers critique and extend media as cultural forms as they problem-solve and problem-seek (Sheridan & Rowsell, 2010)?

Case studies of media literacy education in practice in the United States may mostly be categorized by a predominant focus on *reading*, or the critical analysis and evaluation of popular media texts (Hobbs, 2007; Redmond, 2012). Historically, media literacy educators have enacted critical pedagogies by inviting students to decode a range of popular media texts—including photographs, news, films, and music—within the broader contexts of industries, audiences, and effects. A focus of media literacy education has been to augment the traditional reading of alphabetic, print texts to the non-textual, digital world, in turn building capacity for audiences to actively negotiate both explicit and implicit messages and related power structures across many forms. Mostly, creative media production, or *writing*, has been absent from practice.

Pitfalls of Production

Where it has been included across educative contexts, a fundamental failure of media production practice is a focus on *products* created via computational tools and devices. Our somewhat recent history of analog media suggests multiple contributing factors that have resulted in this emphasis on tools. Perhaps the size and physicality of the materials required to create media—archival photographs and films, for instance—may reveal why the devices were a focal point in practice (Buckingham, Harvey, & Sefton-Green, 1999). In order to incorporate media making, educators needed access to relatively expensive and large equipment that also required special care and storage. Or perhaps it was time that presented the more formidable barrier. Time for professional training, curriculum design to thoughtfully integrate production, or the time required to actually move a student project from start to finish (Buckingham, 2003; Peppler & Kafai, 2007). Other scholars have noted the constraints of time result in an inequitable divide between the technical and aesthetic dimensions of media production, or the quality

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

of the content (Burn & Durran, 2007). Through a combination of challenges, it was generally not feasible for many educators in the K-12 public schools sector, or even in teacher preparation programs, to incorporate media production in a fundamental way as part of the curriculum. Students receiving any particular media production training or education between the 1980s and 2000s were likely part of a vocationally-oriented student media course or broadcast program (Buckingham, 2003).

By the mid-2000s, the scene had shifted slightly, with scholars sharing the efforts of teachers to augment production opportunities in the classroom (Buckingham, 2007). Students created movies, news broadcasts, and other media at school (Kist, 2005). While significant, interests mainly focused on the platforms used for production— such as movies, radio, and news— or on youths' experiences making with those platforms. Peppler & Kafai (2007) call this the "platform model," noting that the approach neglects to prepare young people for active participation in new media cultures (p.3-4). Further case study research by Blum-Ross (2015) notes that only one third of over eleven in-depth case studies of youth media production comprised critical components of media education via the inclusion of "watching and discussing existing media texts or the ones created during the project" (p.316). By perpetuating a device-centric pedagogy of production that prioritizes the products over learning processes, media production practice has largely been unsuccessful in addressing the critical, creative, and civic goals of media literacy.

Culture and Digital Production

As we rapidly continue towards a future of smaller, faster, and accessible media production tools, our pedagogical focal points need not be so misaligned. It is possible to recalibrate a focus on inquiry— rather than tools— by leveraging media devices *themselves* as cultural forms that benefit from critique, problem-posing, and disarticulation. With the availability of wired mobile smartphones and tablets, equipped with cameras, expressive apps, and basic editing tools, scholars have already expounded upon the self-directed and self-motivated actions of youth as they engage as a "participatory culture" (Jenkins, 2009). They report that youth are increasingly primed to contribute to popular discourse through media curation, remix, and making (Antin & Itō, 2010; Jenkins, 2016; Knobel, 2017; Lange, 2016). Despite

access outside of school and in their homes though, research intimates that youth's critical uses of media remain scarce (Buckingham, 2007). This suggests the vital and pressing need for media education to incorporate production using a critical approach in schools.

To this end, existing case study research is beginning to feature production across a range of educational settings from elementary to middle and high school (Burn & Durran, 2007; Collier, 2018; Hicks, 2018; Leach, 2017; Redmond, 2014; Redmond, 2015; Share, 2009), along with some in higher education (Schmidt, 2015; Tulodziecki & Grafe, 2012) and even preschool (Friedman, 2016). These studies illuminate a complex array of curriculum goals and learning purposes, including attention to the following aspects of teaching and learning: engagement factors related to media production (Friedman, 2016; Leach, 2017), the content of the productions themselves (Redmond, 2014), and media making as democratic discourse (Hobbs, Donnelly, Friesem, & Moen, 2013; Kellner & Share, 2007; Mihailidis & Thevenin, 2013; Thevenin, 2017). It is increasingly becoming clear that media production is a way for students to learn *through or with* media, and is essential for media literacy education. Yet, how media production activities might be incorporated as a pedagogical process to understand students' thinking is not well documented. As Buckingham (2007) explains:

> …the aim is not primarily to develop technical skills, or to promote 'self-expression', but to encourage a more systematic understanding of how the media operate, and hence to promote more reflective ways of using them. In this latter respect, media education directly challenges the instrumental use of technology as a transparent or neutral 'teaching aid'. (Buckingham, 2007, p. 50)

In other words, what remains opaque is how production may be used to facilitate students' critical thinking and expression of knowledge *about* media or their understandings of the embedded power structures of mediated communications. Stories of how media making may reveal the critical objectives of media literacy, extending opportunities for analysis and evaluation in meaningful and metacognitive ways, has been less forthcoming in our scholarly literature. These distinctions, while nuanced, may be

essential in more fully coalescing the critical and creative components of critical media literacy education in classroom practice.

Towards a new pedagogy of production

In moving beyond a technical, device-centered or platform model of media production in our classrooms, we must learn to venerate the messy, unscripted, and expressive potentialities of media literacy in teaching and learning. Like the act of teaching itself, making media has historically involved power. For example, in the beginning, cameras were owned by select economic classes, cultural and artistic groups (Swaminathan & Mulvihill, 2013, p. 1). With a physical ownership came control of content, aesthetic structures, and cultural values for quality. These values have been encoded into our production practices so that creative expression itself has come to be understood as an innate quality, "residing deeply within the individual" (Knobel, 2017, p. 33). López (2017) argues that media literacy education tends to marginalize media arts and activism, resulting in a lack of attention to "alternative electronic media, art, print media, handmade media (like zines), and comics" (p.275). From these dimensions of scholarship, a somewhat monocratic and monochromatic tradition of production is exposed. Perhaps if we approach media production with thoughtful attention to the critical demands of media literacy and the expressive possibilities of media arts, we may reinvest in constructivist learning and harness the pedagogical potentialities of media making.

Methods

Research Problem

To update the practice of my media literacy teaching in terms of my students' experiences in a participatory culture (Jenkins, 2009), I have been working to revise objectives, curricula, and pedagogies in my media literacy class. From this larger study, I have initiated multiple sub-studies. My particular aim in this iterative sub-study was to explore the role and value of production practices, specifically as they relate to student inquiry and expression. The general research question guiding this aspect of my study was inspired by David Buckingham's (2003) critical and comprehensive text, *Media Education: Literacy, Learning, and Contemporary Culture,* where, on the brink of Web 2.0 technologies and the burgeoning

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

participatory culture (Jenkins, 2009), he queried: "What is the relationship between understanding and the language in which that understanding is embodied?" (p. 140). In considering his broader, epistemological inquiry, I was driven to examine a related question: How do media production activities serve to illuminate students' media literacy learning? To investigate this question, I designed and implemented curriculum changes that provided opportunities for students to curate, share, and produce media related to key topics in our media literacy learning.

Research Context & Participants

The research context for this study constitutes a semester-long, media literacy course—called *Media Literacy*— that is a required course in a campus-wide, undergraduate Media Studies minor at a large, public university in the southeastern United States. In this course, students "examine what it means to be literate in the technological world of the twenty-first century where digital media pervades in our daily experiences" and "emphasis is placed on understanding media texts, media industries, media narratives, and the form and language of a variety of different media" (Course Syllabus, 2018). Students from various majors across campus choose the Media Studies minor to complement their majors areas of study: Communications, Electronic Media and Broadcast, Journalism, and Advertising. While most of the courses in the minor focus on making media (e.g., *Digital Photography and Imaging, Video Production, Audio Documentar*y), *Media Literacy* offers a theoretical lens for issues in media studies and lacks production opportunities overall. Previous iterations of the course had not incorporated media making beyond the curation of media artifacts for analysis (e.g., collecting print and televisions commercials for study or film clips for analysis). Since I began teaching this course in Spring 2014, I have progressively incorporated not only critical decoding and evaluation of mediated communications, but also encoding through assignments that invite students to manipulate popular media using a range of media curation and production processes and tools.

Research Approach

In this qualitative study, I enacted curriculum changes related to media production in terms of my teaching materials, student learning processes, and products. I implemented various curriculum changes

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

recursively over four years. Through multiple approaches in qualitative analysis, I have been able to evoke a broad understanding of how media production is incorporated into both the teaching and learning processes of media literacy education, while also conveying student perspectives regarding the value of media making. Within the larger paradigm of my research, I employed *visual methods*— through the use of *image elicitation* specifically— in order to fully illuminate production as a crucial component of media literacy.

Visual Methods.

As a facet of qualitative research, visual methods provide a different textual format or modality through which researchers garner understandings and interpret the topic under consideration. Images in visual methods may comprise various forms including photographs, drawings, video, or other graphic productions that are generated, collected, or discussed in both the data collection and analysis processes. An advantage of visual methods is that researchers and participants alike may engage in a more democratic discussion surrounding the research interest as the use of imagery disrupts "the hierarchical relationship between the researcher and participant (Swaminathan & Mulvihill, 2013, p. 2). Visual methods of qualitative inquiry may include: image elicitation, photo-interviewing, photo-voice, and reflective photography (Swaminathan & Mulvihill, 2013).

In *image elicitation*, participants may be invited to comment on, contribute, or create images in conjunction with traditional interviews. In some image elicitation, the image productions are collected along with a narrative generated by the participant in which they are asked to expound on their choices in selecting or creating the image and how the image may connect to or represent various other ideas represented in observations, interviews, or other documents. Images acquire meaning through the interactive context of researcher and participants conversing and reflecting together (Swaminathan & Mulvihill, 2013, p. 2). This interaction results in a democratizing research process where, like in traditional open-ended interview methods, an exchange between researcher and participant is nurtured and valued. However, the use of images does not provide for objective ways of knowing (Pink, 2013). Instead, the negotiation of the image becomes an active and subjective component of the research process

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

that includes the prior-knowledge, experiences, and interpretations of the researcher and participant in conversation. In designing research that employs visual methods it is important to consider what types of data are going to be collected and how they will be analyzed in order to illuminate the research inquiry.

Data Collection and Analysis

Data collection for this study included two unique collections of information in order to attend to the research aim of understanding how media production might illuminate students' media literacy learning. First, I collected data related to my curricular practice and, second, I collected data related to students' production experience, including their perspectives on the value of media making and images they produced to reflect their learning. The gathered data forms included alphabetic, written documentation and visual images. I analyzed data using multiple and purposeful qualitative methods, as described in the sub-sections below. Finally, as a solo researcher and coder, I engaged in my analysis processes concurrently amidst discussions and dialogue with a peer colleague in the field of Media Studies. As Saldaña (2010) encourages, "discussion provides not only an opportunity to articulate your internal thinking processes, but also presents windows of opportunity for clarifying your emergent ideas and possibly making new insights about the data" (p. 89). By conversing frequently with my colleague about my analysis process, I not only gained insights into the questions driving this particular research focus, but also amplify the legitimacy of my findings.

Data related to my curricular practice.

In order to study media production in my *Media Literacy* course, it was essential that I first address the macro view of my changing curricular practice in media literacy over four years. To do this, I collected my course folders and compiled their contents as data. Every semester, I create a new folder to house my course materials. Each semester's course folder contains sub-folders for the various components I use in teaching. These typically include: readings, assignments, teaching materials, and student products. My teaching materials include lesson plans written in Microsoft Word, PowerPoints, video clips, and any activity documentation (e.g., photographs of student posters, notes, or other student-generated materials from class). Through analysis of the *forms* of these sources, I was able to articulate

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

trends in the modifications I have made to my curriculum over time and gain insights into broad themes related to practice.

In conjunction with a broad, visual analysis of my curriculum, I engaged in a detailed, microanalysis of two key assignments in order to learn more about my underlying motivations and methods to include production. In examining these assignments, I used *thematic analysis* and coded for latent themes, surveying the forms of the assignments themselves and the competencies comprised by the work. As Braun and Clarke (2006) note "thematic analysis at the latent level goes beyond the semantic content of the data and starts to identify or examine the underlying ideas, assumptions, and conceptualizations— and ideologies— that are theorized as shaping or informing the semantic content of the data" (p. 13). In this way, thematic analysis enabled my investigation of fundamental beliefs about media literacy practice as they pertained to production to be disclosed.

Data related to student media production.

To understand students' perspectives regarding media production, I collected individual interview data with students following their semester-long participation in *Media Literacy*. The questions for "Perspectives in Media Literacy" (see Appendix C) were generated using a *participatory action research approach* (PAR) that began with open-ended, researcher-generated questions in Spring 2014. My initial interview set included the invitation for students to propose their own questions. I was then able to incorporate student-generated questions into subsequent interviews so that each iterative cycle of interviews incorporated students' ideas. The participatory approach ensured that interview questions would remain relevant to students' experiences and worlds over time, in addition to inviting a democratic conversation to unfold. Data analyzed in the present paper was collected in Spring 2018 from 29 consenting student participants from two class sections. All names used in this paper are pseudonyms.

To analyze interviews, I first created a *data summary* that provided insight into initial themes or ideas (Posch, Somekh, & Altrichter, 1993). Then, in order to attend to students' perspectives regarding media production, I used a *values coding* lens (Gable & Wolf, 1993) with a focus on students' responses to question eight: "How important is it for people to learn how to create their own media?" As Manning

& Kunkel (2014) explain, "values coding allows for deep insights into participant motives, ideological systems, and agency" (p. 84). Through a values lens, I was able to apply codes onto my data that would suggest students' attitudes or beliefs about the importance of production work in cultivating media literacy skills and knowledge (Saldaña, 2010, p.89).

In addition to transcribed, text-based interview data, I augmented data collected in Spring 2018 through the use of image elicitation to enhance the texture of the research story and more fully develop the narrative surrounding media production in media literacy education. As Kingsley (2009) explains, "visual methods [have the power to] illuminate aspects of a study that might otherwise slip away from a focused analysis of textual data" (p. 535). I collected participant-driven images that were each accompanied by a participant-authored, text-based narrative. Drew and Guillemin (20014) note, the participant-authored narrative is "crucial for developing an adequate understanding of the intentionality that underpins a participant's image-making" (p. 60).The images used in this study may be classified as 'research process imagery' because they were elicited for the express purpose of elucidating aspects of the interview in visual form (Swaminathan & Mulvihill, 2013).

I analyzed the images using two coding approaches. First, I analyzed the nature of the images themselves using *genre coding*, assigning codes according to the construction of the student-generated images (e.g., drawings, photographs, collage, etc.). Second, I used thematic analysis to elucidate the contributions of production for students' articulation and learning.

Findings

In this section, I will discuss the emergent themes that I uncovered as they relate to curricular practice and students' values related to media production. As Braun and Clarke (2006) explain, "a theme captures something important about the data in relation to the research question, and represents some level of *patterned* response or meaning within the data set" (p. 10). Although they are comprised of repeated ideas in the data sets, my thematic findings do coalesce to offer a larger, overall picture of production as a method or strategy to facilitate students' inquiry in media literacy learning.

Findings on Curricular Practice

Through thematic analysis of latent motifs in key assignments, I was able to reveal my underlying purposes or reasons for including production in media literacy practice. Two predominant aspects emerged; a multimodal pedagogy and a focus on aesthetics and flexible texts as vital for knowledge construction.

Multimodal Pedagogy.

The broad, visual analysis of my curriculum over time revealed an emerging multimodal pedagogy. As conveyed in Figure 1, my curriculum materials began as predominantly document-based lesson plans noting the order of class activities, interspersed with lecture. At the end of four years however, the file formats comprised by my teaching reflect increasingly rich, transmedia materials including, but not limited to: photographs, video clips, audio segments/podcasts, sound effects, poetry, Padlet captures, and photo-documentation of physical, student-produced activity materials from class (e.g., notes on large sticky paper). This granular data reflects not only the use of multimodal forms in teaching, but also a student-centered pedagogy in that teaching with diverse media forms necessitates the acceptance and valuing of numerous, active pathways for negotiation of course topics by learners. For instance, using large-scale, colorful photographs combined with short, purposeful video clips relocated the power center of my more traditional, PowerPoint lectures from the device and instructor to the messages and students' interpretations and ideas. In this way, students become a central and vibrant part of the course, sharing their ideas, opinions, and questions related to course topics.

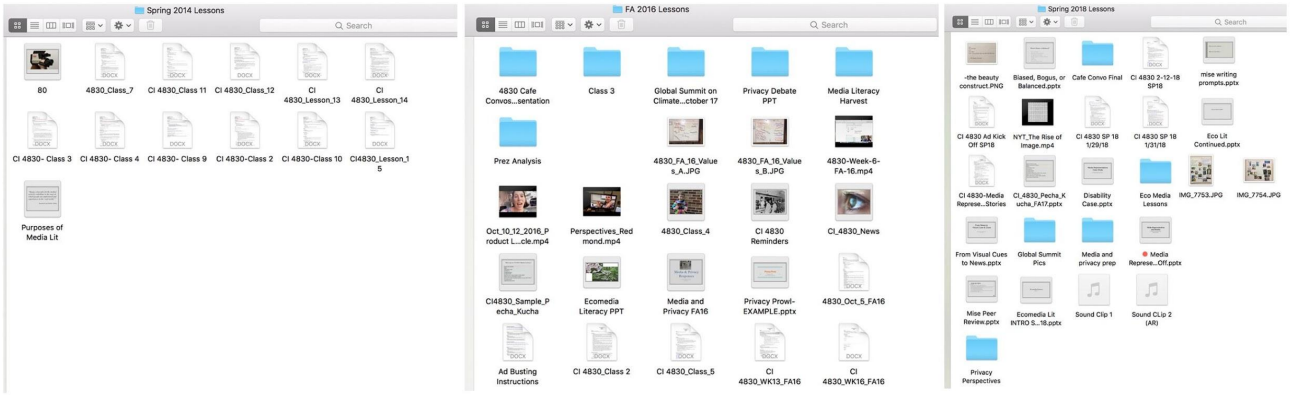


Figure 1. This set of images represents three captures of my curricular materials over four years— spring 2014, fall 2016, and spring 2018— and shows that the forms of my teaching materials shifted from mainly document-based lesson plans to multimodal and transmedia resources.

The Aesthetic, Flexible Texts, and Knowledge Construction.

As shown in Appendix A, the evolution of key assignments included a change in the form of the deliverable. Thematic analysis of these altering forms disclosed patterns related to multimodality and critical framing. From these themes, the importance of the aesthetic and of inviting flexible conceptions of what constitutes a "text" were revealed as indispensable strategies for knowledge construction, inquiry, and expression in learning.

For example, while students used still frames from movies as evidence in their written documentation for the *Mise-en-scène Analysis* assignment, the shift to a web-based form invited them to adjust the roles and purposes of images and video clips as an active part of the overall text. Namely, students attended more fully to the use of captions as a strategy to incorporate images into their analysis. In contrast to a written, document-based paper where captions sit below the image, captions in Adobe Spark Pages move dynamically into the frame as the user scrolls down the page. Images in Spark also move into the frame while scrolling, in addition to taking up more physical screen real-estate, or space, extending the frame of the work beyond the written analysis. The movement and proportions of the images themselves became an important dimension for students in demonstrating particular points in their analysis. Finally, Spark Pages provide the option to include accessory imagery that, while not actively incorporated as evidence for students' analysis, could serve to cultivate an overall theme in their work, or "packaging." The ability to convey not only critical components of their written analysis, but also the creative dimensions of images and video clips in the web page acknowledges these aspects as texts requisite for the overall analysis.

Figure 2 presents captures from the two assignment variations to illustrate these differences. On the left is a screen shot from a traditional *Mise-en-scène Analysis* assignment from spring 2014 where the

student examined *The King's Speech* (2010). Although the still frame is referred to in text, the student neglected to include a caption, suggesting the image serves as mere decoration. In contrast, a screen capture from the same assignment in Spring 2018, focused on *The Hurt Locker* (2008), includes not only reference to the image in text, but also a caption that works to fluidly incorporate the image as a unified part of the text. As indicated by the red arrow added to this screen capture, both the image and caption are coded with movement in the Adobe Spark Page. This movement serves to engage the audience's consideration of the images as part of the text as they read down the page.

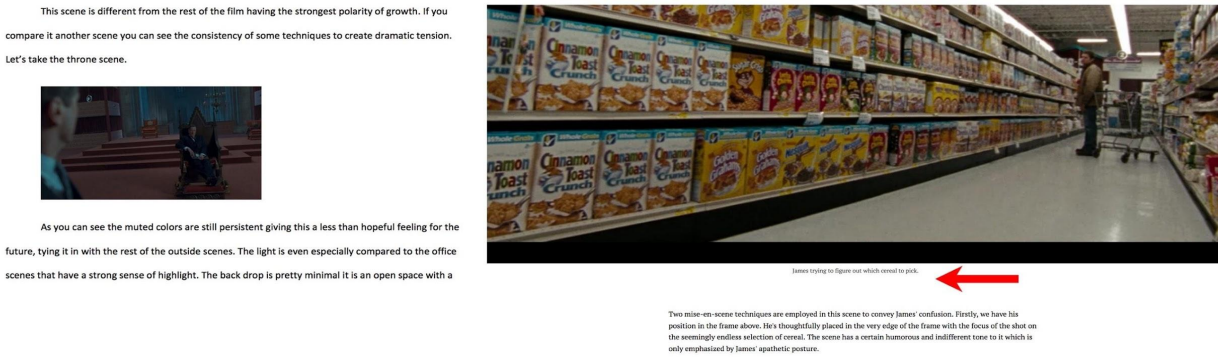


Figure 2. A section of a traditional *Mise-en-scène Analysis* assignment from spring 2014 (left) alongside a screen capture from the same assignment in the Spring 2018 web-based form (right).

In addition to reconceptualizing the idea of what defines a "text," these data imply that images and captions serve analysis in distinctive ways from the written text, in turn revealing the value of the aesthetic in its own right. Moreover, these data show the importance of flexible texts for inviting multiple avenues of articulation and expression with regards to knowledge construction.

For instance, I initiated my "Ad Busting" Assignment with a focus on using Adobe Photoshop for production related to social discourse. I expected the deliverable to include two images; the original image and the "busted" image. However, in seeking to more fully grasp the critical and creative dimensions of students' production processes as discourse, I eventually required a second, written deliverable in which students articulated their motivations and reasons for altering the images. While traditional production activities may require a written deliverable in advance of the production process (e.g., a video treatment), this ordering reflects an emphasis on the written form. By inviting written

explanations to come after the creative experience of image manipulation, students were able to engage in an uncharacteristic production process that prioritized their act of making as the primary articulation. Appendix D provides an example of this combination of texts, including image and written, that work together to contribute richer insights into students' critical thinking during production.

Findings on Student Media Production

Using a values coding lens (Gable & Wolf, 1993), I was able to extract students' ideas about the importance of media making and production in media literacy. I gleaned further information about students' perceptions of media production through image elicitation, interpreting images using a combination of genre coding and thematic analysis.

Students' Values.

As shown in Table 1, coding through a "values lens" revealed an array of opinions and beliefs, ranging from the blasé view that media production was "not necessary" to the urgent feeling that media production was essential for "social change" and "complete literacy."

Table 1.

Overview of Students' Values on Media Making

Code	Definition	Representative Data Sample
Not necessary	These statements suggest that it is not important for people to learn how to create their own media, or that it may depend on unnamed factors.	"I think it depends on the person. Not everyone wants to create, but today everyone has the opportunity to do so" (Monique, Perspectives Interview, Class A, Spring 2018). "I don't think it is essential for people to know how to create their own media unless it's necessary for their career or something along those lines. I think plenty of people live media-free lives. (Vera, Perspectives Interview, Class B, Spring 2018).
Ethics	These statements suggest that	"I do not think it is important to learn, it actually is kind of

	making media comes with great responsibility and that media makers require not only the technical skills to produce media, but also an awareness of the moral issues involved in creating and disseminating media. In some cases, students suggest that it could be dangerous for people to widely know how to make media.	dangerous to have media from everyone" (Roberta, Perspectives Interview, Class A, Spring 2018). "…if we're going to say we need to give everyone the ability to create their own media, we should also explain to them the implications of creating media.... Before you post anything, you should know how the media can harm you. How what you say and post is out there forever and you can't take it back, no matter how hard you try. (Nina, Perspectives Interview, Class A, Spring 2018).
Expression and Creativity	These statements suggest that making media is important for the sake of creativity and expression. The submission of these phrases is that media production is important for the self as a a source of pleasure, outlet for artistic representation, or pathway for life-long learning.	ng your own media is very important, it gives you a chance to represent yourself and your ideas to others" (Chauncey, Perspectives Interview, Class A, Spring 2018). e becoming a more globalized society by the day, and the best way to contribute and make meaning in this new world is through the ability to create our own media and spread out ideas and input" (Oliver, Perspectives Interview, Class A, Spring 2018).
Social Change	These statements suggest that making media is a way to contribute to social change; to share perspectives, viewpoints, and other ideas that are important for dissemination in a larger societal conversation. These phrases associate media making with having a voice in the larger	"We all have a voice, and it's important that we use it. Literally anyone with a phone can make their own media and upload it onto the internet. The world is more connected than ever and if we have something important to share, it's our responsibility to do so" (Lyle, Perspectives Interview, Class B, Spring 2018). "I feel like it is incredibly important to create your own media by putting your ideas out there and making

	cultural space.	something creative because we have to remember that we are allowed to contribute at to plant ideas within others" (Joan, Perspectives Interview, Class B, Spring 2018).
Essential Aspect of Complete Literacy	These statements suggest that creating media is an indispensable aspect of complete literacy. The idea conveyed in these phrases is that making media enables the maker to more fully grasp how media are constructed and, in turn, facilitates the maker's ability to see hidden or implicit messages in other media.	"I think learning how to create effective media is important because you get the perspective of what it is like to create. If all you do is consume, you may miss a lot of hidden messages. If you become skilled at creating, you can become far better at finding out all the meanings in a mediated message" (Sandy, Perspectives Interview, Class A, Spring 2018). "…media creation empowers people to take control of what they are viewing and why it is being created. I think it is important for people to create their own media at least once because they start to understand the complex process that goes into making media…media creation teaches people how media is made and they gain a sense of appreciation for both media and those who make it for a living" (Rio, Perspectives Interview, Class A, Spring 2018).

Although all students shared in the common experience of a semester-long media literacy class comprising both the analysis and manipulation of media, their opinions regarding the importance of media production varied greatly. Some students, like Hannah, expressed indifference, explaining:

> …the ability for a person to create their own media is worthwhile but not a necessity…Some would argue that a person needs to create media in order to participate or exist in today's social jungle, and that not participating is a form of willful ignorance. However, some people do not

> want to participate, and while I can't relate, I also can't fault them. (Hannah, Perspectives Interview, Class A, Spring 2018).

Other students expressed concern over the implications of a society prepared for media making, pointing to matters of ethics, morality, and social unrest as reasons to withhold the skills of production. For example, Lars cautioned:

> I think there are some runaway problems that stem from the digital world's ability to provide anyone the ability to create their own media. The accessibility of the internet allows anyone to be a producer of media, but is that responsible? This accessibility has given hate groups, terrorist groups, and all forms of disinformation the means necessary to gain more traction. This has also resulted in the devaluing and distrust of professional media producers/publications/providers. This forces the professionals to be more critical of themselves, but who's holding the amateurs responsible for their content? Content that could very well end up reaching just as large of an audience as professionals…it's important for people to learn how to create their own media as long as they also learn to understand the responsibility and consequence of the process. (Lars, Perspectives Interview, Class A, Spring 2018)

Contingencies such as "understand[ing] the responsibility[ies] and consequence[s]" of the media production process were disregarded by other students, as they championed the value of media making as a vital part of individual expression. Matt shared:

> …we need to all be able to articulate thoughts, ideas, stories, beliefs so that we can separate ourselves from the crowd…whether it be writing, photography, speaking, drawing… we all need something to ground ourselves in, because without it the world will pummel you, and it will bruise your psyche along with everything you thought you stood for. Without something to stand on, you rely on the media others create. (Matt, Perspectives Interview, Class B, Spring 2018)

Along the same lines, some students drew meaningful connections between the value of media making as a form of individual expression to further suggest creating media is tied up in power structures and voice, intimating the power of media tools as cultural forms. As Alan contended, "It's one thing to be able to

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

understand media but, being able to apply your viewpoint to media and create something from your thoughts is something else. It gives you a voice in a world where it is easy to be pushed under by louder voices. Creating media allows for social change" (Alan, Perspectives Interview, Class A, Spring 2018).

Finally, a requisite for social change, students brought the experience of media literacy full circle conveying the essential value of production as an aspect of complete literacy. Seth described the holistic nature of media literacy succinctly, saying "In order for the individual to understand aspects of the media they consume, it is important that they are familiar with the construction of media and are capable of presenting their own ideas through media" (Seth, Perspectives Interview, Class B, Spring 2018).

In addition to the predominate codes in Table 1, multiple outliers emerged that represented various other perspectives. For example, some students suggested that learning to make media provided an economic advantage and could help individuals in their careers. Another statement related to issues of credit or attribution in making media, while yet another suggested that young people will inherently know how to make media, suggesting media production need not be taught, and playing into the misconception of the "digital native" (Prensky, 2001).

Image Elicitation Genres.

The value of media production was further revealed through the image elicitation component. Genre coding of these images illustrated a range of diverse possibilities for visual production. As Appendix B shows, genres for student images ranged from pre-existing photographs of students' family and friends to symbolic photographs to drawings or collage.

Multimodal Knowledge Construction and Democratic Learning

In conjunction with uncovering a range of unique genres or approaches to production, the image elicitation process reinforced emerging themes discovered across analyses. For instance, the assortment of students' approaches to image production aligns with findings on my curricular practice indicating the flexibility of non-alphabetic texts in providing for multimodal knowledge construction in learning. Moreover, the request for students' images to be accompanied by a brief explanation relates to critical framing by which students may develop both their written and multimodal articulation through the

combination of both modes. Figure 3 shows a pairing of two images elicited from students that cross genres, yet related to the similar broad topic of privacy.

Figure 3. Two images related to the topic of privacy. On the left, a collage or pieced image created for the purposes of the class using the Snapchat app. On the right, a candid photograph from the student's personal collection that was re-purposed for the course.

In relation to the theme of critical framing, the author of the photograph on the left explained the thinking behind her image construction, although only a brief explanation of the photo was requested. She shared:

> When we look at media literacy, a big issue is our privacy as we post more and more information online. Some people look at this as a risk factor: is the risk worth the reward? I used two pieces of paper and the Snapchat app to create this picture. I tried to draw a "scale" to show the uneven balance between risk and reward that I feel there is like we discussed in class. To some people, the benefits seem to greatly outweigh the issues of privacy because they enjoy the satisfaction of posting online (the likes and comments) that can come with it. With this scale concept, we can easily see the scale balance or tip the other way if we add different issues to each side. When we are posting online, we need to be very cautious about how we do it because we really don't know how and why our information could be used by companies. (Rio, Perspectives Interview, Class A,

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Spring 2018).

In her writing, she provides an ordinal explanation that begins with her use of the Snapchat app to create the image, her physical process using two pieces of paper, and her symbolic intentions for the message itself. This suggests that the practice of production used in class, which incorporated reflective attention to the constructedness of media, may have percolated into her thinking regarding production.

Along with findings related to the concepts of flexible texts and critical framing in knowledge construction, the image elicitation highlighted the democratic value of asking students to make media as part of their learning. Just as inviting participants to contribute and create images in research lends a participatory and interactive component to studies, when students make media in the classroom the center of control and power in the learning process shifts from teacher to learner. This shift in power generates a more interactive and democratic process of knowledge construction.

Finally, student interviews combined with image elicitation illuminated the broad theme of media literacy as a subject of study and way of learning that necessarily involves *interaction.* Seth conveyed his conception of media as a conduit through which we interact with ideas and each other, sharing "because we communicate through media, we must approach it as something to speak and be spoken to through" (Perspectives Interview, Class A, Spring 2018). Vera commented on the ever-changing nature of media forms themselves, suggesting interaction requires updating our abilities; "The media we use and consume today is different than the media 15 years ago and 15 years from now it will probably be greatly different as well. In order to stay literate with media, we have to constantly keep up with changing technology" (Perspectives Interview, Class A, Spring 2018). Perhaps the most fluid conception of media literacy as interaction was conveyed by the unity of Daniel's words and image. Echoing McLuhan's famed adage "the medium is the massage" (McLuhan & Fiore, 1967), he explained:

> The media is the message. There is ALWAYS a message being sent to us. In order for us to be literate, we have to take the message and break it down to its core. Why is it being sent? Who is sending it? How is it affecting what I think of the world?... It's through media and interaction that

we can spread our ideas and start a conversation on different issues. (Perspectives Interview, Class A, Spring 2018).

While Daniel's articulation is thoughtful, including attention to the responsibilities of audiences to engage in critical inquiry and conversation, the written text is limited when compared to the image he contributed. Shown in Figure 4, Daniel's ability to succinctly capture the interactive capacity of media is both artful and clever. American painter and printmaker, Edward Hopper (1882-1967), is credited with the statement "If you could say it in words there would be no reason to paint it." In this sense, media making *is* meaning making and, as such, a vital component of learning that has no alternative form.

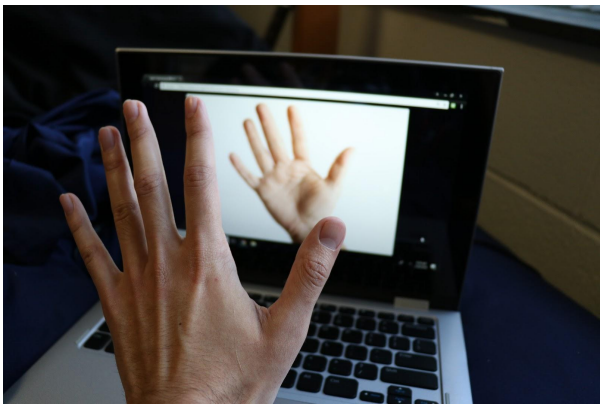


Figure 4. This image creatively and cleverly demonstrates the interactive characteristics of media.

Discussion

Media production activities do more than support media literacy learning. In considering the question "What is the relationship between understanding and the language in which that understanding is embodied?" (Buckingham, 2003, p. 140), my findings suggest that the pluralistic approach of incorporating multiple languages, or modes, may be an important goal. I found that media production is vital for media literacy learning because it offers opportunities for students to engage in the higher order, critical, and expressive inquiry that is its objective. In this sense, media making is a *pedagogy*, just as media literacy is a pedagogy (Redmond, 2016).

Kingsley (2009) explains "Image making begins as an information-gathering process; however, visual images are more than mere illustrations." She continues that images are "social constructions" (p.

545). In this sense, media making is a social-constructivist pedagogy that scaffolds students' experiences in making connections between the curriculum, themselves, and the world through the inclusion of flexible and aesthetic texts. Beyond a mere expression of learning as bounded by a lesson or course, media making offers a holistic way for students to make sense of their learning and anchor their perspectives in their own identities. As Harper (2003) explains "photographs express the artistic, emotional, or experiential intent of the photographer" (p.727). Through production—in various mediums and modalities—students integrate understanding, intent, and expression and it is these components *together* that shape the purpose of production. Collier (2018) describes "When watching closely—as a researcher or an educator—what students do with materials or tools, we can often see production and consumption at the same time as students borrow, examine, and remix the resources at hand" (p. 129). Incorporating production necessitates a multimodal or transmedia practice, where reflective articulation via writing in addition to multimodal, media making is essential. Multiple means of articulation facilitate not only students' metacognition and learning, but also a teacher's abilities to understand student learning. In this regard, a second key piece emerges that media production is democratic and student-centered.

In addition to the benefits of inviting flexible texts into teaching and learning, the inclusion of media curation and production cultivates a climate of collaborative learning and modifies the traditional power relationships of a classroom in significant ways. While the collaborative piece certainly unfolded via trouble-shooting technical snafus during class (e.g., learning to use Adobe Photoshop for the "Ad Busting" assignment), a more important aspect of collaboration was represented through the co-learning that emerged when students introduced myself, as the instructor, to their media preferences. In selecting films for the *Mise-en-scène Analysis* assignment, choosing ads for the "Ad Busting" assignment, or any other curation activities, I gained insight into the media that students were engaging with outside of the classroom. This insight enables me to update my curriculum to include meaningful content connections to students' media, which makes the class more relevant. Lastly, as previously discussed, the invitation to contribute multimodal texts offered students ownership of their ideas and agency in how they expressed their learning. Using media "open[s] up a transformative space for narratives and histories to enter

practices and provide[s] more material for creative and agentive endeavors" (Collier, 2018, pp.129-130). When students become makers, teachers become audiences, engaging in the active interpretation of student works in order to fully understand their learning.

Implications and Future Directions

Whether it was through curation opportunities, where students were invited to identify and contribute existing media artifacts to augment their understandings of subject matter, or through remix activities, where students participated in changing messages to solve problems, the inclusion of diverse media texts was advantageous for cultivating students' inquiry and expression of understanding about course topics and has implications for enhancing student learning and democratic pedagogies. In considering the implications of my study for my own media literacy teaching practice, I plan to augment students' interactions with their own productions by including self-assessments and community class critiques for both in-process and completed pieces. "Frequent and meaningful self-assessment opportunities embedded within the production process enrich students' creative products and their learning experiences" (Soep, 2005, p. 39). Based on my findings related to multimodal pedagogy and transmedia practice, it would seem that integrating critique would further facilitate the metacognitive goals of incorporating a written reflection to accompany productions. Yet, in contrast to a final reflection, a process critique has the potential to capture dimensions of thinking related to active construction. In addition to effects for my own practice, my study has implications for those working across educative contexts, PK-12, and in administrative roles at multiple levels with regards to digital competency work and initiatives.

Many state departments of public instruction and school leaders are becoming interested in digital literacy as a way to increase the relevance of education for meeting future economic and civic challenges. Digital competencies are frequently described in terms of the information and communication technologies (ICTs) used, as though the device comprises the outcome. In contrast, my work situates ICTs as value-laden and encourages a conception of digital literacy that is anchored in critical pedagogy. In turn, rather than prioritizing competency-based approaches that are focused on tools, these initiatives

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

may better serve their constituencies by focusing on instructional methods and pedagogies to prepare students for democratic interactions with current and future media forms.

Future research is needed however, especially in terms of evaluation and assessment. What do we expect from media production in terms of outcomes? How might diverse, multimodal products be assessed effectively? In considering the inclusion of critique in my own practice, I wonder about critique as an aspect of assessment in an age of *participatory culture* (Jenkins, 2009)? Soep (2005) notes that "conventions regarding classroom assessment and standardized testing…contradict the deeply participatory culture of assessment in everyday conversation" (pp. 60-61). If a participatory culture guides, in some capacity, our integration of production in teaching and learning, then it should also be incorporated into assessment. Finally, it is important for scholars to examine the drawbacks of production. How do media making tools constrain students and learning? What equity issues related to access or skills may emerge? Scholars examining media production in digital and media literacy who explore these issues may find them tied to the purposes of education and the values we hold as a culture.

Conclusion

Media making is more than a set of competencies in using digital production tools. Instead, media making beckons us to think broadly as researchers, teachers, and students in how we manifest our thinking and to reflect on our intentions in creating. Through media making as pedagogy, we—students and teachers alike— are invited to climb out of the boxes that have constrained our expressive potentialities in school and bridge gaps in our literacy experiences. Integrating multimodal media making into our curricula asks us to "account for [the] social and cultural location" of not only media, but also of our learning, and to "critique and extend it" (Buckingham, 2007, p. 45). Becoming unbound in our modalities of teaching and learning holds both expressive and critical opportunities for education that may lead us to more innovative and democratic ways of knowing, doing, and problem-solving in the world.

References

Association for Media Literacy (n.d.). The association for media literacy. Retrieved August 2, 2018, from http://jcp.proscenia.net/associations/canadian_links_AML.pdf

Antin, J., & Itō, M. (2010). *Hanging out, messing around, and geeking out: Kids living and learning with new media*. Cambridge, Mass: The MIT Press.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research In Psychology*, *3*(2), 77-101. doi:10.1191/1478088706qp063oa

Blum-Ross, A. (2015). Filmmakers/educators/facilitators? Understanding the role of adult intermediaries in youth media production in the UK and the USA. *Journal of Children and Media*, *9*(3), 308-324.

Buckingham, D. (2007). Digital media literacies: Rethinking media education in the age of the Internet. *Research in Comparative and International Education*, *2*(1), 43-55.

Buckingham, D. (2003). *Media education: Literacy, learning, and contemporary culture*. Malden, MA: Blackwell Publishing Inc.

Buckingham, D., Harvey, I., & Sefton-Green, J. (1999). The difference is digital? Digital technology and student media production. *Convergence*, *5*(4), 10-20.

Burn, A., & Durran, J. (2007). *Media literacy in schools: Practice, production and progression*. Sage: Thousand Oaks, CA.

Collier, D.R. (2018). Doodling, Borrowing, and Remixing: Students Inquiring Across Digitized Spaces. *The Reading Teacher*, 72(1), 125–130.

Domine, V. (2011). Building 21st-century teachers: An intentional pedagogy of media literacy education. *Action in Teacher Education*, *33*(2), 194-205.

Drew, S., & Guillemin, M. (2014). From photographs to findings: Visual meaning-making and interpretive engagement in the analysis of participant-generated images. Visual Studies, 29(1), 54-67.

Friedman, A. (2016) "Three-Year-Old Photographers: Educational Mediation as a Basis for

Visual Literacy via Digital Photography in Early Childhood," *Journal of Media Literacy Education*, 8(1), 15 -31.

Gable, R.K., & Wolf, M. B. (1993). *Instrument development in the affective domain: Measuring attitudes and values in corporate and school* settings (2nd ed.). Boston: Kluwer Academic Publishers.

Harper, D. (2003). Reimagining visual methods: Galileo to Neuromancer. In N. Denzin & Y. Lincoln (Eds.), *Collecting and interpreting qualitative materials*. Sage: Thousand Oaks, CA.

Hicks, T. (2018). The Next Decade of Digital Writing. *Voices From the Middle*, *25*(4), 9-14.

Hobbs, R., Donnelly, K., Friesem, J., & Moen, M. (2013). Learning to engage: How positive attitudes about the news, media literacy, and video production contribute to adolescent civic engagement. *Educational Media International*, *50*(4), 231-246.

Hobbs, R. & Moore, D.C. (2014) "Cinekyd: Exploring the Origins of Youth Media Production," *Journal of Media Literacy Education*, 6(2), 23 -34.

Hobbs, R. (2017). *Create to learn: Introduction to digital literacy*. Hoboken, NJ : Wiley Blackwell, 2017.

Hobbs, R. (2007). *Reading the media: Media literacy in high school English*. Teachers College Press. New York, NY.

Hobbs, R. (1998). The seven great debates in the media literacy movement. *Journal of communication*, *48*(1), 16-32.

Jenkins, H. (2016). *By any media necessary: The new youth activism*. University Press: New York, NY.

Jenkins, H. (2009). *Confronting the challenges of participatory culture: Media education for the 21st century*. MIT Press: Cambridge, MA.

Kellner, D., & Share, J. (2007). Critical media literacy, democracy, and the reconstruction of education. *Media literacy: A reader*, 3-23.

Kingsley, J. (2009). Visual methodology in classroom inquiry: Enhancing complementary qualitative research designs. *Alberta Journal of Educational Research*, *55*(4).

Kist, W. (2005). *New literacies in action: Teaching and learning in multiple media* (Vol. 75). Teachers College Press: New York, NY.

Knobel, M. (2017). Remix, literacy and creativity: An analytic review of the research literature. *Eesti Haridusteaduste Ajakiri. Estonian Journal of Education*, *5*(2), 31-53.

Lange, P. G. (2016). *Kids on YouTube: Technical identities and digital literacies*. Routledge: Abingdon, UK.

Leach, A.M. (2017) "Digital Media Production to Support Literacy for Secondary Students with Diverse Learning Abilities," *Journal of Media Literacy Education*, 9(2), 30 -44.

López, A. (2017). Back to the drawing board: Making comics, making media literacy. In De Abreu, B. S., Mihailidis, P., Lee, A. L., Melki, J., & McDougall, J. (Eds.). *International handbook of media literacy education*. (pp. 274-288). New York, NY: Routledge.

Manning, J., & Kunkel, A. (2014). *Researching interpersonal relationships: Qualitative methods, studies, and analysis*. Sage: Thousand Oaks, CA.

McLuhan, M. & Fiore, Q. (1967). The medium is the massage: An inventory of effects. Bantam Books: New York, New York.

Mihailidis, P., & Thevenin, B. (2013). Media literacy as a core competency for engaged citizenship in participatory democracy. *American Behavioral Scientist*, *57*(11), 1611-1622.

National Association for Media Literacy Education. (n.d.). Media literacy defined. Retrieved May 3, 2018, from https://namle.net/publications/media-literacy-definitions/

Office for Communication (n.d.). About media literacy. Retrieved August 2, 2018, from https://www.ofcom.org.uk/research-and-data/media-literacy research/media-literacy

Peppler, K. A., & Kafai, Y. B. (2007). From SuperGoo to Scratch: Exploring Creative Digital

Media Production in Informal Learning. *Learning, Media And Technology*, *32*(2), 149-166.

Pink, S. (2013). *Doing visual ethnography*. Sage: Thousand Oaks, CA.

Posch, P., Somekh, B., & Altrichter, H. (1993). *Teachers investigate their work: An introduction to the methods of action research.* Routledge: New York, NY.

Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the horizon*, *9*(5), 1-6.

Project Look Sharp and National Association for Media Literacy Education (n.d.). Key questions to ask when producing media messages. Retrieved August 7, 2018 from, https://cmes.uchicago.edu/sites/cmes.uchicago.edu/files/uploads/MediaLiteracy/NAMLE Key%20Questions%20to%20Ask%20when%20Producing%20Media%20Messages.pdf

Redmond, T. (2016). Media Literacy as Mindful Practice for Democratic Education. A Response to "Transaction Circles with Digital Texts as a Foundation for Democratic Practices". Democracy and Education, 24 (2), Article 12.

Redmond, T. (2015). Media literacy is common sense: Bridging common core standards with the media experiences of digital learners. *Middle School Journal*, 46(3), 10-17.

Redmond, T. and Maya, M. (2014). Multimedia character analysis: How digital production fosters twenty-first century literacy. *Voices from the Middle.* 22(1), 63-69.

Redmond, T. (2012). The pedagogy of critical enjoyment: Teaching and reaching the hearts and minds of adolescent learners through media literacy education. *Journal of Media Literacy Education*, *4*(2), 106-120.

Saldaña, J. (2010). *The coding manual for qualitative researchers*. Sage: Thousand Oaks, CA.

Schmidt, H.C. (2015) "Helping Students Understand Media: Examining the Efficacy of Interdisciplinary Media Training at the University Level," *Journal of Media Literacy Education*, 7(2), 50 -68.

Share, J. (2009). *Media literacy is elementary: Teaching youth to critically read and create media* (Vol. 41). Peter Lang: New York, NY.

Sheridan-Rabideau, M. P., & Rowsell, J. (2010). *Design literacies: Learning and innovation in the digital age*. Routledge: New York, NY.

Soep, E. (2005). Critique: Where art meets assessment. *Phi Delta Kappan*, *87*(1), 38-63.

Swaminathan, R., & Mulvihill, T. M. (2013). Photographic Inquiry and Educational Technologies: Generating Meaningful Narratives. *Journal of Educational Technology*, *9*(4), 1-7.

Thevenin, B. (2017). Political Remix as an Analytic Framework for Critical Media Literacy. *International Handbook of Media Literacy Education*, 174.

Tulodziecki, G. and Grafe, S. (2012) "Approaches to Learning with Media and Media Literacy Education – Trends and Current Situation in Germany," *Journal of Media Literacy Education*, 4(1).

Appendix A

Thematic Analysis of Key Course Assignments

Assignment Title	**Assignment Description from Course Syllabus**	**Semesters Included**	**Form(s) of Deliverable(s)**	**Summary of Changes in Form(s)**	**Theme(s)**	**Underlying Idea(s) or Assumption(s)**
Mise-en-scène Analysis	One of the central principles of media literacy argues that all media have their own distinct language, style, forms, codes and	Spring 2014 Spring 2015 Spring 2016 Fall 2016	Traditional paper with still frames from the films incorporated into text using captions.	The deliverable for this assignment shifted from a traditional, text-based academic	Multimodal Demands	Assignment requires multimodal evidence.
		Spring 2017	Google Slides with text, images, still frames from the films, video clips, and slide			Successful multimodal evidence

	conventions. In this project, students will study media forms and conventions as they apply to a full-length narrative film. Students will be required to articulate and apply key concepts of mise-en-scène to the deconstruction of a movie, authoring an original film analysis that employs stills (screen shots) of relevant frames/scenes as evidence.	Fall 2017 Spring 2018	notes. Captions required to integrate images and clips. Adobe Spark Page with text, images, still frames from the films, and video clips. Captions required to integrate images and clips.	paper with still frames from the film serving as evidence to a dynamic, web-based multimedia page created using Adobe Spark.		requires fluid integration with written analysis. Word document form is limited in ability to provide for integration of multimodal evidence
"Ad Busting"	This individual	Spring 2016	Two images; (1)	The	Framing	Production

Assignment	production assignment offers students an opportunity to engage in art activism in response to our advertising studies by manipulating a print-based advertisement.		original advertisement and (2) advertisement with text removed to convey new meaning via the images alone or ad with text replaced to create counter message or meaning.	deliverables for this assignment shifted from a pair of images only to a pair of images accompanied by a detailed explanation encoding and how changes to the image contributed to social discourse.	work requires not only technical competencies, but also critical framing. There is a need for the teacher to understand and gain insight into students' thinking and decision making about the experience of (re)constructing and producing media. Written text continues to dominate
		Fall 2016 Spring 2017	Two images and brief, written explanation; (1) original advertisement, (2) advertisement with text removed to convey new meaning via the images alone or ad with text replaced to create counter message or meaning, and (3) brief written description of how your creative approach/manipulation changed the message of the ad.		
		Fall 2017 Spring 2018	Two images and written discussion; (1)		

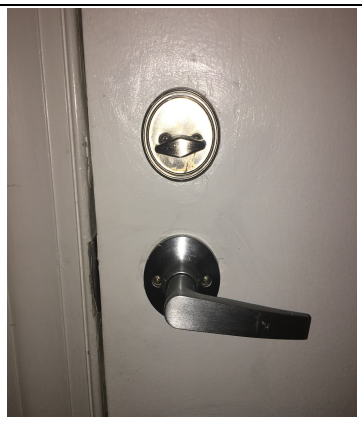
	original advertisement, (2) advertisement with text removed to convey new meaning via the images alone or ad with text replaced to create counter message or meaning, and (3) written discussion explaining how you changed the message, specificly describing your encoding of a new message. Tell us how your rendition contributes to social discourse regarding message effects. In your discussion, identify at least one key question from the *Key Questions to Ask When Producing Media Messages* document located on our course management site.

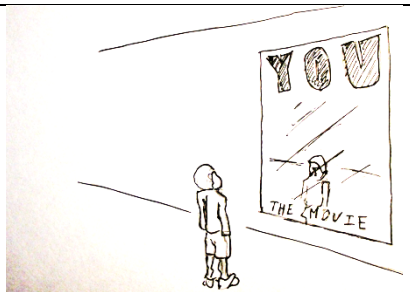
		Explain how your production process reflects these key questions.	

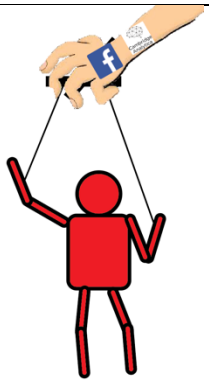
Appendix B

Image Elicitation, Genre Coding

Code	**Definition**	**Samples**	**Student Articulation for Image**
Personal Photography	Images were likely taken before the assignment and come from the student's personal collections, including but not limited to: childhood photos, family portraits, pictures of ancestors, candid photos with friends, etc.		"This is a bit abstract but it fits with the idea that anyone can post something online and convince people that it is true. For example, I could post this online and say that this dog is here in Boone, or I could say that this is my friend's dog. The reality though is that this is my family's dog… Basically, someone could post something online that could be very influential on a lot of people and it could be completely wrong. It can

			be very difficult to make sure that what you are seeing online is the truth since there are very few checks for truth and no standards that you have to follow."
Symbolic Photography	Images are largely abstract, serving as metaphor or other symbolic purpose. Images may have been taken before the assignment, coming from the student's personal collections, or have been taken for the purposes of the assignment.		"I took a picture of my door lock to symbolize the privacy issue that I found to be the bigger media related issue compared to my representation claim at the beginning of the semester. I cherish my own lock on my door a lot because i value my personal privacy a lot!"
Staged/Re-enactment or Still Life Photography	Images were taken for the purposes of the assignment and include how to staged or re enactments of class assignments (such as viewing a movie) or		"For this image I tried to recreate me watching The Black Swan and analyzing it based off of it's mise-en-scene. I added in an image of light bulb to show my "light bulb" moment of

	arrangements of objects photographed for symbolic meaning.		finally figuring out what mise-en-scene is and being able to understand the film from a director's perspective. I would like to see the concept of mise-en-scene be more widely recognized because it is a great way to figure out hidden meanings in film."
Drawing	Photographs of drawings that were created for the purposes of the assignment. Drawings include both pen and pencil sketching and works created using digital tools or programs.		"I've come to understand that what makes representation both important and effective is accuracy and familiarity. Where before I had understood representation as simply "someone that looks like me," I now see that familiar experiences are what makes characters personal. My illustration shows this as a young boy looks into a movie poster that is a large mirror.

			Rather than just seeing someone visually similar, the child sees themselves."
Collage or Other Pieced Imagery	Photographs of collages or other images that were pieced together for the purposes of the assignment. Collages include both manipulations of physical materials and works created using digital tools or programs.		"Without understanding how our digital data can be used against us, we can potentially become puppets controlled by whoever has access to our data. Media Literacy is one of the best tools to combat this."
Production Portfolio	Photographs or screenshots of production works from the students' own portfolios. Images include, but are not limited to: websites, videos, photographs, or in-process manipulations in digital production programs.		"This image is of a picture in Adobe Photoshop. This is my photo representing the question of how important it is for people to know how to create their own media. This is just a basic editing job in photoshop editing the brightness a little bit. This fits the question because it

	is a piece of created media and as my response is everyone should have at least a basic understanding of this type of program the media is a fairly simple edit to make the colors brighter."

Appendix C

"Perspectives in Media Literacy" Student Interview Questions, Spring 2018

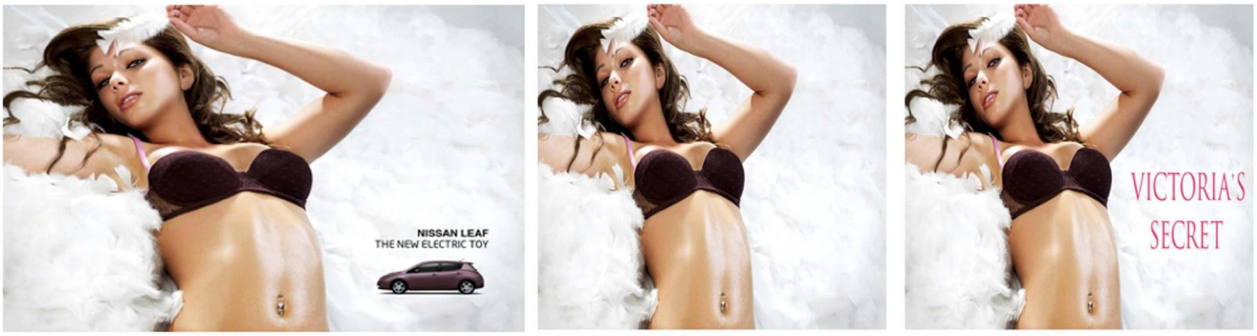
1. Describe something specific that we did in class that was memorable or unexpected and explain why.
2. If you were on your way to class and someone asked you, "What is media literacy anyway," how would you describe it for them?
3. Revisit our *Most Significant Issues Conversation* from Week 1. How has your semester of media literacy impacted how you think about this issue? Be specific by referring to examples from class, weekly conversations, or other activities.
4. Share a piece of media that you consumed or created recently and your thoughts about it or experiences with it using a media literacy perspective.
5. Discuss an aspect of your life that is influenced by media that you didn't think about before our class but are now aware of. Use details from class assignments or conversations and be specific about how your thinking has changed over the course of your studies this semester.

6. How does media literacy relate to your career goals and aspirations? (If there is no relationship, then discuss why you feel that way.)
7. How important is it for people to learn how to analyze and evaluate mediated information?
8. How important is it for people to learn how to create their own media?
9. Why study the media from a *literacy* perspective?
10. Since media literacy is rarely included in K-12 schooling, how do people *learn* media literacy, or become media literate? (If they don't, explain your ideas on the implications of this or what you suggested be changed to expand opportunities for media literacy).
11. If our class was a two-semester long course, what *two* topics related to media literacy would you want to explore next semester? Why?
12. Scenario: You have just been hired by PBS or BBC or another production company to produce a documentary on media literacy classes in higher education. Perhaps you are a teacher who has been asked to produce a televised special on your school's media literacy class. Maybe you are an advertiser asked to create a Public Service Announcement for media literacy education. Or, feel free to consider another scenario of your imagining that comprises *the opportunity to interview* students in a media literacy class.

    What three questions would you ask? Why? (Make sure your questions are open-ended and strong conversation starters).
13. Other thoughts or comments? Questions for me?
14. Image Elicitation: Identify *four* question and answer sets that resonated with you. Think about how you might represent these sets *visually*. Create four *original* images to represent your thinking. Be creative! Incorporate photography, collage, drawing, acting, social media, or other visual methods. For each image, explain how it addresses, represents, translates your question and response set in a short paragraph. Be specific in order to help me fully understand how your image reflects your thinking.

Appendix D

Example of "Ad Busting" Assignment Featuring Student Production Series Before Written Articulation (Student assignment sample, Fall 2017)



This advertisement is quite disgusting and is way overly sexualized. Apparently endorsed by Nissan, they seem to have taken a picture of a half naked model and slapped their car and a clever little sexual innuendo over it. This ad doesn't even really make sense, and there is no actual advertising going on. The only message being sent is the Nissan Leaf is small and sexy, and sexy women love to use it, as described by the "THE NEW ELECTRIC TOY" text. Somehow, Nissan thought comparing their brand new innovative technology of an electric car to a vibrator was a good move, and that this wouldn't come across as incredibly misogynistic. Nissan isn't describing their car, their new sales, or absolutely anything about this car. Just that hilarious vibrator joke we all laughed at, right? The background is composed of feathers it seems, maybe alluding to the lightweight and airy feel the new car brings? Probably not, but we could imagine. Nissan's main demographic is not immature teenage boys, which are the only people who wouldn't take offense to this and enjoy it. It displays our society and women as overtly sexual, and that even something as boring and mundane as driving needs to have a half naked women advertising it.

I simply took the text and picture out of the advertisement and now I don't feel so creeped out. There isn't really any message being sent or point trying to get across, just this half naked lady sprawled out on some feathers. It looks like it would be a photo that a fiancé or newlywed wife would have had taken for a

significant other, and we shouldn't even be seeing these. Or maybe a Victoria's Secret advertisement. In the context of a Victoria's Secret ad, this would not be nearly as offensive and inappropriate. Probably still a little sexual and what not, but VS sells sexy lingerie, and this image would make sense to be used as an advertisement for that. In both regards, I think it is still much better than what Nissan was trying to do with it. I wanted to take the text and image out because I wanted to show how Nissan was simply trying to use the image of a women in lingerie to attract eyes, and was totally fine with sexualizing women in such a manner as long as it meant you'll remember the name Nissan the next time you go to buy a car. I wanted to put Victoria's Secret's name on it as well to show how it doesn't seem so terribly inappropriate in the right context.

Image source: https://s4.scoopwhoop.com/kum/mid/sexist_advertisements.html

Journal of Literacy and Technology Special Edition
Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Three Things You Should Know About My Hijab: The Art of Youth Media Activism on YouTube

Diane Watt, University of Ottawa
dwatt@uottawa.ca

Kayf Abdulqadir, Hodan Hujaleh & Fartousa Siyad
YouTubers & Youth Media Activists
specsandveil613@gmail.com

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Abstract

This collaborative visual ethnography inquires into a video made by three Muslim, female YouTubers from the Somali-Canadian community. These youth media activists draw upon the affordances of video as multimodal identity text to speak back to dominant understandings circulating in the spaces of schooling and popular culture. *Three Things You Should Know About My Hijab,* deploys visuals, sound, movement, space, gesture, spoken text, and comedy to represent their lived experience from cultural, critical, and creative perspectives. Analysis of aesthetic elements highlights how video technologies open up new modes of meaning making, with transformative possibilities for youth, their communities, and global audiences. The making and sharing of this video exemplifies a critical digital literacy practice, and provokes a rethinking of literacies and curriculum. Educators and researchers should pay attention to New Literacies practices youth are engaging with outside of school, for these richly inform teaching and learning in the digital classroom.

Keywords: racialized Muslim female youth; YouTubers; New Literacies; critical digital literacy; video as multimodal identity text; humor as youth media activism

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

Introduction

> We are not asking anyone for space; we are just claiming it (Fartousa Siyad)

> We use crazy camera angles, lively music, goofy props, and colorful make-up to surprise people and make them laugh. We make fun of a serious issue. We want to show people we are not at all like the Muslim women they usually see in the mainstream media. (Kayf Abdulqadir)

This paper inquires into a video produced by three Muslim female YouTubers living with structural risk from the Somali Canadian community. These youth draw upon the affordances of video as multimodal identity text to speak back to dominant understandings circulating in the spaces of schooling and popular culture. In this award-winning video, shot in a single afternoon, Kayf Abdulqadir, Hodan Hujaleh, and Fartousa Siyad creatively deploy language, visuals, sound, space, and gesture to produce a comedic multimodal text that represents their identities and lived experience from their own creative and cultural perspectives. Their work is light-hearted and they have fun with the media making and sharing process. At the same time, these YouTubers use humor to challenge assumptions about Muslim women. This multimodal analysis of, *Three Things You Should Know About My Hijab,* focuses on their use of aesthetic elements to highlight how access to digital video technologies opens up powerful modes of meaning making to youth at risk of marginalization, with transformative possibilities for them, their communities, and global audiences.

When it first appeared in 2005, YouTube was envisioned as an alternative public cultural space where seldom heard voices might find expression (Jenkins et al, 2006). While we remain cautious about commercialization, privacy issues, fake news, and overstating the democratizing potential of new media for communities at risk of marginalization, for Kayf, Hodan, and Fartousa producing and sharing videos on this social media site has had an enormous impact on their lives and sense of identity as media activists. They contend their work has influenced not only how they view themselves, but also how Somali Muslim females are viewed by others, both in their own communities and beyond. Through

engagement with YouTube they are able to enter into conversations on difference that otherwise would not have been available (Hobbes et al., 2013), at the intersections of gender, ethnicity, class, racialization, sexuality, and religion. Their media making and sharing exemplifies a critical digital literacy practice (Ávila & Zacher Pandya, 2013), and provokes a rethinking of literacies and curriculum in the digital age. Educators and researchers can learn much from the New Literacies (Leu et al., 2013) practices youth are engaging in outside of school, for they richly inform our efforts to innovate teaching and learning in the digital classroom.

The Research Context

This research draws from a two-year collaborative visual ethnography (Gubrium & Harper, 2013; Milne et al., 2012; Pink, 2013; Rose, 2016), which inquires into the media making practices and sense of identity of Kayf, Fartousa, and Hodan. Growing up in Ottawa, they did not see themselves represented in the Ontario provincial curriculum, or in the spaces of popular culture. They had to negotiate this absence in the school curriculum as well as stereotypical representations of Muslim women in the unofficial curriculum of the mass media (Awan et al., 2010; Kassam, 2008; Watt, 2011a, 2011b, 2012, 2016). Access to YouTube provides them the opportunity to represent their identities and perspectives not only to friends and family, but to a global audience. Hodan, Kayf, and Fartousa are the first females in the Somali Diaspora – and among the first Muslim women – to create and share comedic content on YouTube (Videos can be found on our research website: www.muslimfemaleyoutubersspeakback.com). Their groundbreaking work inspires conversations on difference and provides a window into everyday youth literacies (Sanford et al., 2014) and their significance for education.

Over a three year period Kayf, Hodan, Fartousa and I (Diane) formally and informally discussed a broad range of topics, including: what it was like growing up in their particular families; their high schooling experiences; representations of Muslim women in the mass media; their video making processes, practices, and texts; audience response; and what making and sharing videos online means to them and their sense of identity. We conducted, recorded, and transcribed one-on-one and group interviews, and collectively analyzed the content of their YouTube videos. Our research is intended to

promote social justice and advocacy goals (Shields, 2012), so our main objective was to share their experiences with educators, researchers, and community audiences. We have done this by speaking with teachers, presenting at academic conferences, publishing articles, leading video production workshops for youth and educators, and through the production of short documentaries that we screen to live audiences and disseminate on our research website. Co-producing documentaries to share their videos and stories involves multiple levels of meaning making: video as mode of inquiry, video as mode of representation, and as video mode of dissemination (Mitchell, 2011). We have chosen to analyze, *Three Things You Should Know About My Hijab,* because of the ways it challenges assumptions about Muslim females through the strategic use of multimodality.

Literature Review

Literacy is now considered to be a repertoire of emerging practices for communicating in diverse and multiple social and cultural contexts (Lankshear & Knobel, 2011; Leu et al., 2013; Kalantzis & Cope, 2016; New London Group, 1996). This broadened notion accounts for the expanded role digital technologies play in everyday life. Critical literacies (Freire, 2000) focus on the ability to read power relations and underlying meanings constructed through texts. The issue of who is represented and who is not, for example, is of ongoing concern for education. Advances in digital technologies now permit individuals to "engage with, respond to, and create both text-based and multimodal forms of literacy" (Ávila & Zacher Pandya, p. 3). The use of the term "critical digital literacies" thus marks a shift to include a focus on digital tools and spaces. We theorize the video production practices of Kayf, Fartousa, and Hodan as a critical digital literacy practice, which involves those skills, knowledges, and dispositions that enable one to critically read and create digital, multimedia texts.

Digital technologies have become an integral part of our socio-economic and political landscape. Mobile devices and editing software make it possible for anyone with access to technology to shoot and edit video. A national survey (Steeves, 2014) of students in grades 4 to 11, confirms Canadian youth are enthusiastic users of digital technologies outside of school. This includes video production, which in the past required specialized equipment and expertise most homes and schools did not have. Internet access is

now universal and youth are highly connected. They routinely construct their identities through a combination of text, image, and video. YouTube is particularly significant for inquiries into outside-of-school youth literacy practices because as a user-created content community its size and popularity are unprecedented (Burgess & Green, 2009). YouTube is extraordinarily popular among Canadian youth, with 75% reporting it to be their favorite website (Steeves, 2014). Recent research also tells us that YouTube is used by nearly three-quarters of U.S. adults and 94% of 18- to 24-year olds (Smith & Anderson, 2018). Experts have observed for some time now that the screen is replacing print text as the dominant form of communication (Kress, 2003). In fact, Manjoo (2018) argues, "[t]he defining narrative of our online moment concerns the decline of text, and the exploding reach and power of audio and video" (n.p.).

Being literate in the 21st century requires critical engagement in these digital environments. As "sounds and images become the universal language," (Majoo, 2018) educators need to acknowledge the centrality of sites such as YouTube to expand possibilities for minority and other youth to express perspectives absent in the school curriculum and public sphere. Sanford et al. (2014) use the term "everyday youth literacies" to highlight that youth engage in multiple literacy practices in a vast array of contexts. Digital technologies provide new sites for youth identity positioning and construction. In the context of new literacy practices, youth discursively position themselves within the texts they create, using a range of multimodal resources as they continuously construct and negotiate their identities (p. 2). Access to the Internet and digital tools potentially allows children and youth to connect directly to the world and share texts with their peers and other audiences. Digital technologies are transforming the way they learn and share information. Many of their texts demonstrate there is now a "blurring of education, entertainment and civic engagement, [and youth insist] on being taken seriously as they engage in meaningful social issues" (p. 4). Given their ubiquitous use of social media such as YouTube, educators and researchers need to better understand the New Literacy practices being taken up by youth outside school (Jocson, 2013; Sanford et al., 2014). Our examination of one YouTube video provides an example

Volume 20, Number 1: Winter 2019
ISSN: 1535-0975

of how youth draw upon the multimodal affordances of video to critically and creatively communicate their identities and cultures in-between their local communities and global audiences.

Multimodal Analysis

Multimodality is "an orchestration of multiple modes to communicate, represent, and express meanings" (Rowsell, 2013, p. 7). Multimodal analysis (Jewitt, 2006, 2011; Jewett et al., 2016; Kress, 2003, 2010) lends itself to our inquiry into a video and how it conveys meaning in particular contexts. In the short video, *Three Things You Should Know About my Hijab*, Kayf sets out to communicate what it is like to be a Canadian Muslim teenager constantly questioned about her hijab and her identity. This video humorously responds to what these young women consider to be three of the most common questions female youth get about wearing hijab. The use of color, music, props, camera angles, and gestures interrupts the hijab as a signifier of the discourse of the oppressed Muslim woman.

Rowsell (2013) describes a "mode" as "a unit of expression and representation" (p. 4). She explains that if something is able to express and communicate meanings that are recognizable within a particular community, it meets the criteria of communicational mode. Jewitt (2009) similarly describes a "mode" as "the outcome of the cultural shaping of a material" (p. 300). Rowsell explains that transmodal elements in texts are those that reach across modes, such as the interdependence between visual and sound modes in a film. She underlines that there is "an art to gathering and assembling modes," to this "layering of semiotic, social, and critical complexities during meaning making" (p. 4). Kress (2010) refers to this as "aptness" or "fitness for purpose" (p. 156). Our analysis takes place mainly at the site of production (Rose, 2016). What are the material qualities of the video and what meanings do they construct? We examine the work of each mode and how they work together to construct a powerful message that speaks back to dominant understandings of Muslim females in the North American context (Kress & van Leeuwen, 2001). The modes we discuss include linguistic, visual, audio, gestural, spatial, and multimodal (New London Group, 1996). By considering the specific design choices made by successful YouTubers from a community at risk of marginalization, educators and researchers may gain an understanding of contemporary out-of-school youth literacies practices and possible implications for

the classroom.

Analysis of *Three Things You Should Know About my Hijab*

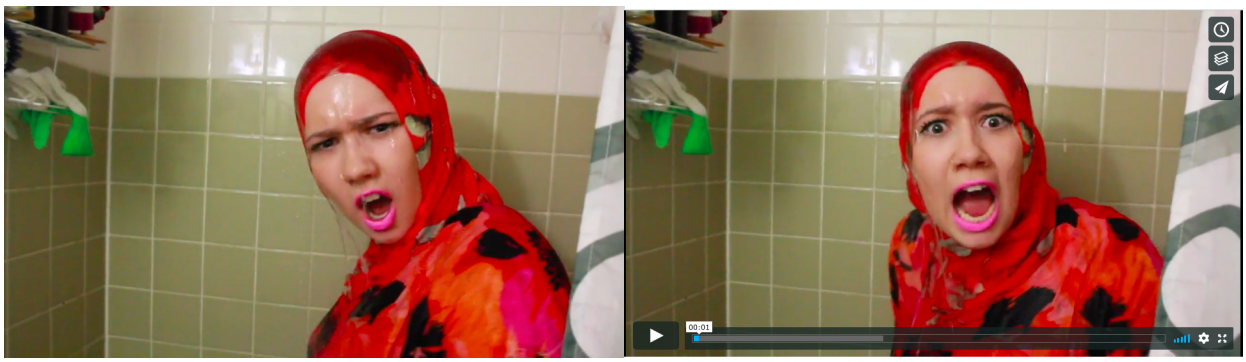
As team leader, Kayf provides artistic vision for their videos. She is also a masterful director and editor. However, the video making process is very much a collaborative effort. When they are involved in a project, the ideas fly in-between them. Hodan and Fartousa have both been actors in their videos, and contribute scripting, technical support, and creative input. In a single afternoon, *Three Things You Should Know About My Hijab* was shot in and around the apartment where Kayf lives, and it was edited the same evening. The project began when Kayf heard about the *Plural Plus Youth Video Festival* (sponsored by the United Nations Alliance of Civilizations and the International Organization for Migration), a few days before the deadline for submission. She and Hodan brainstormed ideas and decided to take on an issue relevant to them in their everyday lives – being questioned about wearing the hijab. They sketched out a rough script, gathered props from around their homes, and found a friend to act alongside Hodan. This is typically how they work. Once they have an idea, they plan, shoot, edit, and share the resulting video within a short period of time. Kayf explains that she thrives under pressure, when an idea is fresh. This is when she feels most creative. Much their work involves improvisation, and Kayf, Fartousa, and Hodan generate a great deal of enthusiasm when they are collaborating on a video. All three love the excitement of working with this medium and making something new. After a flurry of activity, they managed to send off their entry to New York in time to be considered for the competition.

A few months later Kayf received notice that their video had won three international awards, and they were invited to workshops and award ceremonies at the Paley Centre in New York City. Although they had already gained notice from the mainstream media for two previous viral videos they had made, these awards provided another significant source of validation for their work. From among the winning entries, theirs was the only one to use humor to engage some of the difficulties related to being Muslim and female. While in New York, they were also invited to screen their video at special panel hosted at New York University. A few weeks later, it was publicly screened in Times Square as an entry in another youth video festival. This was truly a big moment for the team. Kayf was subsequently invited to screen

the video at the Hamptons Film Festival, and to participate in United Nations Conferences in New York and Azerbaijan.

Screening in Times Square, New York.

The opening seconds of, *Three Things You Should Know About My Hijab,* immediately capture our attention. We meet Sara, who is in the process of taking a shower. Strangely, she is dripping wet, fully clothed, and wearing hijab. When her eye catches the camera's/our gaze, her exaggerated facial expressions rapidly shift from shock to disgust. Yanking the shower curtain closed to reclaim her privacy, she verbally scolds us to, "Get out!" In two short seconds, we are surprised to find a fully clothed Muslim woman in the shower; we are simultaneously called out for looking. There has not been time to process this scene as a critique of our entanglement in veiling discourses and the narrative of the oppressed Muslim woman. In fact, the unusual circumstances of finding a covered women dressed in an orange in the shower, accompanied by upbeat music in the background, suggest a certain playfulness. What is going on here? Do we dare laugh? We are thrown off balance by the mixed visual and auditory messages, and by our implication in the meanings being constructed in this video.



Sara's facial expressions communicate shock and disgust in the opening scene.

In *Three Things You Should Know About My Hijab*, the two actors – Hodan and Sara – dramatize three of the most common questions Muslim females are asked about wearing hijab. Submissions to the *Plural Plus Video Festival* had to take up intercultural themes in some way. Reflecting on their own lived experiences as Somali-Canadian Muslim females, Kayf and Hodan decided to focus on questions they and their friends have had to negotiate about the hijab. Many people cannot understand how a girl or young woman who has grown up in Canada would choose to cover, and assume that anyone dressed this way is being forced (Watt, 2011b). Rowsell (2013) reminds us that storytelling is not simply a matter of creating social meanings or a personal message. It is a matter of "private and public interests coming together in a text…[T]here are always traces of the producer in the final product" (p. 9), and many ways to tell a story. Access to digital technologies such as video open up access to more modes and media than ever before, so that there is a much "greater latitude for expression" (p. 9).

Sara is dressed in a colorful orange hijab and shocking pink lipstick, and looks gorgeous. These colors were purposefully chosen as a way to speak back to the covered, black, Muslim female bodies routinely on display in the mass media (Watt, 2011a; 2011b; 2102). As we watch the video, we compare this Muslim woman to others we have seen, and these intertextual connections create dissonance and may begin to challenge us. Color is thus used to interrupt stereotypes. Kayf asserts: "We wanted to show our audience that those media portrayals do not represent us." These YouTubers are "violating the norms and routines of standard language" (vanLeeuwen, 2015, p. 431) to transgress limited identity categories available to Muslim females. This does not only apply to the norms of the dominant culture, but also

those within Islamic communities. The depiction of a covered women in the shower could be interpreted as a lack of respect given that the hijab is a sign of religious devotion. Kayf's team discussed this issue, knowing they were taking a risk by including this scene. In the end, they felt their own devotion to Islam, and the importance of getting their message out to a non-Muslim audience, overrode any criticism they might receive for creating a video perceived as un-Islamic. As racialized black, Canadian, Muslim females, they have become adept at negotiating the complex and sometimes conflicting social, cultural, and religious spaces they inhabit (Watt, 2011b; 2016).

Careful attention is also given to Hodan's physical appearance in the video, but for different reasons. In the role of questioner, her garish attire includes a colorful t-shirt, bejeweled plastic cat glasses, and a pink feather boa. These costume choices are meant to underline the playful, comedic tone of their storytelling. All their videos draw from personal experiences, and Kayf, Hodan, and Fartousa believe that comedy is the best way to challenge assumptions and initiate conversations on difference. By acting silly and making fun of themselves, these YouTubers create a conversational space that feels safe for others to enter into. Besides this, they also stress that, "Somalis are just very funny. People from our culture are always making jokes and laughing. It's who we are" (Fartousa). This may be not what we are expecting given the limited range of Muslim female identities we meet in the mass media. We seldom see Muslim females having fun or laughing in news stories, films, or other popular cultural sites (Watt, 2011a; 2011b; 2012). That being said, in some cultures and Islamic communities, women may be expected to comport themselves in a more serious manner, which may not include laughing on the street, or in a video shared online. Cultural and religious norms are always complicated and constantly shifting, and Kayf, Fartousa and Hodan's YouTube videos push against the boundaries they negotiate in their everyday lives (Watt, 2016).

In the second scene of the video Sara is sitting on a sofa. She announces to the audience there are three questions she often gets asked that "grind her gears." A variety of camera shots are used "to make the scene quirky" (Kayf). The first is a head and shoulder shot with Sara looking directly at the camera, which quickly zooms to a close up. Then next shot points down on Sara from above, and the scene ends

with a shot looking up at her from below. Kayf explains how watching MTV inspired her own camera work. The numerous camera angles, sense of movement, and use of space signal liveliness and engagement, and keep us interested in the story. These shot decisions are not decided upon in advance, but occur as part of their improvisational video making process. Kayf directs and shoots according to what "feels right" in the moment, with input from her team.

Shifting camera angles make use of space to change perspective through movement, which creates a "quirky" effect that destabilizes the viewer.

The story then moves to a bus stop where Sara sits, looking at her cell phone. Hodan arrives, fanning herself, and sits down. She turns to Sara and asks: "Oh my God! It's so hot. Aren't you, like, hot in that?" Hodan's facial expressions and hand gestures add to the sense that it really is hot. The camera then shifts to Sara, who answers, "Ah, yaaaa," as she casts an exasperated glance in Hodan's direction. The same music continues throughout the video, which helps to maintain the comedic tone while creating continuity and coherence.

In the next scene Hodan is dressed in the pink boa and cat glasses. She tells us they are at a slumber party, and enters through a bathroom doorway. Pulling off her glasses, she squints her eyes in in accusatory fashion, and addresses Sara: "Quick question. Are you, like, bald under there, or what?" The camera lands back on Sara, who is now standing at the sink with her hijab off. The reflection in the mirror

behind her gives us another view of her flipping her long hair around as she turns to answer Hodan with, "What do you think?" Sara is obviously annoyed yet again, with Hodan's latest inquiry. The script is simple, but in combination with choice of setting, the actors' body language, costumes, and facial expressions, Kayf is able to capture on video what it feels like for Sara to be questioned about the article of clothing she wears on her head.

The video then switches to Hodan brushing her teeth at a sink. She suddenly stops as if an important thought has come to mind, turns to Sara off-scene and asks, "Do you, like, shower in that?" The camera fixes on Sara sitting near the shower in deep reflection. She turns to look up at the shower to contemplate Hodan's latest question, and the scene cuts to imagining she is taking a shower fully clothed, and wearing hijab. This is a return to the clip we see at the beginning of the video. When the camera shifts back to Sara reflecting outside the shower, she smiles and shakes her head. "Nooo," is her response to another ridiculous question. To film her actually taking a shower in her clothes emphasizes how silly this question seems to the filmmakers.

Hodan wears accessories for comedic effect.

The action them moves outdoors, where Sara is now wearing a leopard print headscarf. She is stuck, and shakes to get her large headscarf untangled from a fence. She walks along the sidewalk, reflecting on how, even though at times it may be inconvenient, she loves her hijab. "It makes me who I am today." Kayf uses voice over here, so Sara is not talking directly to the audience. The choice to wear

hijab is a personal matter, and she made the choice to wear it through careful consideration. The scene changes to Sara sitting on a bench with her young daughter, who adorably pulls the leopard print scarf over her head.

In the final scene, Sara is back on the sofa, wrapping up her story of the three questions she often gets asked. In a friendly (rather than exasperated) voice she tells the audience to "just ask" if we have any questions about the hijab. This seems to contradict the message constructed during the rest of the video regarding always having to justify your identity. However, Kayf points out, that for her, questions are really about context and tone. If someone asks a question that demeans or excludes you, it is not acceptable. However, she welcomes sharing the reasons why she chooses to wear hijab as part of a respectful conversation.

Audience response to this short video has been extremely positive. People do laugh, and a good number are surprised at seeing a Muslim woman represented as funny, strong, thoughtful, and not wearing black. Audience members have suggested to Hodan, Kayf and Fartousa that they are courageous to make a video like this. When they first started producing and sharing videos on YouTube they did find it difficult to deal with some of the negative feedback they received (which they describe as about 10% of the comments posted online). Over time, they have learned to "represent themselves in the manner they choose and to be okay with that" (Fartousa).

"It makes me who I am today."

"Just ask!"

Implications

This multimodal analysis demonstrates Kayf, Hodan, and Fartousa's ability to represent their

identities and critical perspectives through the creative choices available to them via the affordances of digital video. They understand "the multimodal communicative potential of aesthetic signifiers" (van Leeuwen, 2015, p. 432), and clearly possess a high degree of aesthetic literacy. In *Three Things You Should Know About My Hijab*, these YouTubers deploy a number of modes that work together to construct a powerful digital text that speaks back to dominant meanings about covered Muslim women. Even more than this, their multimodal text invites important conversations on difference by having the audience laugh with them.

Unfortunately, there is a growing gap between the New Literacies practices youth engage in on their own outside of school, and those taken up in most classrooms. Kayf, Fartousa, and Hodan are self-taught. They developed most of their technical skills, and honed their artistic practice, outside of school. As Rowsell (2013) suggests, teachers and researchers need to expand their understanding of meaning making and what counts as literacy today. One way to do this is to invite children and youth to bring their out-of-school literacies practices into the classroom, and be willing to learn with and from them (Watt, Abdulqadir, Siyad & Hujaleh, forthcoming). Teachers also play an important role in making sure their students develop critical literacies. Of course, traditional print literacies remain important, but they are no longer enough on their own. Multimodal pedagogies (Miller, 2010) and digital authorship (Miller & McVee, 2012) can be engaged through video production, and should be part of learning to read and write at all levels. To this end, educators and researchers can learn a great deal from the exciting media making practices of YouTubers such as Hodan, Kayf, and Fartousa.

Fartousa, Kayf, Hodan, and Diane at the Paley Center for Media, New York.

Resources

Three Things You Should Know About My Hijab (original video, 1:15) https://vimeo.com/100903430

The Making of Three Things About My Hijab (documentary, 7:12) https://vimeo.com/125138358

Muslim Female YouTubers Speak Back (documentary, 21:40, and Educator's Discussion Guide)

https://muslimfemaleyoutubersspeakback.com/our-documentary/

Muslim Female YouTubers Speak Back (research website)

https://muslimfemaleyoutubersspeakback.com

Acknowledgements

Funding for this research was provided by the Werklund School of Education at the University of Calgary. Thank you to Dr. Shirley Steinberg for her support.

References

Ávila, J., & Zacher Pandya, J. (2013). Traveling, textual authority, and transformation: An introduction to critical digital literacies. In J. Ávila & J. Zacher Pandya (Eds.), *Critical digital literacies as social praxis: Intersections and challenges* (pp. 1–12). New York: Peter Lang.

Awan, K., Sheikh, M., Mithoowani, N., Ahmed, A., & Simard, D. (2010). *Maclean's Magazine: A Case Study of Media-propagated Islamophobia*. Retrieved March 27, 2010 from http://www.canadianislamiccongress.com/ar/Report_on_Mcleans_Journalism.pdf

Burgess, J., & Green, J. (2009). *YouTube: Online Video and Participatory Culture*. Cambridge, UK: Polity Press.

Freire, P. (2000). *Pedagogy of the oppressed*. New York: Continuum Press.

Gubrium, A., & Harper, K. (2013). *Participatory Visual and Digital Methods*. Walnut Creek, CA: Left Coast Press.

Hobbes, R., Donnelly, K., Friesem, J., & Moen, M. (2013). Learning to engage: how positive attitudes about the news, media literacy, and video production contribute to civic adolescent engagement. *Educational Media International*, 1–18.

Jenkins, H., Clinton, K., Purushotma, R., Robison, A. J., & Weigel, M. (2006). *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century*. Chicago, IL: The John D. and Catherine T. MacArthur Foundation.

Jewitt, C. (2006). *Technology, Literacy, and Learning: A Multimodal Approach*. Abingdon: Routledge.

Jewitt, C. (Ed.)(2009). *The Routledge Handbook of Multimodal Analysis*. London: Routledge.

Jewitt, C. (2011). An introduction to multimodality. In C. Jewitt (ed.), *The Routledge Handbook of Multimodal Analysis.* London: Routledge.

Jewitt, C., Bezemer, J., & O'Halloran, K. (2016). *Introducing Multimodality*. New York: Routledge.

Jocson, K. (2013). Introduction: Cultural transformations, pp. 1–12. In K. Jocson (Ed.), *Cultural Transformations: Youth and Pedagogies of Possibility*. Cambridge, M.A.: Harvard Education Press.

Kalantzis, B. & Cope, M. (2015). *A Pedagogy of Multiliteracies: Learning by Design*. New York: Palgrave Macmillan.

Kassam, A. (2008). The weak, the powerless, the oppressed: Muslim women in Toronto media. *Canadian Journal of Media Studies, 4*(1), 71–88.

Kress, G. (2003). *Literacy in the New Media Age*. London, England: Routledge.

Kress, G. (2010). *Multimodality: A Social Semiotic Approach to Contemporary Communication*. New York, NY: Routledge.

Kress, G., & van Leeuwen, T. (2001). *Multimodal Discourse: The Modes and Media of Contemporary Communication*. London: Arnold.

Lankshear, C., & Knobel, M. (2011). *The New Literacies: Everyday Practices and Social Learning*, (3rd edition). Berkshire, England: McGraw Hill.

Leu, D., Kinzer, C., Coiro, J., Castek, J., & Henry, L. (2013). New literacies: A dual-level theory of the changing nature of literacy, instruction, and assessment. In D. Alvermann, N. J. Unrau, & R. Ruddell (Eds.), *Theoretical models and processes of reading* (6th ed., pp. 1150-1181). Newark, DE: International Reading Association.

Manjoo, F. (February 9, 2018). Welcome to the post-text future. *The New York Times (online)*.

Miller, S. (2010). Towards a multimodal literacy pedagogy: Digital video composing as 21st century literacy, pp. 254-281. In P. Albers & J. Sanders (Eds.) *Literacies, Art, and Multimodality*. Urbana-Champaign, IL: National Council of Teachers of English.

Miller, S., & McVee, M. (2012). Multimodal composing: The essential 21st century literacy. In S. Miller and M. McVee (Eds.), *Multimodal Composing in Classrooms: Learning and Teaching for the Digital World.* New York, NY: Routledge.

Milne, E-J, Mitchell, C., de Lange, N. (2012). *Handbook of Participatory Video*. Toronto, ON: Alta Mira Press.

New London Group (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard*

Educational Review, 66(1), 60-92.

Pink, S. (2007). *Doing Visual Ethnography* (2nd ed.). Thousand Oaks, CA: Sage

Rose, G. (2016). *Visual Methodologies: An Introduction to Researching with Visual Materials* (4th ed.). Thousand Oaks, CA: Sage.

Rowsell, J. (2013). *Working with Multimodality: Rethinking Literacy in a Digital Age*. New York: Routledge.

Sanford, K., Rogers, T., & Kendrick, M. (2014). An introduction to everyday youth literacies: Critical perspectives in new times, pp.1–13. In K. Sanford, T. Rogers, & M. Kendrick (Eds.). *Everyday Youth Literacies: Critical Perspectives for New Times*. New York: Springer.

Smith, A., & Anderson, M. (March 1, 2018). Social media use in 2018. *Pew Research Center.* Retrieved from http://www.pewinternet.org/2018/03/01/social-media-use-in-2018/

Van Leeuwen, T. (2015). Looking good: aesthetics and multimodality. In J. Roswell & K. Pahl (Eds.), *The Routledge Handbook of Literacy Studies*, pp. 426-439. New York: Routledge.

Watt, D. (2011a). From the streets of Peshawar to the cover of Maclean's Magazine: Reading images of Muslim women as currere to interrupt gendered Islamophobia. *Journal of Curriculum Theorizing, 27*(1), 64–86.

Watt, D. (2011b). Juxtaposing *sonare* and *videre* midst curricular spaces: Negotiating Muslim, female identities in the discursive spaces of schooling and visual media cultures. *Doctoral Thesis*. University of Ottawa. Ottawa, ON

Watt, D. (2012). The urgency of visual media literacy in our post-9/11 world: Reading images of Muslim women in the print news media. *Journal of Media Literacy Education, 4*(1), 32–41.

Watt, D. (2016). Muslim female students assert their identities in-between family, schooling, and the mass media. *Journal of Family Diversity in Education, 1(1). Special Issue: Multicultural Teacher Education, Family Diversity and Educational Equity.* J. Phillion & S. Sharma (Eds.)

Watt, D., Abdulqadir, K., Siyad, F., & Hujaleh, H. (forthcoming, 2018). Engaging difference in the digital age: Learning with/from three Somali-Canadian, Muslim, female YouTubers. Suniti Sharma & Althier Lazar (Eds.), *Rethinking 21st Century Diversity in Teacher Preparation, K-12 Education, and School Policy: Theory, Research, and Practice*. New York: Springer Publishing.