



I Am Not My Cell Phone: Mindful Use of Internet Technology with Visual Analysis

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Introduction

On any given day outside my classroom, students gather with their illicit mobile phones and take endlessly posed selfies and endless photos of one another. I wonder how many times they will actually look at these thousands of pictures. I wonder if they would learn more by looking at their friends instead of their screens, or their own images in the eyes of their friends.



I worry that overuse of these devices is harming their sense of self, their interpersonal relationships, their sense of reality, their ability to focus, and of course in the classroom, their ability to learn. And as a high school English teacher, I wonder how this highly *visual* medium is affecting their ability to read, to understand, and to be profoundly inspired by complex text. I particularly wonder why schools aren't making better educational use of the computers that most students seem to have in their pockets.

Throughout human history each new communication innovation came with dire warnings and predictions of the end of humanity as we know it. The development of a written language is criticized in Plato's *Phaedrus* by an Egyptian king who declares that it will not only produce forgetfulness, for no one will need to memorize anything, but will also produce only "a semblance" of "wisdom" and not "truth" or "real judgment" since the written word comes without need for a teacher's instruction. ² These warnings were often prescient, but they also underestimated the advantages new communications technology brought: The advent of written language secured power and longevity for civilizations throughout the world, evident in Greece, China, and Egypt. The arrival of paper, the printing press, the telegraph, photography, typewriters, radio, the telephone, television – even the pencil with an eraser – all had their grim critics, all spelling terrible loss for humankind in our ability to remember, to have insights, to think innovatively and passionately. ³ With the advent of satellite communications, home computers, and now computers everywhere we go – the dire warnings continue. What hope have we to survive? Certainly communications technologies have changed us, and over the long course of history one would have to agree that the benefits of the changes have vastly outweighed the drawbacks. But when our students have their eyes glued to screens all day, and new research is examining its detrimental effects on brain functions, our ability to focus, our human relationships, and our perceptions of ourselves and the world, shouldn't educators do more than effete intone, "Please put away your phone"?

It is time public schools take stock of things and for us to put down our Luddite banners. In public schools everywhere, budgetary concerns challenge our ability to keep up with computer breakdowns and new technological innovations. In addition, in urban schools such as where I teach, many students do not have good access to a computer at home. Yet in my school, almost all of them have a smart phone in their pockets. Students are already using their smart devices in ways that mark them as natives in the technology world and in *useful* ways that might surprise many teachers. My students use their cell phones to take notes and share notes, to research and type papers, to check their grades and homework assignments online, to post their thoughts on teacher-created blogs discussing academic topics, to download books they don't want to carry around, and to keep in touch with their teachers when they have concerns. It is time to welcome these powerful devices into our classrooms and use them in beneficial ways. We might as well. Our students have already done so.

The 21st century will surely be noted as a turning point in human history. Those who are natives to it are not aware of the paradigm shift that has taken place in everyday life. We cannot be effective educators if we do not help our students navigate the brave new world inside their screens in positive and constructive ways. Importantly, we also need to teach the value of stepping outside, connecting with our lovely world, and looking at each other without a camera. What are some of the dangers of being drawn into this promised land of virtual reality? Do we already measure ourselves by how many likes or Twitter followings we have? ⁴ Has the phone screen become a barrier between us and our humanity, a substitute for experience, and a fatuous promise of intimacy, reality and immortality? It is critical that we ask not only how *learning* is affected by Internet use, but as educators of the whole child, we also need to ask how our students' *lives* are impacted by Internet use. And in the classroom, instead of pretending that we don't see the cell phones, teachers need to

find ways to guide students to use these valuable devices mindfully – towards more effective learning and more effective *being* .

To that end, this unit proposes to take students back in time by incorporating storytelling and discourse, experiential learning and writing. And it proposes to take them forward in time by utilizing Internet sites familiar to high school students in lesson plans. The goal is to use visual imagery, accessible through smart phones, to support complex text reading and analysis and to inspire students to write emotively about some of the photographs they take. The unit also proposes that research skills can easily be taught and reinforced through students' use of their cell phones in the classroom.

Background

I initially thought about creating this unit after reading Susan Sontag's essay, "In Plato's Cave." ⁵ In the essay, Sontag expresses the dangerously seductive power visual images have in creating many illusions: of importance, of truth, and of a skewed reality. When the essay was written in the 1970's, home computers and mobile phones were still dreams in the realm of science fiction, yet these very seductive and highly visual communications devices are now in most of my students' pockets.

This year, the New Haven Public School system issued new curriculum units crafted to address the Common Core Standards in English Language Arts that the state of Connecticut has adopted. ⁶ The New Haven English Language Arts (ELA) Curriculum for grades 9-10 contains a unit titled "Technology and Society: Who's Really in Charge?" The unit asks students to consider how technological changes are affecting their lives and to "consider the various aspects of human nature that accompany invention and innovative change." How have technological changes pulled us away from the natural world, especially in the "age of incessant information"? ⁷ When I began this seminar, this was the unit that my students were starting, and I felt powerfully motivated to examine how swarms of images emanating from their phones were affecting their learning and their lives. I wanted to create lessons that would not only meet the academic requirements of Common Core Standards, but also help students to thoughtfully consider how to use these ubiquitous and mesmerizing mobile smart phones. This meant that I would be researching this topic, writing the curriculum, developing lesson plans, and teaching it days, sometimes hours later. I'm sure you all know what this feels like. When a topic seems compelling and important to students, we will all put our shoulders to the plow. When I brought the idea back to my academic team, ⁸ they were all on board.

Rationale

"Teenagers forget how to be alone. You need to be alone in order to feel your emotions and realize who you really are. We forget that we are human and that our feelings, both good and bad are really important things that we have to understand. When you have a cell phone, you can just call someone and then you, the *you*

that is important and needs to feel, disappears." 9

One student who was without his cell phone for about two weeks made this comment to me early in the development of the unit. It was striking to me that teenagers in 2014 really do not know how to be alone, and the connection to their mobile phones has become a psychological one. It occurred to me that most of us are pretty mindless about our own dependence on our phones as well. For students to learn thoughtful use of their phones, they first need to be aware that their phones are in fact causing problems in their lives and in their education. This information is important for teachers as well in order to find more effective ways to address the omnipresence of cell phones.

Simply stated, it seems clear that prohibited or not, students are bringing smart phones and tablets into the classroom. Separate from the requirements of our particular curriculum, developing a unit on Internet use, especially use of smart phones, seemed something universally important. How are some ways we as educators might incorporate students' smart phones intelligently into our lessons, especially for students who don't have access to desk computers at home, and at the same time give all students insights into using these devices mindfully? The formative assessments in this unit include a comparative essay and a literary essay, requiring students to view and assess videos, articles, research documents and fictional stories. For their final exam, students would come up with their own claim in a synthesis essay, including references to the works they have viewed, read, researched or experienced. For this unit, we also wanted our students to have experiential learning and we incorporated interviews, class discussions, and an experimental "day without your cell phone" as part of our lesson plans. The unit addresses many critical skill sets including writing, reading comprehension, analysis of visual and text materials, synthesis, and research.

At Wilbur Cross High School, our students are mostly a mix of African-American and Hispanic students, many of whom have families that struggle financially. We also have many immigrants and students who transfer in from the suburbs. Students might be children of Yale professors, children of the urban streets, refugees or children of professionals from all over the world. One of my students is from Colorado, and he fits in as nicely as the rest of the "foreigners" here in the Northeast. One thing they all have in common is that they are all natives to the land of instant communications, and almost all of them carry smart devices with them to school.

Objectives

When I began to develop this unit with my academic team, we discussed issues that seemed most relevant to students. We wanted to encourage students to be able to assess and evaluate the information that they view, to consider how they present themselves on social media, to consider how their cell phones shape their lives and to consider how much of life they might be missing when they view everything from behind a screen. We also wanted them to see how this technology could be wonderfully beneficial to their learning. As it happened, our students taught us that they were already using their phones for educational purposes. Our larger goal was to encourage students to think about their interaction with technology, but we also used this unit to improve students' ability to analyze visual media, to comprehend and analyze nonfiction and fiction, and to write a variety of essays, including literary and rhetorical analysis and synthesis. Although the following unit is long (approximately three weeks) it can be broken down to smaller lessons. Teachers can choose from the following student activities:

Experiential : Through participation in frequent class discussions on ideas presented throughout the unit, students will be able to incorporate some of their thoughts and personal observations from these discussions in their papers. Students will also be assigned free-writing exercises asking them to consider personal experiences and the effects of Internet technology on their lives. Students will conduct primary source interviews with people who grew up before cell phones and be expected to keep a journal including a reflective section of a "Day without a Cell Phone." (My Colorado student's essay on his experience was published in our school paper. ¹⁰)

Content and Analysis : Students will view short videos that illustrate discrete problems with Internet use. (These ironically enough, were found *on* the Internet.) They will practice looking closely to see more detail in images and through this, will develop rhetorical *and* literary analytical ability. Visual images will be used to support cognition of key ideas later presented in text. Noting what they see in visuals will improve reading comprehension as students gather text support. Students will develop analytical skills by commenting on quotations or ideas expressed in nonfiction articles, and will use these skills to boost literary analysis by citing stylistic literary tools to support themes in fiction. Students will develop *smart* smart phone use and improve their research skills by practicing research techniques with smart devices to cite sources.

Writing Objectives : Students will improve their writing skills through informal reflective writing based on interviews and experiences. They will write a formal essay comparing and analyzing visual sources and text sources, a formal essay analyzing literary devices to convey theme in a fictional work, and provide a thoughtful caption for a meaningful visual image to share through a social media format. The final product for this unit is an original essay that synthesizes ideas and information from a variety of sources and personal experiences, which includes formal citations.

Research on the Psychological and Social Effects of Technology

In developing a unit on the effects of technology on adolescents, I felt that it was imperative to examine some of the psychological research that has already been done in this area. I wanted to examine scientific studies that revealed important and perhaps damaging effects of Internet addiction, overuse, or misuse. I needed to understand psychologically my students' attachments to technology. I needed this before my team could possibly teach our students to be mindful natives of a technological world. I wanted to construct the conversation around solid research. I found that nuts-and-bolts science is very impressive to teenagers who both rely on their phones, yet also sense the dark side to them. Research into the effects of technology on our social and personal lives has expanded exponentially along with usage. The explosion of smart phones has come so quickly, it is difficult for researchers to keep up, and many studies offer cautions that further studies need to be done. How do we measure something that keeps shifting shape? The Protean aspects of communication technologies and the colossal impact these have on every aspect of our lives make some editorial commentaries sound apocalyptic indeed.

Primarily as educators, we need to know what questions to ask to help guide our students. I have focused on three basic areas of research on the impact of technology on issues regarding teenagers' lives, particularly in developing a sense of self, in developing relationships and belonging, and in doing productive work. These are critical areas of psychological and educational development for teenagers. Although certainly this list can be

modified, my research suggests the following areas of inquiry:

- Know Yourself: Who are you when you post online?
- Internet Addiction: How is overuse of technology affecting learning and the ability to focus and to read text?
- Mindfulness: How is constant access to technology affecting our ability to relate to others, to develop memories of real events and to be in the moment instead of behind a screen?

Know Yourself: According to recent reports, having relationships on the Internet is not all bad news. For most people, the Internet is a place where it is easier to express one's "true" self, and while we do try to show ourselves in our best light, most of us don't idealize our persona online to something that is unreal. In our Internet relationships, however, we do tend to open up more and be more expressive and intimate in our conveyance of the dark and bright sides of our feelings, something that often doesn't happen in real-life meetings. In *Life on the Screen: Identity in the Age of the Internet*,¹¹ Sherry Turkle explains that the anonymity of the Internet allows people to experiment with "self," expressing various personas, even different genders, to express facets of themselves without sanctions. The idea that we all normally possess multiple "selves" isn't new. Understanding these "selves" takes us back to the beginnings of philosophy. Lao Tzu, the originator of Taoism, which dates back to the 6th century BCE in China, said in his *Tao Te Ching*, "Knowing others is wisdom. Knowing thy self is enlightenment."

In "Can You See the Real Me?" recent study of how we portray ourselves on the Internet, John A. Bargh, Katelyn Y. A. Mckenna, and Grainne M. Fitzsimons at New York University, explain that on the Internet, because you feel free to be whoever you want, you are more apt to disclose more of your inner self to someone you don't know well. When someone responds positively, your self-concept is validated, and this creates empathic bonds between you and your Internet friend that can be very strong. The more self-disclosure, the closer you feel to someone, and the Internet is a place where often relationships get very intense, very quickly. The basic need to have others see us as we would like to be seen is, psychologically, a very strong force. Often this view of our inner self is *not* validated by those close to us in our real lives. For many who might be alienated from their own families or communities, for issues such as gender identity or cultural differences, finding an accepting place on the Internet is helpful in developing a healthy sense of self. Teenagers who are developmentally building their identities are especially attracted to this aspect of Internet relationships. In this way, the Internet can be seen as a positive force in the development of self and development of strong relationships. In the study by Bargh and his colleagues, this proved to be the case. Participants were much less willing to disclose their true selves to people in face-to-face meetings than in meetings on the Internet. In face-to-face meetings, most people will wear their public masks. What the experiment also showed, however, was that when forming an attachment to someone online, we have a strong tendency to project onto that person our own idealized and desired attributes: we impose onto our Internet friend qualities that we like and want him or her to have. This almost never happens in face-to-face relationships, where the physical presence of the other person provides a barrier to this kind of fantasy. Aspects of the real person's appearance and other qualities of his or her persona inhibit most of us from reformatting someone to our own liking.¹² So while you might like someone more at first over the Internet and, indeed, create a strong bond quickly as your inner self is validated, you also tend *not* to see the other person's true character. When a feeling of closeness and intimacy builds feverishly, one should always be wary. Validation of self can be an incredibly seductive force, and when you in fact, don't really know the person who has given you this support, the result can be very dangerous as well.

In studies showing the importance of face-to-face contact to increasing a sense of empathy and connection, some researchers caution that interpersonal communication based in technology, including emails, texts, social media and chat rooms, impedes human relationships.¹³ Others are more optimistic in crediting Internet connections with improving our ability to relate to each other in some cases.¹⁴ With students, of course, cautioning how you portray yourself online is an important conversation. Also, any discussion with teenagers about online presence must be connected to the ubiquitous "selfie" and constant online self-promotion. In a class discussion one student observed that if you judge yourself by the comments of strangers, you should not be posting. Many agreed that those who worry too much about how many likes or negative comments they received had self-esteem issues. It seems this discussion is one that students have already had among peers, and also one worth having in a class lesson.

Internet Addiction: A lot of research has been done to examine the detrimental aspects of the overuse of technology, especially with the advent of cell phones. Teenagers in particular have a need to conform to the norms of the group, and with cell phones, this means a nearly constant need to be connected to one another to reaffirm common culture, as well as establish a sense of belonging and self-identity.¹⁵ While there have been studies and, indeed, treatment centers set up to help people with true Internet addictions, most psychologists would hesitate to classify those reluctant to leave the house without their phones as "addicted." Most are looking at this phenomenon cautiously, as a "restructuring of social norms."¹⁶ Understanding why phone usage is so important for teenagers helps teachers shape student awareness of the dangers of overuse. This is crucial for safety purposes as students begin driving, but also for reasons that bear on their ability to concentrate and study.¹⁷

Increased use of technology does indeed impair our productivity and ability to learn. It decreases our attention spans,¹⁸ creating a sense of boredom in the absence of multiple stimuli. And multitasking itself impedes our ability to focus and concentrate. Everything you do takes longer and is done less attentively when you multitask – even exercising!¹⁹ You become forgetful and impatient,²⁰ and when your brain is constantly bombarded with information, you cannot learn effectively.²¹ Overuse of technology interferes with sleep²² and makes us far less productive and less smart than we were before we had all the knowledge of the human race at our fingertips.

Mindfulness: When we view our endless pictures, we take time from the moments we live. Who will ever view these photographic graveyards when we are dead, when those alive will be busy photographing – and not living – their own existences? Will we, in fact, exist only in the cyber-world of the near future, in idealized versions of ourselves? Perhaps the most cynical and disturbing fears about the affects of technology involve the dystopian prediction that we are all becoming mindless biomasses while Siri is poised to take over. This is not a new dystopian vision, of course. Mary Shelley's *Frankenstein*, Isaac Asimov's *I, Robot*, Stanley Kubrick's version of Arthur C. Clarke's *2001: A Space Odyssey* suffice as the start of a list of countless fictional warnings. I would like also to mention Vernor Vinge's famous lecture at NASA, "The Coming Technological Singularity," which predicts that the day we create artificial intelligence will be the beginning of the end for humanity. While perhaps we want to brush all this aside as science-fiction hysteria, I would like to share some news that came up in a class discussion – news about the *next* generation of technology natives, the baby brothers and sisters, nieces and nephews of my teenage students. Preverbal babies now are learning the access codes to the cell phones of their parents, older siblings, aunts and uncles, by observation. They go into the phones and know from observation how to swipe and how to find, download, and play games. They take selfies. In the most surprising account, one toddler who cannot yet talk learned how to cut and paste his name and now sends text-babble messages to my student with his name pasted in, his selfies attached! Another student

began to worry that his three-year-old brother never talks to anyone, only plays with his tablet alone up in his room. No play dates. No nursery school. ²³

There is a palpable disconnect with our own lives as we stare at a screen instead of into the eyes of those we love. There is research to back up fears of disturbing consequences: Much research has been done on the importance of eye contact as a way to diagnose often very serious psychological disorders such as autism, ²⁴ schizophrenia, ²⁵ and various other psychopathologies. ²⁶ While these studies do not correlate between cell phone-using parents and psychological effects on children, one must wonder what happens when there is a lack of eye contact as people regard screens instead of children. In a lecture at Harvard, researcher Sherry Turkle expressed dismay at the apparent loss of real time in real life, and real human connections between modern humans, particularly young people. ²⁷ Her book *Alone Together: Why We Expect more from Technology and Less from Each Other* , warns against the negative effects of technology in our lives. ²⁸

Strategies

Storytelling, Discussions and Experiential Learning

To meet one of our goals of raising the mindfulness of students' use of smart technology, I felt it was imperative to include learning that could not happen on the Internet and required human contact: experiential learning and peer discussions. Perhaps the most powerful paths to knowledge are through experience, storytelling and discourse: this is how we innately learn the most important life lessons. These are lessons that will be integrated into students' memories and provide scaffolds for later knowledge.

Storytelling gives us a chance to hear each other's voice and see the expression in the eyes of the storyteller. It makes us mindful to listen to each other in real time. Storytelling is a good way to spark an interest in students. When we have an opportunity to tell a story, we make that story our own. We viscerally incorporate the message as we hold it in our bodies and breathe it out as air. It paradoxically becomes part of us as we share it with others. When we tell stories we own our words. They become ours and available then for written expression. Oral expression of ideas preceded writing, and one wonders if Plato had been right in criticizing *written* language. I left that as a question bridge to the next lesson, and pointed out that this very *primitive* method of communication would be the heart of the unit. Every lesson would end with a conversation. Real time. Real people. Student-run.

While we still do not have the keys to Ms. Frizzle's Magic School Bus, there are other ways we can take a field trip back in time. There is nothing more authentic than experiential learning. Perhaps more than any other teaching method, when we learn experientially, strong memories and scaffolds for new knowledge are formed. To allow students to gain the experience of being without their phones, they simply had to put them down. (A summary of student reactions to their "Day without Cell Phones" activity can be found in the appendix of this unit.) Their experience served as a way to give students prime insight into how psychologists work when they examine social trends, such as cell phone use: conduct research and collect data of the results. Students initially panicked, but I assured them that they were conducting a small experiment, similar to the ones we would be reading about from psychological journals. Although I wanted them to try to make it through their day without cell phones, they didn't have to succeed – what was important was to report what happened, and write a reflection on what they learned through their experience. Data.

Photography and Memory

Another assignment meant to encourage students to think about life separate from their cell phones resulted from some recent research on memory and photography. The look of one human being into the eyes of another in real life is so important that even people who have damage to their visual cortex and are otherwise blind can still differentiate between a human gaze that is direct and one that is diverted.²⁹ We all have awareness when someone is staring at us, even when we aren't looking. Research shows a powerful need to look at each other not on a *screen* but in the real world in order to form empathy and deep relationships with one another.³⁰

What are we missing when we stare at screens is also the subject of some surprising research by Linda Henkel. She has been researching the effects of memory when one takes endless photographs. She found that people who took countless pictures in museums were less likely to recall the art than those who took no photos or who took very few, carefully constructed photos.³¹ In other words, when we believe we are documenting our lives by taking pictures, we are actually erasing our own memories of the events. As noted in a recent NPR story, when these pictures are uploaded into infinite streams of photos – far too many for anyone to sort through, especially in our technology driven lives – they and the events they portray are forgotten.³² Who will ever sit down with tens of thousands of unsorted, uncaptioned photographs to remember birthdays and special trips? Particularly important are the photos taken of our own children, whose stories of origin will be forgotten, buried in the endless memory of our computers, but unknown in their own lives.³³ With an infinite way of manipulating images, one wonders what is real on a screen, in any case. As one of my students, Israel Williams, recently said, "Videotape is not proof. It is not live. Does it explain to anyone what happened days before, or in someone's past?"³⁴

Analysis of Visual Images to Improve Fiction and Nonfiction Text Comprehension

One of my objectives in this unit was to improve analysis and synthesis in reading and writing for all of our students. Our students are at many different academic levels. While visual media is often used to *supplant* text for students with low-level abilities, I strongly believe that it should be used instead to *support* text comprehension. Images are not a substitute for words. They are a communal bridge, even for the lowest-level readers. When we teach our children words, we point to an image. When children want to know a word, they point to an image. After encouraging storytelling and experiential learning to incorporate knowledge, we moved to create communication bridges through a visual medium. This also addressed our desire to utilize the heavily visual Internet as a pathway for students to improve text comprehension.

Exemplum and Allegorical Narratives as Useful Didactic Tools

I offer my apologies in advance for the unfortunate choice of medieval literary genres for the subheading. Let me explain. In contemplating how our students who struggle with reading comprehension might be given preemptive support for the textually complex articles that the unit would present, I considered a variety of visual presentations including newscasts and documentaries. I realized that what would work best would be the genre that philosophers from Plato and Ibn Sina to Jesus and Martin Buber understood as the best way to illustrate complex ideas: allegory. A simple narrative story can clearly convey a dense philosophical message: Plato's allegory of the cave simplifies the complex question of the nature of reality opposed to our perceptions. Why a former sinner should be not only *forgiven*, but *celebrated* is illustrated in the Parable of the Prodigal Son. So to prepare the ground for students to comprehend complex psychological studies that reveal how technology skews reality and self-image, robs us of our focus, and takes over our memories, I

thought it best to use images containing symbolic allegories. To build schema for our students to understand and analyze complex themes in *text*, we chose narrative and allegorical *visuals* as a platform. In an article in *Educational Psychologist*, Samuel B. Day and Robert L. Goldstone report that learning is best transferred when an idea is first presented in a simple way, using images that are somewhat symbolic and narrative. These images then can be used to scaffold the presentation of complex ideas.³⁵ It also seemed clear to me that the most *affective* visuals would be the most *effective*, at least for teenagers. The images had to appeal to our students and for this reason the visual choices our students make are the ones teachers should consider using most often.

Here, mobile smart devices brought to class can be immediately transformed into legitimate research tools. Who is better equipped to search the Internet for spoken word, music videos, or short films? These types of searches do not require sophisticated research skills, and they are ways to allow students to be the instruments of their own education. This is not only empowering, but in fact, what students are already employing in their smart phone technology. Smart technology also provides students immediate access to the visual images for reviewing and reassessing as easily as they might have with photocopied text in their folders.

Using Rhetorical and Literary Terms with Visual Analysis

Common Core standards require language arts teachers to incorporate analysis of visual images into teaching language as if it were a given that all English majors also have studied visual arts. For those of us, myself included, who have by happenstance studied art history and film production, teaching visual analysis isn't particularly daunting. I can comfortably speak to color, modeling, perspective, composition, and choice of media. As a film major, I know about timing, editing, camera shots, and cinematography. But these terms are not necessary when we use images to enhance reading analysis and composition. Much of visual analysis is native and can connect directly in terminology to literary and rhetorical analysis. For our purposes, it might be best to align the analytical terminology to text analysis and keep the film and art jargon at bay.

When viewing media, students should be asked to assess the broader questions both before and after careful objective study: who or what agency is the author of the image, what is the subject of the image, what is the purpose, who is the audience and what is the claim the piece makes. Students should also explicitly be told that there is an author behind every image, and they should be asked to consider the possible agenda of that author in shaping or manipulating the image. In addition to the broader questions, students can be asked to look thoughtfully and with precision at the details of the image. Sometimes it is helpful to direct attention to a scene or even a frame of a motion picture or to divide a still image into units – similar to the way you might divide the stanzas of a poem or sections of a story. These should be completely objective observations. Be clear about the distinction between objective claims and subjective, analytical inferences: "The woman is frowning" is different from "her frowning is evidence that she is sad."

Common rhetorical or literary terms can be applied to visual images. Students can be asked to assess the artist's use of logos, ethos and pathos in shaping or framing an image. Clearly, the literary term "imagery" can be applied to visual images. Imagery includes representations of hearing, touch, taste, and odor, as well as vision – and these might also be addressed in a visual image, especially if it is a video accompanied by sound. Symbolism is often a critical element of visual imagery common to written analysis. Does an object in the visual take on more significance than is literal? What else might it represent? If there are any narrative elements to the visual, these can be analyzed as story elements: setting, irony, tone, characterization, and conflict. Whose perspective is evident in the visual? What might be the purpose or message, and how do these

elements contribute to our understanding of the meaning of the work? In good analysis, these details are used to describe, magnify, illuminate, or explain the purpose or message of the work as a whole, and to ascertain if the work is effective in conveying the message.

N. Katherine Hayles, in "Hyper and Deep Attention: The Generational Divide in Cognitive Modes " cites research to suggest that children "growing up in media-rich environments literally have brains wired differently from those of people who did not come to maturity under that condition" ³⁶ and that visual media may provide an important door for a modern generation of learners. Using the *language* of rhetorical and literary analysis in the analysis of visual images will help students transfer these terms and content meaning as well, to their text analysis. Having students analyze affective narrative visuals will boost reading comprehension in text with similar thematic content.

For the visual analysis part of our unit, we placed students in small groups that were academically mixed to allow them to communally assess elements of the visuals. We used simple graphic organizers for students to gather information. This allowed students to cooperate in observing and writing down observations and assessments. In classrooms where projectors are not available, students can view the videos on their smart devices. This was particularly useful for students who were absent on the days of the viewings, as I was able to email them links. After viewing videos, students presented observations in a class discussion about what they saw and what it might mean: in other words, they gathered examples and provided analysis. Students then were able to add discussion points to their graphic organizers to gain more complex understandings of the videos.

From Images to Text: Schema to Build Comprehension and Analytic Skills for Fictional and Nonfictional Works

Building from visual to text analysis, students then read two fictional stories dealing with the unit topics. Students were asked to consider the overall message of the stories and then go back and note stylistic devices that helped to convey this message. Students were quick to find rhetorical and literary devices such as pathos, caricature and other characterization tools, imagery, setting, perspective, and symbolism in the stories. The short literary essays that they wrote on these stories incorporated good examples, and analysis was reinforced by using the same terminology as they used when analyzing fictional videos. Graphic organizers can be devised with similar terminology to allow students to gather examples, provide analysis, and organize their essays. (See Appendix.)

I next had students in the same small groups assess a variety of nonfictional texts on the same topics presented in the videos and fictional works. The texts, drawn from many sources including newspapers, online journals and psychological studies, ranged in complexity and length to challenge students at various academic levels. Students helped each other gather important facts, discussed their analysis with one another and shared the important information about their articles with the whole class. Students listening to the presentations took notes on articles that interested them and asked questions about the information revealed in these sources. Students also created citations for their sources.

For all of these lessons, I collected and graded their graphic organizers to assess how well they comprehended text, gathered examples, and provided analysis or commentary on their reading. As a warm-up to their final essay, I had students use two nonfictional sources and write a simple comparative essay on the points presented in each. While I had been impressed by their literary essays, I found these comparative essays striking. I taught this unit at the end of the school year when I had a very good awareness of my students' capabilities, and it seemed quite clear that their overall reading comprehension, ability to gather meaningful

text, and ability to provide questioning and thoughtful commentary were significantly improved. While many things such as methodology and preparation for the unit may have contributed to a marked increase in reading and writing abilities, I believe that the videos presented for students' first analyses allowed them to visualize the concepts presented in the text. My evidence was in these preliminary essays: while students were required to focus on two nonfictional text articles of their choice, they asked if they could also include videos. Many of my students chose to do so, mainly students who were not as strong in reading and writing skills. It was clear to me that the visual information, presented in short thematic narratives, allowed students cognitive access to complex psychological studies and newspaper articles about self-identity, Internet addictions, and the isolation caused by our new communications media.

Original Synthesis Essay: The Effect of New Technology on Our Lives

The final paper for this unit was an original essay that would utilize visual, fictional, nonfictional, and experiential sources to support a student's claim. The paper needed to use at least four text sources and was expected to incorporate visual sources, fictional, and experiential material. All sources needed to be documented in a works cited section at the end of the paper. After reading the fifty-four papers handed in by my very enthusiastic group of tenth graders, I am very happy to report that most of them did very well indeed. Many of them showed a surprising improvement in reading comprehension compared to their abilities at the beginning of the unit. Their ability to accurately cite text and provide thoughtful comments or analysis was also impressive. They incorporated vocabulary from the texts we read effectively in their own writing, and they exhibited an overall improvement in their fluency as writers as well. The success of this unit lay in the incorporation of many different methods of teaching, in that we chose a topic of high interest to our students, and did a lot of preparation for the difficult readings through class discussion and by providing avenues of experiential learning. In addition, incorporating videos primarily to introduce complex thematic elements and secondarily to teach analytic skills proved to be an incredibly powerful scaffold for students to transfer to their ability to understand and analyze complex text.

Teaching Authentic Research Skills and Other Important Uses of Smart Technology

As we develop this unit next year, we plan to include teaching students how to use the Internet more effectively in developing their research skills, and asking them to do more sophisticated research for their final project. Our school has access to a number of databases that offer reliable sources for student research, and we have access to different online citation and research programs, such as EasyBib. While we do have computers in our library, there aren't enough to accommodate all the students we have on any given day who might need to do research, a skill that is now essential for success in any college environment. For our school of about fourteen hundred students, we currently have one very busy librarian: How easy it could be to introduce some basic research skills to students in a short lesson in our classrooms, asking them to *take out* their smart phones? More extensive research could be conducted at home, but the ability for a teacher to walk students visually through finding data bases and to show them how to experiment with word selections in searches is the key they need. Showing them visually, in the medium which is the best learning environment for our digitally native students, how to operate EasyBib could easily take less time than it took for my students to show me how to operate Instagram. This year, I used my Smart Board to show students how to cite their sources. While writing their rough drafts, I noticed two students using their phones to figure out how to cite sources they had come upon independently.

Needless to say, the phones could also be invaluable for us to conduct surveys of students, to connect to groups of students through texts, especially in emergencies, and to allow students to access Naviance, a

program currently in use by many schools across the country for college and career planning and applications.

Classroom Activities

For the storytelling activity, I asked students to take a field trip to the past with me: I told them of the time I took a car ride home from college with five strangers, in the dark on a snowy highway that would pass through remote farmland, all with no cell phone. This was the norm in 1978. For students today, it is a terrifying horror story. Of course, the power of a good tale is to inspire, and I didn't tell them how it ended: They needed to first gather stories of their own, come back to class, and tell them to all of us. With this lesson, students learned about life before cell phones. They took time to interact with their elders, creating bonds. This initial interaction built good peer support for group work, and created a more cooperative environment for discussions on more complex issues that would be presented later in the unit. The stories revealed a lot that is beneficial about cell phones, but also what our students lacked in resourcefulness and independence. Were their elders really that much more courageous than they? They also heard many tales of aimless, parentless wanderings through suburbs and cities and fields, emotional events with friends and of adventures in everyday life. One student reminisced about past sleepovers: "It's not that we would have pillow fights and jump up and down on the bed now, but we wouldn't be staring at our phones either. It was much more fun without them." ³⁷ No one asked me to finish *my* story, but it wasn't about me.

For an assignment to emphasize the important of memory with photographs, students carefully chose one image of the many they had, and wrote a caption to explain why this particular image was meaningful to them in their lives. We had the students send us their images and captions for us to post to an Instagram ³⁸ account. They also helped us non-native teachers set this up. This wonderful lesson in thoughtful use of images now celebrates our school year, building school spirit. What a nice way to incorporate use of students' cell phones for educational purposes!

As described above, students worked in groups as they viewed images or read sources. They helped each other complete graphic organizers to gather and assess information from both fictional and nonfictional texts, and shared their thoughts in a class discussion. These organizers helped them prepare for their formative writing assignments.

When we implement this unit in the future, we will require students to use the Internet (perhaps from their smart phones) to research and correctly cite meaningful visuals and text to use for their final papers. Some of their own sources can then be used for general class discussions. This empowers students and having their choices viewed by the class encourages them to be sure their sources are good ones.

Conclusion

Humans are consummate communicators. It is in our DNA. There are remarkable prehistoric cave paintings all around the world, examples of primitive people's desire to communicate not only with people around them, but with people through time and space. Many cave paintings contain hand-prints, signatures; perhaps we

could call these the selfies of ancient time. Prehistoric people desired to connect with each other, to share and store knowledge or consciousness of beauty. We are not different. What is different for us is a rapid explosion of communication possibilities that is making our collective heads spin. It is important to incorporate mindfulness into the mix.

From my visit to the world of my students, I learned that cell phones do much more than spell the end of life as we know it. They keep time, find the bus, are the map, the game, the store, the music player, the musical instrument, the alarm clock, the calendar, the typewriter, the organizer, the research tool, the television, the movie theater, the stage, the concert, the local gathering on the green, the camera, the phone, the phone book, the memo book, the notebook, the photo album, the portfolio, the calculator, the newspaper, the books, the magazines. They record and edit music and video. They talk to you and answer your questions. They recommend the restaurant and the babysitter and make the reservations, provide the menus, get the cab, and remind you to go to the dentist. They are the radio, the boarding pass, the store coupon, the check book and the bank account, the birthday card and the wedding invitation. They are the also the instant couriers, the way to call for help in an emergency, the way to find your way when you are lost. They are elves and angels, no longer myth. Indeed Apple has already developed a truly impressive source of educational applications, most recently one to allow teachers to create assignments and chat rooms for interaction with students, who will very shortly no doubt be bringing iPads or other smart devices to the classroom instead of notebooks or paper books. Mobile technology will arrive in your classroom shortly, if it hasn't already.

As my students participated in a free-write to gather their thoughts on this subject, they also noted that technology unites them around the world and keeps them in contact with family members in other countries and family members serving in the armed forces. It connects them to other students. It creates a global village and democratization of knowledge. It allows for instant sharing and dissemination of new research, new ideas, and new developments. It can lead to revolutions and give people everywhere, even those who live under governments that repress information, access to the world.

Isn't it time for us to bring them into the classroom? Wait. They're already here.

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Appendix A

Academic Standards

The lessons in this unit will help implement Common Core State Standards for English Language Arts for

grades 9 -10 in writing and reading literature. Specifically, Writing Standards 1A-E and 7-8 will be met as students write a synthesis essay that establishes a claim and supplies data to reason an argument through formal essay writing. Students will also be using relevant research materials from both text and digital sources and provide standard citations. Standards 1-4 in Reading: Literature will be met as students provide analysis of themes by citing characterization and other literary devices. Students will also meet requirements for Standard 7 in a student visual analysis to ascertain common themes in artistic and literary media.

Appendix B

Graphic Organizer for Visual Analysis

Image / Sponsoring Organization or Company

Correct Citation in MLA Format:

<p>What do you see or hear? List all details.</p>	<p>1) What do these details appeal to? Consider Logos, Ethos and Pathos. Consider mood, symbolism and sensory imagery including sound. If there are narrative elements such as perspective, setting, character development and irony, these also can qualify as examples for analysis. 2) Explain HOW. Use your listed details to support your analysis. Do not simply write "Pathos".</p>
<p>(Examples)</p>	<p>(Analysis)</p>
<p>SUBJECT: What is the subject for this PSA image?</p>	
<p>PURPOSE: What is the purpose for this PSA image? How do you know?</p>	
<p>AUDIENCE: Who is the audience for this PSA? How do you know?</p>	
<p>CLAIM: What is the PSA claiming? How do you know? Use evidence from the PSA to write a specific claim in 1-2 clear sentences.</p>	

Appendix C

What Happened When Students Experienced "A Day without Cell Phones"

What my students reported was incredibly telling and informative for educators as well. Here are some reflections: Students reported feeling uneasy because a common routine was broken. Many were used to waking up in the morning with the cell phone alarm, checking for messages, and listening to music. They reported being incredibly bored and not knowing what to do with odd moments such as waiting for the bus. They felt uncomfortable when waiting in a room with strangers without anything to do. They reported feeling

like outcasts from their friends and disconnected from their peers, even angering parents or close friends when they did not respond to calls or texts. They reported feeling paranoid, worrying what emergency they might have missed or what they would do if they needed to contact someone. Most did not leave their phones home because they needed to have them for security, and they reported that they looked at their blank screens for comfort during the day. Those few who did leave them home kept feeling phantom buzzing and would panic in moments when they realized they didn't have their phones on them. Students reported feeling sick, feeling horrible, getting angry; and for some this experiment started off feeling like it was the worst day of their lives.

Then in the reflections, students who did make it through the day, a majority of the fifty-four students I had, reported that they realized how addicted they had become to their phones and how distressing this realization was. They made a vow to be more thoughtful about their cell phone use. They reported that they saw things they never noticed before as they walked places; they got chores done, got a lot more schoolwork done even though they didn't use the Internet, walked their dogs, took a nap, helped cook dinner, and enjoyed conversations with friends and family, a television program with parents. In school, in fact, the time went *faster* in class when they weren't constantly checking their phones and they were "forced to listen to the teacher." One student wrote: "I am not my cell phone. I am more than 16GB of pictures I'll delete next Tuesday to make room for a new app. I am more than glass that will crack with one drop at the wrong angle. I am more than my cell phone and for that I am grateful." ³⁹ What was really remarkable about this preliminary assignment is how well students were able to understand the methods and value of a bit of sociological experimentation, and understand viscerally, how technology is particularly affecting them. This authentic experience also became good source material from which they would compose their final written synthesis essays.

Notes

1. Students in my 2013-2014 Period 10 Class, Wilbur Cross High School Atrium. Personal photograph by author, taken with my iPhone 3. March 27, 2014.
2. Mitchell Stephens, " *The Rise of the Image, the Fall of the Word* .
3. Ibid. 29-33.
4. Frank Koughan, Douglas Rushkoff, and David Fanning, "Video: Generation Like.
5. Susan Sontag, *On Photography* .
6. "English Language Arts Standards."
7. *New Haven Public Schools ELA Draft Curriculum Grades 9-12* . Grades 9-10.
8. My curricula team included Mihaela Dima, William O'Lynnger, and Christopher Loureiro.
9. Aaron Rivera, "Why Was Losing Your Cell Phone a Good Thing?" Interview by author. March 31, 2014.

10. Nico Britton, "Phones Anonymous: The Addiction of the Modern Age." *The Proclamation* (New Haven, Connecticut), June 2014, Wilbur Cross High School ed.
11. Sherry Turkle, *Life on the Screen: Identity in the Age of the Internet* .
12. John A. Bargh, Katelyn Y. A. Mckenna, and Grainne M. Fitzsimons, "Can You See the Real Me?"
13. A. K. Przybylski and N. Weinstein, "Can You Connect with Me Now? How the Presence of Mobile Communication Technology Influences Face-to-face Conversation Quality."
14. Katelyn Y. A. Mckenna and John A. Bargh, "Plan 9 from Cyberspace: The Implications of the Internet for Personality and Social Psychology."
15. Shari P. Walsh, Katherine M. White, Stephen Cox, and Ross Mcd. Young, "Keeping in Constant Touch: The Predictors of Young Australians' Mobile Phone Involvement."
16. Ira Hyman, "Are You Addicted to Your Cell Phone?"
17. Paul, Atchley and Amelia Warden, "The Need of Young Adults to Text Now: Using Delay Discounting to Assess Informational Choice."
18. Maddie Crum, "Our Attention Spans Are Getting Shorter, And It's A Big Problem."
19. E. Ophir, C. Nass, and A. D. Wagner, "From the Cover: Cognitive Control in Media Multitaskers."
20. Tara Parker-Pope, "An Ugly Toll of Technology: Impatience and Forgetfulness."
21. Matt Richtel, "Hooked on Gadgets, and Paying a Mental Price."
22. Tamar Lewin, "If Your Kids Are Awake They're Probably Online." Education sec.
23. Students Taylor Nelson and Tai Li, respectively, reported these observations during my class. May, 2014.
24. Mayada Elsabbagh, Evelyne Mercure, Kristelle Hudry, Susie Chandler, Greg Pasco, Tony Charman, Andrew Pickles, Simon Baron-Cohen, Patrick Bolton, and Mark H. Johnson, "Infant Neural Sensitivity to Dynamic Eye Gaze Is Associated with Later Emerging Autism."
25. Ivy T. Tso, Joshua Carp, Stephen F. Taylor, and Patricia J. Deldi,. "Role of Visual Integration in Gaze Perception and Emotional Intelligence in Schizophrenia."
26. M. R. Dadds, J. L. Allen, B. R. Oliver, N. Faulkner, K. Legge, C. Moul, M. Woolgar, and S. Scott, "Love, Eye Contact and the Developmental Origins of Empathy v. Psychopathy."
27. Sherry Turkle, "The Tethered Self."
28. Sherry Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other* .
29. N. Burra, A. Hervais-Adelman, D. Kerzel, M. Tamietto, B. De Gelder, and A. J. Pegna, "Amygdala Activation for Eye Contact despite Complete Cortical Blindness."
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