A Wordle to the Wise:
Using “Word Clouds” Meaningfully in the Classroom

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Word clouds, created by a variety of web applications, are enticing new tools for some social studies educators. Teachers should be prepared, though, for the possibility that our zeal for a new resource may prevent us from adequately examining its value. This article recounts a class activity involving the creation of a word cloud, the Wordles of major documents from the U.S. Civil Rights Movement, analyzes the lesson’s strengths and weaknesses, and offers guidance for the meaningful use of word cloud applications in the classroom.

Key words: Wordle, word cloud, social studies, American history, civil rights movement, pedagogy

The U.S. public school system has often been the laboratory for the practical use of new technology (Bennett, Maton, & Kervin, 2008). While the available technology has changed radically in recent decades, teachers may prove naturally reticent to discard strategies and approaches that have worked for them in the past. This is only sensible, but good teachers are always on the lookout for a new approach or new tool, if only to combat the inevitable boredom that may develop by leaning too heavily on the tried-and-true (Salinas, Bellow, & Liaw, 2011; Tally, 2007).

There has been tremendous growth in new resources for incorporating text into social studies classes. Text-based applications allowing users to tag (to mark content with specific definitions or for specific purposes), have been in regular use for the last decade, and all routinely produce a visual manifestation of textual content known as a tag cloud. In 2008, Jonathan Feinberg created the web application, Wordle, which has been used by thousands of people to create over 2 million word clouds. Wordles allow students to convert large amounts of text into a glyph. The glyph identifies the most ubiquitous words, enlarges them, and rearranges the text into a word cloud where the most common terms are largest and highlighted (Feinberg, 2010). Here, I consider classroom use of Wordles, in particular one social studies activity, and the potential this tool presents to educators.

Since its introduction, the tool has been greeted enthusiastically by many teachers. Some educators emphasize their use as a creative way to create traditional elements of classroom culture, for example, creating word clouds as course banners for online course components, or entire syllabi (Dunlap, 2009; Foote, 2009; Sharma & Barrett, 2009; McNaught & Lam, 2010). Advocates for Wordles claim their use can help students activate prior knowledge about a given subject, share personal biographies and stories for brainstorming, and conduct research (McNaught & Lam, 2010). There is one additional aspect of Wordles bearing mentioning: they are fun. This is an important point. In terms of engagement, any tool to which students may be attracted has potential value. We should consider, however, what role in the classroom might be
served by Wordles. We should also ask what skills, through the implementation of Wordles, we hope to develop with our students, to what end, and to what degree of success.

It might be easy for teachers to conclude that Wordles are, by their nature, effective. Many educators take as a given the effectiveness of tools like Wordle. First, it is clear students like them; and students, generally speaking, work harder and more positively at something they enjoy (Wiggins, 2014). Technology allows a teacher to help a student interact with the world within his or her current context; and, given the exponentially increasing presence of the Internet and online tools in our students’ lives, that context is increasingly technological. From current research, it is apparent students who earn higher grades are also the ones who more routinely interact, academically and personally, with technology (Roberts, Foehr, & Rideout, 2005). Students are able to engage with content and skills in a greater variety of platforms and settings than ever before. The phrase convenience learning can hardly be considered pejorative, given current conditions.

Though the degree to which technology can foster critical thinking or problem-solving skills—which are in decidedly high demand skills in the global marketplace (Owston, 1997; Barber, 2000; Yergin, 2002; National Council for the Social Studies [NCSS], 2013)—is debatable, there is considerable enthusiasm in the academic community for the potential of technology like Wordles. A vital facet of these skills is visual, particularly what is often termed visual literacy. The Association of College and Research Libraries (ACRL) (2011) describes visual literacy as “a set of abilities that enables an individual to effectively find, interpret, evaluate, use, and create images and visual media” (p. 1). The value of this form of literacy is becoming increasingly apparent. For instance, visualization has been shown to be a significant predictor of learned knowledge, and was approximately as valuable as prior knowledge in impacting test scores (Piburn, et al., 2005. The idea of visual literacy is conceptually similar to historical thinking, a skill promoted by social studies educators for years (Wineburg, 1999). The ability to find, interpret, evaluate, use, and create visual media is analogous to the capacity to identify sources, interpret their reliability, judge perspectives, and to create new interpretations, all elements of historical thinking. It “is a very close relative to active, thoughtful, critical participation in text and image rich democratic cultures” (VanSledright, 2004, p. 231). Efforts to build critical thinking, then, can potentially be fostered by a similar commitment to visual literacy (Shuh, 1999; Woyshner, 2006; Risinger & Heitzmann, 2008; Edler, 2011).

The value of this skill is reflected in the growing desire to promote it across multiple disciplinary fields. Visual literacy “is ever more insistently appearing with or even instead of writing” (Kress, 2003, p. 140). The creation of standards reflects this belief. The Association of College & Research Libraries (ACRL) Visual Literacy Competency Standards (2011), for example, call for the development of skills “in order to engage capably in a visually-oriented society,” which empower “individuals to participate fully in a visual culture” (p. 1). Similarly, the National Council of Teachers of English (NTCE), in their Framework for 21st Century Curriculum and Assessment (2008) asserts that the current technological era has created a need for “multiple” literacies, which are “dynamic and malleable” and possess a visual element not common to traditional definitions of literacy (p.1-2). The Common Core Standards, now in the process of being implemented across 45 states and the District of Columbia, also call for the development of student skills to “use media and visual displays strategically to help achieve communicative purposes” (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010, p. 8). The NCSS’ C3 Framework (National Council for the
Social Studies, 2013) includes elements analogous to visual literacy, especially in asking students to “make strategic use of ‘media and visual displays’” (p. 64).

One reason the development of this kind of literacy is necessary is because millennial students, born and raised in a digital age, are not as adept in navigating the digital terrain as we might have predicted during the rise of the internet (Bennett, Maton, & Kervin, 2008, p. 777). In a study of college students’ research and study habits, it was found that comparatively few used modern web applications for collaboration or research “despite their reputation of being avid computer users” (Head & Eisenberg, 2010, p. 3). Although many teachers’ students of the 21st century would be practicing digital natives who would possess “sophisticated technical skills”, there is still a significant population of young people who do not have such skills, often because of a lack of access to such technology (Bennett, Maton, & Kervin, 2008, pp. 775-779). The concept of visual literacy as a given commodity that only needs to be nurtured seems to be unfounded. It falls to the schools, then, to foster this skill set.

Some of the hurdles are being surmounted. The capacity of schools to meet the requirements of instructional technology is at a high point as nearly 100% of American schools have Internet access (Wells & Lewis, 2006, p. 4; National Center for Education Statistics, 2010). The U.S. Department of Education has made the increased availability of such access (as well as affordable portable media devices) a major plank of its National Education Technology Plan (Dalton & Grisham, 2011). Individual school districts are adopting technology-infused curricula and working to provide the hardware to accommodate the process. An instance includes a district in Los Angeles, where the district recently announced plans to buy $30 million worth of iPads for over 600,000 students by the end of 2014 (Dockterman, p.54). This, of course, doesn’t mean that such plans will prove to be a panacea; the technical issues, professional development deficiencies, and ethical transgressions related to the Los Angeles school district’s purchase is evidence of that (Blume, 2015). Many technological changes are occurring in students’ homes, where their personal access to online technology is growing in exponential fashion as 27% of children ages 3-18, use tablets, 43% use smartphones, and 52% use laptops (Dockterman, 2013; Wartella, et al., 2011). While many students still lack the skills that accompany visual literacy, the infrastructure to achieve it is becoming commonplace.

The development of visualization skills has significant potential impact for social studies education. In discussing historical thinking, Sam Wineburg (1999) points to the danger of viewing the past as something “usable,” in which we “contort the past to fit the predetermined meaning we have already assigned to it” (p. 490). The skill of historical thinking is in contrast to this tendency, when we view the past through the lens of the present while simultaneously trying to avoid “a mind-numbing presentism that reads the present onto the past” (p. 493). Thinking historically means acknowledging the often appalling strangeness of the past, the fact that historical actors behaved in ways that may strike a contemporary human being as essentially alien in character (Wineburg). The value of visual literacy is its utility to help students navigate the oddities, puzzles, and bewildering nature of many historical topics. Historians often treat visual images as “illustrations of written history rather than sources of history themselves” (Pelger-Gordon, 2006, p. 1). Students are drawn to the “immediacy” of historical images. While Wordles are not historical images in the strictest sense, even a cursory examination of the manner in which a Wordle can highlight, in visual terms, the issues and beliefs that underlie a given historical text, indicates that “immediacy” is a trait Wordles might also possess (p. 1).
Do Wordles Work?

A major question is whether or not tools like Wordle can develop the above skills. There is no exhaustive research on Wordle, but there is evidence suggesting it has great possibilities. Developing a breadth and depth of vocabulary “depends on building connections between words and developing elaborate webs of meaning” (Dalton & Grisham, 2011, p. 308), a concept strikingly similar to what Wordles do. Such tools represent a “culture of convergence where consumers are encouraged to seek out new information and make connections among dispersed media content” (Viegas, Wattenberg, & Feinberg, 2009, p. 2). The authors allude to the prospective value of Wordle in introducing new topics in the classroom, using it to check for excessive use of terminology in academic writing, or, as in one teacher’s example, finding synonyms for such “overused” words (Viegas, Wattenberg, & Feinberg, 2009, p. 5). In this sense, Wordle is both a visual tool and a text-based tool, giving users the opportunity to create and manipulate word clouds and allows for the analysis of large written samples (Shortis, 2009).

Other studies support the potential of Wordle as an analytical tool. In a study of Wordle as a supplementary research tool, it was found to have significant value in “quickly highlighting main differences and points of interest, thus providing a direction for detailed analyses,” as well as serving as a validation tool for confirmation of earlier findings (McNaught & Lam, 2010, p. 631). The value of Wordles to introduce literary topics, to help students discover textual elements, and to encourage students to reflect on their own writing and word choices had not been noticed previously (Meloni, 2009). Some have used Wordle to compare and contrast writing styles (Clement, Plaisant, & Vuillemot, 2008). Others describe how using Wordle in the classroom can help students develop their own reading skills (e.g., predicting, summarizing, and comparing), as well as their writing skills, especially in prewriting and revising (Hayes, 2008). Wordle’s utility to help journalism students determine if their article drafts effectively represent the topic about which they are writing was examined (Verster, 2010). In a similar vein, Allison Martin (2012) described how Wordle can help legal writers identify the themes in court documents and in their own briefs. Wordle has been advocated its usefulness in determining the intent of school improvement and reform efforts (Nori, 2012). One researcher, created word clouds of a major Australian budget policy address, using a similar application (TagCrowd) and, in so doing, highlighted this technology’s capacity to aid researchers in determining the connection between the incumbent government responsible for the speech and “the presence of relationship marketing keywords” (Dann, 2008, p. 14). These applications for Wordle are drawn from subject areas other than social studies and history education yet, the skills they draw on and develop are strikingly similar to historical thinking, and its emphasis on analysis, synthesis, and critical thinking. An example of this would be implementing Stephen Dann’s (2008) work with budgetary rhetoric and the use of marketing language which is reminiscent of VanSledright’s (2004) description of historical thinkers as “skilled at detecting spin, hype, snake-oil pitches, disguised agendas, veiled partisanship, and weak claims” (p. 232). Even more promising, it seems Wordles can work at nearly any grade level. In a recent study, Marie Taylor (2012) explored the use of Wordles to motivate reluctant writing students in third-grade classes, resulting in increased student engagement and enthusiasm. Word clouds (from Wordle and similar applications) also have great potential as tools for constructivist pedagogy, especially the use of “technology as a tool for inquiry” (Doolittle & Hicks, 2003, p. 88).

The aforementioned supports the use of word clouds in the classroom. The difficulty, though, was in determining how effective they might be in a specific social studies lesson. It was
unclear if Wordles could facilitate a firm understanding of historical documents, or if they only serve to engage students more fully in a given inquiry (not an inconsiderable achievement, to be fair). There was the third possibility that Wordles would have no positive impact on students at all. In *Making Sense of Social Studies with Visualization Tools*, the use of such tools was analyzed and illuminated a limitation of this sort of graphic representation, in that “the frequency of a word does not necessarily denote its importance in the text” (Berson & Berson, 2009, p. 126). The greater value of Wordles might be in their ability “to transform text into powerful visuals that promote inquiry skills” (p. 124). One of the most useful features of the Wordle is its automatic filtering of “common words” (terms such as: and, of, the, and it) which otherwise would be the most prominent parts of any word cloud. Ideally, the most frequently used words in a given glyph would stand a greater chance of being fundamental to the meaning of the text.

Much of the research about word clouds is aimed less at how students would use the tool and more at its potential value to educators or researchers (Harrington, 1993; Maguth, Yamaguchi, & Elliott, 2010; Salinas, Bellows, & Liaw, 2011; Higdon, Reyerson, & McFadden, 2011). The value of any tool or content should not be measured only by its latent value, but also by its practical use in the classroom. Supreme Court justice Potter Stewart once said of obscenity, “I know it when I see it” (*Jacobellis v. Ohio*, 1964). That sort of ambiguity is commonplace with regard to the instructional advantages of technology. What follows below is a description of one lesson, built around the use of Wordles; a lesson including all the benefits that had been promised by the tool’s advocates, but several drawbacks that were manifest only in practice.

**The Lesson**

The potential of Wordles may seem manifest to veteran educators, especially those used to seeing their students’ levels of engagement rise appreciably when interacting with new resources, especially technological ones. The use of technology to increase access to historical knowledge, and to manipulate it in new ways, was the inspiration for the approach described here, revolving around the U.S. civil rights movement.

On August 28, 1963, Dr. Martin Luther King Jr. delivered his *I Have a Dream* speech at the Lincoln Memorial in Washington D.C. Though millions have heard the speech, most high school students seem to know little about King’s address. The issues of which King spoke—the fierce debate within the African American community regarding tactics and the issue of nonviolent protest, the commitment required to enact change, that up until that point seemed excruciatingly slow—may be unknown to most high school students, given the general focus on the speech’s most famous line, “I have a dream.” It is unclear, though, if students’ inability to quote Dr. King’s speech verbatim is a failure in their conception of the purpose and importance of the speech. The possibility that students may be able to use graphic visualizations (like a Wordle) to gain insight into social studies documents such as the *I Have a Dream* speech is at the heart of the lesson described here.

The objective of the Wordle lesson plan was to expose students to some of the most important and engaging documents from the civil rights era: President Truman’s 1948 order to desegregate the U.S. Armed Forces, the two *Brown v. Board of Education* Supreme Court decisions of 1954 and 1955, Malcolm X’s *Black Nationalism* and *What Does Mississippi Have to do with Harlem?*, speeches, newspaper accounts of the Greensboro sit-ins and James Meredith’s
attempt to enroll at the University of Mississippi, and Martin Luther King’s *I Have a Dream* speech.

The lesson’s primary objective—to help students analyze and evaluate major documents of the civil rights era—was sound, but in retrospect, it seemed as if the lesson’s goals may have been clouded by enthusiasm for the tool itself. The hope that the essential themes of each document would become clear through student creation of word clouds was optimistic. At a minimum, it was expected students would gain a deeper appreciation of the historical places each of the documents in question occupied in the history of the Civil Rights Era.

At the outset of the activity, 13 documents, all drawn from the Civil Rights Movement, were posted to a shared class website. Students were told to select any six of the 13 documents. Their choices were varied; some picked Dr. King’s address first, some avoided it, while others gravitated to texts connected to events we had addressed more directly in class prior to this activity—most notably, the account of the killing of Emmett Till from *Look* magazine in 1956 (Huie, 1956). Students were directed to the Wordle website, and told to create six different word clouds of these texts. At the same time, students were encouraged to experiment with the more entertaining features of word clouds. Students, for example, could change the font, orientation, and general appearance of a glyph.

The lesson was conducted across four American history classes, each with between 20 and 25 students, and all in 11th grade (ages 15-17). This was a single-day activity, though the classes had been previously briefed about the nature of the lesson to streamline the process. Upon casual observation in the midst of the lesson, a visitor would have seen what appeared to be a productive and engaging lesson in progress with students working diligently in pairs with laptop computers while engaged in a creative and cooperative enterprise to work with vital documents from America’s past. Like most successful lesson plans, though, this one was largely dependent on planning. As the class progressed, several flaws in the lesson became apparent, especially in how Wordles were being used.

First, the lesson’s stated goal was not what engaged most students. An intriguing element of this lesson was the degree to which students would be able to meaningfully interact with the documents in question, without a strict reading. Many social studies teachers can relate to anecdotal accounts of watching students grapple with text too dense, too dry, or too boring. The documents used in this lesson represented some of the most vital and stirring rhetoric of American history, about the topic, of racial discrimination. The lesson’s objective was that students would gain an understanding of the intent and scope of these documents through the creation of Wordles. But, this objective was not achieved. Students were not reading the document in question; they were merely copying the text, pasting it into the Wordle generator, and pressing the create button. What occupied their attention mostly was the design components Wordle incorporates, which, while engaging, often seem less educational and more “decoration or entertainment” (Viegas, Wattenberg, & Feinberg, 2009, p. 6). Students spent a great deal of time changing the font, color, and format of their glyphs, making great use of the *randomize* feature, which instantly generates unique word cloud formations, as many times as the user wishes.
Figure 1. A student-generated word cloud of the Supreme Court’s *Brown v. Board of Education* decision, 1954.

Even this relatively insubstantial outcome might have sufficed, given the follow-up activity. After creating their word clouds, students were directed to conduct online searches in order to discover the historical background of the document in question: who wrote (or said) it, when was it written or stated, for what reason, and what role that document played in the larger civil rights movement. Next, students were asked to identify the four most prominent words in their word clouds, and to use these words to develop three themes representing the big ideas inherent in the document. The goal was to help students gain an understanding of the guiding principles of the Civil Rights Movement by identifying the themes common to seemingly disparate documents, such as President Truman’s Executive Order 8802 (to desegregate the U.S. armed forces) and Orval Faubus’ speech decrying integration in Little Rock, Arkansas in 1957. Students were to be engaged with the deeper meaning and context of each document.

While the follow-up activity was designed to engage students in higher-order critical thinking about the documents, this activity was difficult for them if they did not have detailed comprehension of those documents. Given the student responses to this portion of the lesson, it appeared most of the students managed to grasp the who, what, where, and when of the document (though it was difficult to tell if such comprehension came from the document, the word cloud, or the online search), though there was less unanimity on the why. Many students, for example, understood what had happened to Emmett Till, and they could, by looking at a given word cloud of the *Look* magazine article, explain many of the basic elements of the crime in question. Most did not explain or identify the importance of the Emmett Till case including the murderers’ acquittal and subsequent admission of guilt, the outrage over the brutality of the crime, the decision by Till’s mother to have an open casket at the funeral, and the resulting shock and disgust over the horrifying disfigurement inflicted on a 14-year-old boy. Asking a teenager to derive all this by
selecting the four largest words in a word cloud seems, upon reflection, a steep obstacle to climb. It was clear, after the fact, that the lesson did not adequately assess student comprehension of the documents in question.

While every student participating in the exercise created word clouds like the one above, most had difficulty with the thematic questions. When asked to develop three themes related to the document from which they created their word clouds, a considerable number of students provided incomplete or simplistic answers. One student identified two themes in the September 1958 speech of Governor Orval E. Faubus of Arkansas, about integration of public schools, as “Public” and “People.” While this is accurate as Faubus did use these words, it is also demonstrably uncritical. Similarly, another student, who created a word cloud from Dr. King’s *I Have a Dream* speech, identified one theme as “Freedom,” with no additional explanation. Given the prominence of that term in the glyph, the student’s selection makes sense, but with no additional explanation or questions, it is unclear if the student grasped what that term, beyond its symbolic power, meant in an era of segregation and institutionalized racism. Of the entire class of 26 students, approximately half failed to develop complete answers to this question (I included students who either provided one- or two-word answers, similar to the ones cited above, as well as students who failed to answer the question at all).

![Image of a word cloud]

*Figure 2:* A student-generated word cloud of Dr. Martin Luther King’s 1963 speech in Washington, D.C.

Following the lesson, several students indicated they were confused by the concept of themes to the word clouds. The literal nature of the word cloud was the arbiter of the themes they had to determine. If “freedom” was the largest segment of the Wordle, for example, that meant it was one of the three themes. While this may have been a defensible position, the simplistic expectation of the students that *the bigger the word, the bigger the theme* was a result of the activity.
There were positives, as well. In reviewing the activity, students attested they enjoyed the experience thoroughly. That may be expected, given the interactive and highly creative enterprise afforded by Wordles, but what was most gratifying was the degree to which students seemed to reflect some emotive quality of the documents, fragmentary and distorted as it may have been. More than once, students described how terrible the murder of Emmett Till was, or how outrageous it was that Martin Luther King was forced to write a letter from jail, or how disgraceful they found the abuse heaped on Black college students during the Greensboro sit-ins in 1960. Though the lesson was not particularly successful in terms of delivery of content or reading comprehension, its effectiveness was more evident in terms of emotional impact.

The trouble, of course, is that emotional impact, by itself, is not enough. *Teaching for the Common Good* highlights the value of historical empathy, fostering the ability to imagine “the thoughts and feelings of other people through their own perspectives” (Barton & Levstik, 2004, p. 206). This empathy is in contrast to sympathy, through which students view historical events through an imperfect lens. The lens is the belief that “all human beings are basically the same across time, cultural boundaries, and individual preferences, and that a single frame of reference—one’s own—represents an acceptable standard with which to measure the world” (p. 206). Through their experience with Wordles, some students experienced an emotional reaction to the historical events portrayed or represented in the documents, but more often than not, their reactions were sympathetic, rather than empathetic. In reference to the Greensboro sit-ins, one student remarked, “if I were there, I wouldn’t have gone through that.”

*Teaching for the Common Good* also illustrates one possible drawback of historical empathy is the degree to which it encourages students to more “effectively explain the actions of people in the past than to evaluate what happened to them” (p. 222). In the authors’ example, using historical empathy to examine the Native American removal policy of Andrew Jackson can cause us to focus more on Jackson’s beliefs and motivations than on the impact of his policy on Native Americans themselves. Students who created Wordles of the Emmett Till confession, for example, tended to focus on the heinous nature of the murder, the injustice of the act, and the lack of consequence for the murderers, and less on the reality of racial violence in the U.S. South prior to the civil rights movement. These students viewed the Till murder as a particularly egregious act of prejudice rather than as a despairingly common reality for African Americans at the time.

The experience with Wordles and the Civil Rights Movement is a strong reminder about the value of, and the difficulty with, technology in social studies education. Given time and access, and the ubiquity of technological resources, teachers have the capacity to use this technology to achieve great results. These results are often submerged beneath the enthusiastic, though uncritical, reaction that new technology often triggers in a teacher. We often are taken in by the flashy, frankly amazing things technology can do in the classroom, to the degree that we often forget to ask the most important question: will this get the job done better than before? If the answer is no, or even long in coming, we need to consider whether we are using such resources for the students, or for ourselves.

**Course Corrections**

When it comes to education, uncertain goals often encourage uncertain practices. It is important to note this is not a failure, per se, as it is a bedrock fact of social studies education. The difficulty of creating uniformity in students reflects the degree to which our methods and outcomes resist easy-to-label data. Still, though, the question, “What do we hope to gain from this?” should not be avoided simply because the answer is not easy to determine.
The question is one which social studies educators have been struggling with for decades, and its answer is as much philosophical as it may be concrete. What do we want our students to know? Traditionally, the emphasis on information knowledge has been criticized as a reliance on recall rather than understanding. It has been dismissed as an antique focus on what John Dewey (1916) described as a “record of knowledge”—the what, the hoary cliché of “names, dates, and places”—without “knowledge,” knowing how to think about the what (p. 220). This has been the prevailing view of social studies in the recent past; yet, most educators also understand information knowledge forms the basis for the modes of reasoning vital to both citizenship and higher-order thinking (Duplass, 2006, 2008).

The flaw in the lesson plan described here was a lack of accommodation for both types of knowledge in the social studies. In emphasizing higher-order thinking, the necessity for (and value of) standard, traditionally defined reading comprehension was unconsciously minimized. Out of zeal for a new form of technology, there was an expectation that student use of Wordles would be sufficient. In practice, this was not the case, and the need for students to engage with the documents in a more rigorous, direct manner became evident. Reading them, responding to prompts designed to draw out meaning and relevance, became evident. The students were clearly very engaged in the activity, and particularly taken with the creation of word clouds. That, by itself, is a victory—albeit a small one, given the loftier goals with regard to the historical importance of the Civil Rights Movement.

The salient point about Wordles is they have potential as a tool for opening students to new forms of technology, for sparking interest and engagement in the classroom, and for facilitating higher-order critical thinking about historical documents. This experience suggests they are not appropriate to use in isolation. More traditional student interaction with primary documents seems necessary to scaffold the effective use of more invigorating technology. A Wordle has been described as a visual representation that “cannot stand on its own…using Wordle as the primary form of interpreting data would lead to confusion and misinterpretation, as the randomization factor of the tool could cause certain aspects of the orientation of words to become misleading in their meaning” (Arena, 2012, p. 3).

Educators can be victimized by a tendency to use a new tool without due consideration. Enthusiasm for a new resource or tool can eclipse even a veteran teacher’s reaction, which is usually: interest, mild skepticism, and a commitment to serious planning and preparation (Seibert, 2013). One unanticipated issue, in executing this lesson, was the degree to which students used technology effectively than many educators predicted at the outset of the new digital age. Social studies teachers, in particular, had hoped adolescents growing up during the nascent growth of the internet would eventually “think and process information fundamentally differently from their predecessors,” courtesy of their immersion in the online world (Prensky, 2001, p. 1). Though this was a tempting vision, it seems this conviction is supported primarily by scant or uncritical evidence (Bennett, Maton, & Kervin, 2008, p. 776). This is not to say students do not think differently; only that it is hard to be sure. With a wordle, “the frequency of a word does not necessarily denote its importance in the text” (Berson & Berson, 2009, p. 126), a warning borne during the lesson described here. Such is the mindset allowing enthusiasm to outstrip evidence.

There is value in the use of Wordles, demonstrated in a variety of ways since the initial teaching of this lesson: as a supplementary tool, effective in drawing out larger themes and embedded concepts; in historical or social studies instruction with primary documents, to showcase
a particular element or to engage students; and in educational scholarship, to allow a researcher to discern trends in their own writing that may distract from an overall message.

In using Wordles in the classroom, teachers may learn from the limitations and missteps denoted here. In discussing the use of visual images in studying history, one researcher urges her students to “slow down,” using fewer images and reminding them “the more you look, the more you will see” (Pegler-Gordon, 2006, p. 1). Rather than attempt a thorough textual analysis of the civil rights movement, encompassing 13 different documents, a narrower focus would likely prove more thoughtful, using a few or even one document, to allow a more thoughtful, in-depth analysis. Contrary to this, another approach encourages students to use Wordles not for in-depth analysis in place of reading the documents, but as a preliminary analytical activity prior to reading (McNaught & Lam, 2016). In their study, students created word clouds with a minimum of alteration or editing, to create instead “the first output of the raw text” (p. 634) in order to generate areas for follow-up investigations demanding richer, more in-depth research, with greater rigor (Tally, 2007. Using Wordle as a supplemental tool in this manner, students can reach a deeper understanding which, left largely to their own devices, they did not achieve.

One small correction can be made in determining how students selected the documents from which they created their word clouds. Why did a given student, for instance, select the I Have a Dream speech? Was it familiarity, or interest, or some combination of the two? When students used the magazine article about Emmett Till, was it because many of them has been previously unfamiliar with Till’s story, or had they already had taken part in a discussion of the murder and its grisly nature? Asking students to explain their decision-making process is an essential feature of critical analysis, one that will be featured in future versions of this lesson.

Students should be required to use Wordle in comparing and contrasting different civil rights documents, rather than to analyze them singly. Students can look for commonalities in words or phrases (Huisman, Miller, & Trinoskey, 2011, p.524; Huisman & Hanna, 2012). At a minimum, a discussion, sparked and informed by the word clouds, could more meaningfully highlight the themes students derived on their own. More directly, students should justify or explain their choices in developing themes for the various documents. For some students, when a teacher does not explicitly require a more complex answer, it is often interpreted as an allowance for simple ones.

**A Wordle to the Wise**

All of the above should not be interpreted as an effort to discount the potential of resources like Wordle, or to dim the enthusiasm such tools engender in teachers and students. While the use of Wordles in this lesson was not as effective as it might have been, it is premature to discard the resource out of hand. As much as a teacher’s reaction to new technology is energized by possibility, so too our failures should be tempered by realistic self-appraisal, or the same sort of critical thinking we encourage in our students.

We often have a nearly boundless faith in the power of technology, as well as a powerful belief in the impact of visual media. The impact of reproducible, and easily disseminated, visual images is evident throughout our culture. This is especially so in the manner in how visual media allows us, as the author Don DeLillo stated, to “examine ourselves, imitate ourselves, extend ourselves, reshape our reality” (quoted in Begley, 1993, p.1). This ability to review, to reexamine, and, in the case of Wordles, to create unique textual depictions of historical events, is limited by the reality such reconstructed (and newly constructed) entities may lack accuracy, detail, or
meaning. It is important for teachers to remember that we live in “a world where the visual may be more present than ever, but no more reliable as a document of reality” (Pasternack, 2012, p. 1).

The enthusiasm generated by tools like Wordle can create a deeper sense of failure if the attempt to integrate it into the classroom is insufficient. There is, however, an intuitive sense among teachers that a given resource or tool can work, if we can identify the routines, strategies, and variables that affect it. For the social studies, the potential of technology to help students become autonomous and active learners is enormous (Doolittle & Hicks, 2003). This is, oddly, an argument for Wordles, even when the evidence is scant or uncritically received. To paraphrase Potter Stewart, we know it when we see it.

References
Head, A.J., and Eisenberg, M.B. (2010). How college students evaluate and use information in


Martin, A.D. (2012). A picture is worth a thousand words: How Wordle can help legal writers. Legal Communication and Rhetoric, 9, 139-147.


Tally, B. (2007). Digital technology and the end of social studies education. Theory and


**Web-based References**


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