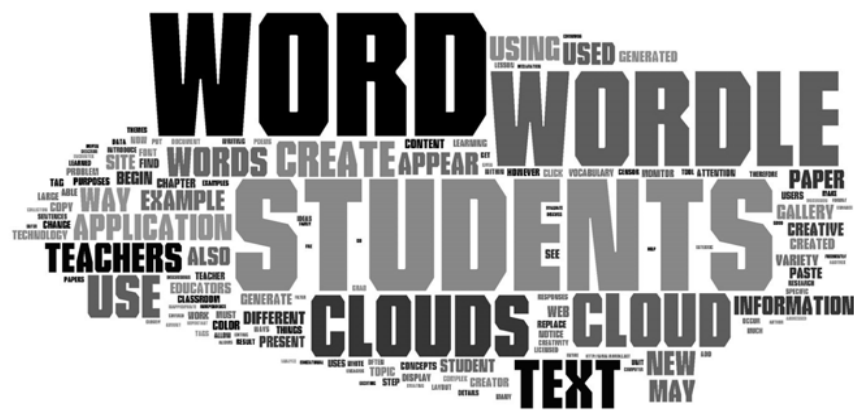


# Word Clouds using Wordle: A White Paper

Prepared by  
Ullanda Tyler

[ullanda.tyler@cms.k12.nc.us](mailto:ullanda.tyler@cms.k12.nc.us)

November 19, 2008



A word cloud of my white paper

"This white paper was written as an assignment for Dr. Marshall G. Jones's EDUC 651 class at Winthrop University, Rock Hill, SC. All rights reserved by the author. Permission is granted to use this white paper provided the user notifies the author in writing prior to use."

## Word Clouds using Wordle: A White Paper

Wordle is a Web 2.0 application on the Web that requires no additional cost. The URL for this site is <http://www.wordle.net>. The images created by the Wordle application are licensed under a Creative Commons Attribution license. The text and design of the web site are licensed as follows: Wordle.net by Jonathan Feinberg is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 United States License.

### Overview

Wordle is a Web application that allows users to generate word clouds. A word cloud is a visualization of word frequency in a given text as a weighted list. It gives significant importance to words that occur more often in the text. Those words will appear larger than words not used as much. Wordle is a new and exciting way to display text as art. Wordle also allows you to change the font styles, the layout of the text, and the color scheme. It is a fairly new application; however educators are starting to catch on to this application. Wordle can be used for a variety of purposes in the classroom.



This is an example of a word cloud from an article about word and tag clouds. A tag cloud is very similar to a word cloud. A tag cloud is a visual depiction of user-generated tags, or the word content of a site. Tags are mainly used to describe the content of web sites. Tags are usually single words and are usually hyperlinks that lead to a collection of items that are associated with a tag.

### Problem Solving

As educators, one problem in the classroom that we are often faced with is drawing our students in and engaging them during the lesson. Wordle can be used to present information in an innovative way that is engaging to learners. A word cloud could be a creative way to introduce a new unit or present a topic. For example, when introducing a new unit in science on living things, the teacher could create a word cloud from the chapter. The students could then be given a copy of the word cloud and discuss some of the things that will be covered in the chapter and how they think it relates to living things. This strategy would be very different from students taking the ordinary picture walk through the text or the teacher telling the students the topics that will be covered. This will grab students' attention because the information will look different from the traditional text that they are used to viewing. By using Wordle, the students will be engaged whether they are analyzing or creating their own word clouds. Students could begin to create their own word clouds for assignments. Some students may have trouble reading the entire Declaration of Independence or different speeches because of the length of the articles. Students could copy and paste the text from the Declaration of Independence into Wordle and generate a word cloud. After entering text, the word clouds are generated within seconds so the students are

## Word Clouds using Wordle: A White Paper

able to stay occupied with the task at hand. Then they can then begin to analyze and have discussions about a complex piece of material because they have now made it more student friendly. Editing and revising is another problem that can be addressed. By using the Wordle application, students will have a clear way of seeing words or themes in their paper that occur too much or that do not appear enough throughout the paper. After students have completed their papers, they can cut and paste them into Wordle and generate a word clouds. Students will then be able to see if the main ideas in their papers are standing out. If not, Wordle can be used as a self-correction tool, and students will know that they need to add more details to their paper. If a word shows up too large that is not important to the paper, students could then get creative and use a variety of other words to replace the words that appear too frequently. This will help students edit and revise their own writing with limited teacher assistance.

### **National Educational Technology Standards Addressed by Wordle**

Our society is moving toward being technology driven. As a result, educators have to be more intentional when integrating technology. The purpose of using technology is to enrich teachers professionally and to enhance and improve students' learning experiences.

#### **1. Facilitate and Inspire Student Learning and Creativity (NETS-Teachers)**

c. promote student reflection using collaborative tools to reveal and clarify students' conceptual understanding and thinking, planning, and creative processes

Wordle helps to address this goal because it is a tool that can be used to enhance students' creativity and increase self-reflection and planning strategies. Students' creativity will be improved because Wordle is an application that once using it is mastered, they can begin to find new and exciting ways to utilize this application. After the students have created a word cloud using Wordle, they can use the data and begin to generate questions based on the size of different words. For example, if they create a word cloud for a research paper and their topic is not the largest word, they may begin to question why and then add more details as a result. They may also notice that another word is too large meaning it was used too much throughout the paper, so the student may decide to replace some uses of that word with other synonyms.

#### **3. Research and Information Fluency (NETS-Students)**

Students apply digital tools to gather, evaluate, and use information.

Once students have used Wordle for a variety of purposes, they can begin to evaluate the usefulness of Wordle for themselves. Students can also use this application as a way to analyze their data and present it to their peers in a way that will grab their attention because it is being presented in a creative way. Students can use the words that appear in the word cloud as a way to explain a topic rather than reading an entire research paper.

### **Educational Environmental Factors (when implementing in classroom)**

There are a few issues that educators may encounter when using Wordle. Some computers at schools may not have the Java application, therefore the word cloud will not appear on the screen, instead an "X" will appear. If you are able to, enable the Java applet in your browser and that should allow the word cloud to appear. When using the Wordle application in the classroom teachers must keep in mind that Wordle's creator does not censor, filter, or moderate what is put into the application. Students may see or use words that are inappropriate, consequently, teachers

## Word Clouds using Wordle: A White Paper

must monitor closely when students are on the computer. Wordle is a fairly new site and there are thousands of word clouds generated per week, therefore the creator does not have the man power to censor what is being put out on the Wordle website. There is a link on the site to the gallery which has a collection of word clouds that other users have chosen to display. When on the site, students do not have to visit the gallery in order to create a word cloud. Before using the Wordle site, teachers need to tell students that they are there to create their own site and not to preview the gallery. Also the creator cannot monitor what the students are pasting into Wordle. Teachers must make sure that students are going to appropriate sites to copy text. Finally, once word clouds have been posted and saved to the gallery they cannot be deleted. Students and teachers should exercise good judgment when deciding whether or not to post their word clouds. If personal information has been exposed, the creator of Wordle would be willing to remove the word cloud; otherwise, it will be in the gallery for all to see. When using Wordle, however, you can create word clouds and change the color, font, and format without saving it to the gallery.

### How to Use Wordle

Step 1. Go to <http://www.wordle.net> and click on “create.”

Step 2. Enter or paste text in the designated box. You can also enter the URL of a page where text appears. Then click “go.”

Step 3. Your new word cloud will now appear. You may now change the font, size, color or layout of your word cloud.

Step 4. Print your word cloud or save it to the shared gallery.

### Ways to Use Word Clouds with Wordle

Possible Uses of Wordle	Descriptions
Data Analysis	<b>Entering questions and responses to generate common themes</b> Example: Teacher can ask students a question and post their responses in a word cloud. Students and teachers can then begin a discussion on the responses that appeared in the word cloud.
Student Reflection	<b>Reflect on concepts, text, or ideas learned</b> Example: After learning about a new concept, students can create a word cloud to describe what they learned.
Discussing a Variety of Text	<b>Create a visual of words used most often in the text</b> Example: Teachers and students can create word clouds from chapters in a text. They can use the word clouds to discuss important and underlining themes that came from the text.
Editing/Revising Writing	<b>Notice words that are over-used and replace them with new vocabulary</b> Example: Students can paste their papers into Wordle and they will notice words that appear frequently in the text and replace them with other synonyms. They may also notice that certain concepts do not appear as they

## Word Clouds using Wordle: A White Paper

	would like them to, so students will see the opportunity to add more details
Chapter Summaries	<b>Create visuals to study key concepts</b> Example: Students can create word clouds that will convey the major points of a chapter and use it as a way to present information or use it to study the chapter.
Displaying Student Work	<b>“About Me” introductions, poems, essays, unit opener/closer</b> Examples: Students can create words clouds about themselves in the beginning of the year and it can be used as an icebreaker for the students to learn more about each other. Students can also copy and paste poems that they have created into Wordle and change the font and color schemes and use the word cloud as a way to display their poems.
Learning Language/Vocabulary	<b>Introduce new vocabulary</b> Example: Teachers can create a word cloud of vocabulary that students will encounter in the text.
Word Games	<b>Create sentences from the word clouds</b> Example: Teachers or students can create random word clouds or word clouds about a specific topic and students can use the generated clouds to make casual sentences or sentences more focused on a specific topic.

### Benefits

Wordle is a very user-friendly application. Users can copy a large amount of text and paste it into Wordle and just click create. Wordle creates the cloud for you within seconds. Depending on your computer it does not take long for the word cloud to be generated. Wordle has a variety of fonts, layouts and color schemes that you can choose from, or you can use the layout that Wordle created. As you start working with Wordle, you will find that there are many different uses for it. You can use word clouds to present information, display work that students have created, introduce new information or vocabulary and editing and revising work. Wordle is a visualization tool that will help students who are visual/spatial learners. Some students learn better when they are attached to a lesson visually. In today's society our students are very technology driven, as educators we must get creative and try a variety of things to grab their attention. Wordle will present information in a way that will capture and keep students' interest and attention. Wordle can be used for many different purposes. Students can use word clouds to summarize text that have been read or concepts that have been learned. Some of the barriers that students face with understanding complex text can be overcome with the use of word clouds. Some students will see a large amount of text and get discouraged. If the purpose is for students to comprehend and have a discussion about the text, then using word clouds would be a good strategy. Creating word clouds with Wordle, is a way to take a complex subject matter and break into smaller relevant pieces.

## Word Clouds using Wordle: A White Paper

Students and teachers can have discussions about the ideas that are generated in the word clouds. Students will then be able to put the information back together and synthesize it to create their own idea.

### **Drawbacks**

Word clouds are not new, however, using Wordle is a new approach to generate word clouds. Teachers may find it hard to find examples of word clouds generated by Wordle for specific lessons. There are not many lesson plans or examples of ways to use Wordle on the web. As of now, educators are discovering Wordle and finding their way to navigate the uses in their classrooms. Wordle is a very novel application and its creator did not expect for people to use this for purposes other than entertainment. As a result, Wordle does not filter, moderate or censor the content. Teachers have to monitor students very closely to make sure that students are not visiting the gallery and viewing word clouds that have inappropriate language or content. Most of the word clouds will not be blocked from school websites so teachers have to be the moderator. Teachers will also have to ensure that students are not pasting unsuitable text, such as profanity, into Wordle to create word clouds with slang in them. Eventually the creator of Wordle would like to provide a safer environment for classroom use. This would allow for students to have chance to view other student work without seeing adult content. Teachers, however, should still continue to monitor students will online. Also, Wordle does not use stemming, which is recognizing different variations of the same stem or root. Therefore variations of the same word will appear separately. For example, the words talk, talks, talked will all occur independently within your Wordle word cloud. This may pose a problem for some users because if the words were recognized as one word, then it would appear larger in the text. Some may also find it challenging to incorporate the word cloud into a separate document. Once the word cloud has been created, click on print and save the file as a PDF (portable document format) file. This will allow the user to then insert it into a document.