

## Wikis and 21<sup>st</sup> Century Literacy Instruction

*4P has worked so hard on their wiki pages, which can be found at <http://top10.sblc.wikispaces.net>. Click on the links Dangerous Ocean Animals & Amazing Ocean Animals. It has taken hours of research and typing to make them perfect. First, we researched from books and computers/laptops. Then, after hours and hours of researching, we started typing. We typed in Microsoft Word 2007. The features we researched were Habitat, Physical, Behavior, Diet and Life Cycle. Then, we pasted the typing into the right categories on the wiki pages. We edited our work and added images that were copyright free. When we were ranking the animals, we had a problem with people who knew "Background Knowledge" and were giving their animal a top rank. So our teacher, Mrs. Pilver, explained the problem to the class. We decided to have some people from the Amazing Ocean Animals rank the Dangerous Ocean Animals and some people from the Dangerous Ocean Animals rank the Amazing Ocean Animals so there wouldn't be favoritism.*

*Please vote for your favorite animal at <http://top10.sblc.wikispaces.net/Vote>.*

*Zachary, Grade 4*

The NCTE policy statement, Towards a Definition of 21<sup>st</sup> Century Literacies (2008), defines the literacy skills and abilities necessary for participation in a global 21<sup>st</sup> century. According to the document, twenty-first century readers and writers need to:

- Develop proficiency with the tools of technology
- Build relationships with others to pose and solve problems collaboratively and cross-culturally
- Design and share information for global communities to meet a variety of purposes
- Manage, analyze, and synthesize multiple streams of information
- Create, critique, analyze, and evaluate multimedia texts
- Attend to the ethical responsibilities required by these complex

environments

My goal this year was to explore the use of wikis in the classroom as a way to support my students' acquisition of these skills. I chose a wiki instead of a blog or social network like Ning, because of the potential it has to provide a variety of opportunities for the development of 21<sup>st</sup> century skills. A wiki can be used for collaborative online writing and problem solving, for creating and sharing multimedia texts, and for online communication. In addition, any multimedia widgets such as maps, polls, slideshows, videos, VoiceThreads, and animated characters can be embedded into a wiki.

I had noticed earlier in the year that my students were drawn to one of the books in my classroom library titled, *The 10 Deadliest Predators in the Ocean*. This book is one in Scholastic's [The 10 series](#) edited by Jeffrey Wilhelm, author of several books, including *You Gotta BE the Book: Teaching Engaged and Reflective Reading with Adolescents* and *Engaging Readers and Writers with Inquiry*. During independent reading time, even my most reluctant readers would read the book over and over. They often huddled over the book together, sharing the frightening facts that they were learning. They were astounded by the fact that the fierce saltwater crocodile was almost as long as our classroom, that the blue-ringed octopus could paralyze a human in minutes and that the Australian box jellyfish injects extremely deadly venom with its 3 foot long tentacles. Nine and ten year olds are fascinated with facts about the weirdest, longest, strangest and so on. The best sellers at our school's Scholastic book fair are the *Guinness Book of World Records* and *Ripley's Believe It or Not*. Our culture is obsessed with ranking people and animals as evidenced by the popularity of shows like *American Idol*, *Dancing with the Stars*, *America's Funniest Videos* and *Animal Planets' Top 10* series. So I conceived an idea for a project that would connect to these interests. The culminating product would be a wiki, collaboratively written by my students. The wiki would present to the public what the students believe to be the top ten most dangerous, most intelligent, funniest or most amazing animals. Their ranking would be based on a list of criteria that was student generated. Students would apply their knowledge of nonfiction text organization as they share the data from their research through individual animal pages on the wiki. The audience of the wiki would be asked whether they agree or disagree with the ranking and to vote using an online poll. In addition to the profile pages, the wiki would also feature **Voki** zoologists (animated talking avatars) who would share

their passion for the animals through informational public awareness clips, and **MyAnimalSpace**, a place where students would assume the persona of an animal, creating a personalized page (through the eyes of the animal) about their interests, their friends and enemies, their neighborhood, and their side of the story.

As I started to envision the complex learning environment that would facilitate this wiki project, I thought about the support and technology I had available. The library media center specialist and the computer teacher were both willing to support technology projects in any way they could and our school had hired an EASTCONN consultant to provide additional technology integration assistance. I had a SMARTboard in my classroom that could be used for whole class modeling and guided practice, but more importantly my students needed easy access to computers. Although my school has a media center with twenty-one desktops and two laptop carts, they are to be shared with the four other grade levels in the school. In order for the technology to be seamlessly embedded into the teaching and learning, I needed more computers in my classroom. I had two desktop computers in my classroom and one laptop. I purchased two mini notebooks with the CWP mini-grant and brought in my personal laptop, which put the computer to student ratio to about 1:4.

I began the project by asking students the following essential questions, “*What is an opinion? What is a fact? Where do facts come from? Where do opinions come from? What makes an opinion convincing?*” We then discussed and charted our responses.

After gathering the data about my student's current understanding of the big ideas underlying these essential questions, we watched Animal Planet's Top Ten Most Intelligent Dogs video series. This series is accessible on the Animal Planet website. I asked the students, “*Just because they are telling us that these are the Top Ten most intelligent dogs, does that make it a fact?*” We discussed that each ranking, although based on factual evidence, is still the opinion of someone and that the intent of the video is to persuade viewers. The students' task, as they viewed the videos, was to critique the videos' effectiveness at supporting the claims presented with factual evidence. Using a graphic note-taking organizer, students collected factual evidence. I stopped the videos a few times during each viewing and asked students what evidence they had found and how effective they felt the video was at supporting the opinions shared. We watched five out of the ten videos, which was enough for students to grasp the concept. However, as an enrichment activity, several of my students chose to continue watching the rest of

the videos and collect evidence. One student created a poster of facts about the Top Ten most intelligent dogs. I also offered students a Pet Intelligence test to try out on their dogs at home. The test was based on the criteria used to determine the intelligence of the dogs in the videos. We had fun sharing the intelligence levels of our pets.

Students continued to explore the concept of opinion and top tens through the high interest 10 title, *The 10 Deadliest Predators on Land*. This book served as an anchor text as students learned about reading, researching, and writing nonfiction. In the book, the authors share the criteria they used to select and rank the top ten deadliest predators on land. Readers are told that the top ten presented in the book are strictly the authors' opinions based on facts and that they (the readers) should form their own opinion of what deserves to be the top 10 based on the given criteria and their own research. As they read what the authors believed to be the 10 deadliest predators on land, my students examined the text for the evidence to support the claims that were being made. The first three animals or chapters were read as a whole class with explicit instruction and the next five were done through a jigsaw activity where small cooperative groups read and taught the rest of us. The final two were read again together as a class. I used the text to teach explicit mini-lessons on identifying main ideas and details, using non-fiction text features and organizational structures, distinguishing between fact and opinion, supporting conclusions with evidence, and identifying important information.

After reading about all of the Top Ten predators, students revisited the text to collect textual evidence that supported the criteria the authors used to rank the top ten deadliest predators. Small cooperative groups searched for evidence about a particular animal and students compiled their findings on a huge class comparison matrix. They also decided to add their own criteria, information that they agreed was important to include and to collect evidence supporting those criteria as well. They gave each criterion a weight of 1 to 3 and added them up to determine each animal's rank. This resulted in a class ranking that was different than the ranking presented in the book, supporting the idea that the ranks although at first glance seem like a fact, they are still an opinion of the authors.

Students were then introduced to the concept of a Top Ten wiki. They were presented with the challenge of researching and publishing the class' own top ten list of animals onto a wiki. I told them that we would be using criteria, just like the authors in *The Deadliest Predators on Land*, to rank our animals and that

our readers could agree or disagree just like we did. They viewed a quality example of the work they would be producing, which was an animal profile page about one of the deadliest predators on land, complete with information about the animal's habitat, diet, behavior, life cycle and interesting fast facts. The page also included images, resources cited, and definitions of some key vocabulary found in the text. They were also shown the scoring rubric for their product.

We were just beginning a unit in science on the ocean ecosystems, so I selected ocean animals as our topic. I presented to the students a list of top 10 categories such as the most intelligent ocean animals, the most talented ocean animals, or the most unique ocean animals and asked them vote for their favorite. After tallying up the votes, there was a tie between 2 Top 10 categories; the most amazing ocean animals and the most dangerous ocean animals. The class decided to do both. I facilitated as the students narrowed down a list of criteria by which they would select and rank the animals that they researched. I gave students time to peruse through books and websites in school and at home before deciding on the one animal that each of them would research.

Using a Foldable®, a 3-dimensional note-taking graphic organizer, each student researched an animal that fit the established criteria. I taught students how to research; modeling how to “read” the pictures, watch videos with a purpose in mind, read hyperlinked text and then how to organize the information into a logical category on the note-taking organizer. The library media specialist and computer teacher taught the students how to search for media center and Internet sources, how to use key words for searching, how to choose different search engines, how to examine websites for validity, and how to cite print and non print sources. As they researched, they were to pay particular attention to information that supported the criteria we had established for what makes an animal amazing or dangerous.

After students completed their research they each wrote an expository piece in Microsoft Word. I created a template in Word and the wiki with the required sections. The templates included the categories the students had been researching, the animal name, the scientific name, food chain, diet, behavior, life cycle, physical features, the expert says or fast facts, vocabulary definitions, and resources. This was modeled after the text features found in *The 10* books. After copying and pasting their Word documents into the wiki template, students were taught the ethical use of images.

Students who had researched the same animal worked collaboratively to

compile their pages into one cohesive piece. Students read each other's pieces, giving each other feedback to aid in revisions. The library media specialist worked with small groups of students, helping them with the final editing of their pages. Students who were first to finish their page were given choices such as creating a **Voki zoologist** and/or a profile in **MyAnimalSpace**.

When all of the animal pages were completed, I printed them out to distribute to the students. Just like we had done for the deadliest predators on land, teams of students read their classmate's articles with the purpose of finding evidence to support the criteria we had established before we began our research. Each team was given the task of coming up with a rank based on the textual evidence. The intent of this activity was that the class would be able to use the facts to objectively reach a consensus on a ranking for each animal. Those rankings would be added to the animal pages on the wiki. I assumed that the teams would all come up with very similar rankings and reaching a whole group consensus would be effortless! However, this activity did not produce the results I had hoped for. Even though we had spent time learning about opinions and the need for facts to validate opinions, students still ranked according to their background knowledge about the animals. They disregarded the lack of textual evidence, using instead their preconceived ideas about which animals they thought were more dangerous or amazing. Many could not get past their partiality toward the animal they had spent researching.

I returned the rankings to the teams and presented the problem to the class. I was honest with them and told them what the intention of the team ranking activity had been and what the results were. "I don't know what to do!" I confessed. "How could it be that each team came up with such different results?" After much discussion, my students reached the conclusion that people were using their own background knowledge to fill in for the missing information on the wiki. "It was hard to find the evidence for some of the criteria in the articles" they said "So people just thought about what they already knew." As a class, we decided that if people wanted their animals to be high up in the ranking, we needed to give ourselves time to go back to our articles and add evidence. Then we would re-rank the animals. One of my students suggested that people should not be ranking their own animal. "If you have a most amazing animal, you should rank the most dangerous animals and the most dangerous animal people should rank the most amazing", he said. "That way you can't show favoritism." The rest of the class agreed. Our discussion ended with a plan. We would re-rank the

animals but only after the authors were given sufficient time to “fix” their articles. Then two committees of interested “rankers” would rank the articles again, this time carefully attending to the factual evidence. This “lesson gone bad” actually turned out to be the most powerful learning activity in this unit. My students were encountering bias right here in the classroom through an authentic experience. The concept of author's purpose, author's opinion, and evidence to support that opinion was much more meaningful than if I had given them open-ended CMT type questions to respond to. This experience gave them something concrete that they could connect to and remember in the future.

Additional literacy activities during this unit included writing animal haikus which we published on the wiki, the reading of legends and fables about the animals being studied, discussing the legends on a wiki discussion tab (<http://wikitalks.sblc.wikispaces.net/>) with another 4<sup>th</sup> grade class, and the painting of a beautiful mural of the ocean biome complete with information cards the students composed in Microsoft Word.

I believe that sense of a real audience motivated my students to take their pieces seriously and to put more effort into their work. To help my students conceptualize the broad audience of the Internet, I embedded a Clustrmap, a widget that shows hits to a website and where those hits are coming from, on the Top Ten wiki. Pride and amazement came over my students' faces when they realized that people from China, Brazil, New Zealand, and all over the United States were reading their articles. It became a routine for students to check the Clustrmap to see who had been visiting. One day my students discovered that their wiki came up near the top on a Google search! As big Google users themselves, seeing that hit gave their wiki professional status. The wiki was also shared with the school, the community and families through posters, newsletters, and a presentation to the Board of Education. My students produced two video advertisements for our school morning news broadcasts, persuading the audience to “Cast their vote!” on the Top Ten interactive poll widget embedded on the wiki. The ever-growing poll results provided students with more data that people from all over were viewing their wiki.

The impact this project had on my students' learning was much more than I expected. I watched my students become media literate as they functioned in an online collaborative, research-based environment - researching, analyzing, synthesizing, critiquing, evaluating and creating new knowledge. They learned how to research and write print and multimedia texts, locate and cite text and web

resources, and discuss texts and issues in real time and in online discussion forums. When my students first came to me in the fall, their idea of using a computer was for games or a few knew how to do a PowerPoint slideshow. If I gave them computer free time, they would most likely look for a game to play. Today, my students independently choose to use the computers for research, for creating their own wikis, for creating Vokis and multimedia widgets, and for discussion or giving feedback to one another on a wiki. One group of students decided to create the Top 10 Deadliest Machines to add to the Top 10 wiki and another student checked out several of the Top Ten book titles from the library, inspiring him to create his own wiki about the universe. A pair of students created an **Our Origins** wiki for the class to share research about their heritage and another pair developed a Harry Potter wiki. In addition to improving their 21<sup>st</sup> century skills, my students' "old literacy" skills have improved. Benchmark and formative assessments showed growth in the following areas: Analyzing author's purpose, distinguishing between fact and opinion, supporting conclusions and opinions with evidence, and reading and writing non-fiction text.

Next year I plan to do the project again with my students, using what I learned this year to improve it. I've posted lessons and assessments so that the other teachers in can use the ideas. I plan to implement additional wiki projects next year, an integrated Language Arts/Social Studies service learning project hosted by EASTCONN entitled *Connecticut: The Contribution State* and an integrated Language Arts/Science project called *Connecticut Rocks*. I also want to explore the possibilities of collaborations with global classrooms and partnerships with local organizations such as the Connecticut Science Center and the 4H Cooperative Extension System.

## References

<http://connecticut.sblc.wikispaces.net> **Connecticut: The Contribution State** is a password protected, moderated environment for Connecticut students. Through collaborative online and classroom learning activities, students explore the essential questions, "*How have contributions of others in the past effected my life today? What is a community? What are our responsibilities as citizens in the community? "*



The Definition of 21st Century Literacies, Adopted by the NCTE Executive Committee, 2008

<http://top10.sblc.wikispaces.net> **The Top Ten** unit with lessons, assessments, and examples of student work, is available on the For Teachers page in the **Top 10** wiki. This unit is aligned to the Connecticut Language Arts Framework, the AASL for the 21st Century Learner Standards, and the NETS