Elizabeth Maccani's TechQuest:
Applying Technology to a Problem of Practice in Education:
Integrating a SMARTBoard, Notebook Software, Power Point, and Blogging to
Enhance Reading Comprehension

The Problem of Practice: A Need or an Opportunity
What is the important educational need that you are seeking to address?

I feel that I can improve my teaching through implementing technology to increase students reading comprehension skills. I have struggled with creating exciting, concrete, and successful ways of teaching reading comprehension. In the past, I have explained to students verbally what it means to summarize. I have explained that when we summarize we put the story in our words as we focus in on the main idea and key factors of the text. Then we have tried to orally summarize different stories based on my very vague explanation and unclear expectations. Students need to have more direct instruction and be given tools so they can understand reading passages and enjoy the adventures that reading can take them on! Students need concrete examples, rules, and models to follow. Breaking down the reading strategies, making them manageable and understandable, and formulating a process for the students will make a huge difference their ability to meet expectations.

Through the use of technology and effective instructional strategies, students will gain confidence in their reading comprehension skills, learn to use tools that can aide them in reading comprehension, and improve their ability to understand and explain reading passages. Students will be able to carry these skills with them in all subject areas and throughout their school years. Being able to comprehend what one reads is an extremely valuable life skill. Having the ability to analyze and evaluate information is a skill that is necessary in all aspects of education and in the work place. There are five different reading strategies that we focus on when using the Houghton Mifflin curriculum. The strategies are: Monitoring, Questioning, Previewing, Summarizing, and Evaluating. All of these strategies aide in reading comprehension and all of these strategies need to be addressed explicitly and consistently throughout the school year.

SMARTBoard: Using a SMARTBoard to display articles, stories, presentations, word documents, and lesson plans provides the opportunity to explicitly teach strategies to the whole class while creating and promoting active participation from students. Students will have visual representation of the strategies being taught as well as the opportunity to practice the skills in a guided and comfortable environment. Incorporating SMARTBoard Notebook Software allows me to create and download lessons that are tailored to each reading strategy. The Notebook software makes it possible for us to highlight, circle, underline, and edit text while learning and practicing our reading comprehension skills.

Power Point: Creating and using presentations makes a huge impact on the effectiveness of my instruction. Power Point makes it possible for me to create organized, appealing, and interactive lessons. I use visuals, concrete examples, sound effects, and audio/movie clips to enhance the presentations and create excitement. Students are immediately engaged and interested in the task at hand and at the same time learning a great deal through my direct instruction. Students are eager to participate to share their ideas and to practice the new concepts being taught.

Blogging: Using blogging as a form of communicating with the teacher and classmates creates a buzz of excitement, promotes interaction, and incorporates technology. Students blogged about the meaning of summarization, posted summaries of their own, voted, shared their ideas, and practiced summarizing skills. Students also practiced their typing skills and navigation skills of our class website. My students are always eager to blog. They enjoy having their voices heard and they feel comfortable sharing their ideas when they have time to process their thoughts and explain it in a way that makes sense.

Resources and Research: I used the Houghton Mifflin series to help guide my instruction, my choice of reading selections, and my pacing throughout the school year. I used *Robert Marzano's Instructional Strategies That Work*, specifically his *Putting the Pieces Together and Technology that Supports Instructional Strategies*. I used SMART Notebook resources for lesson plans. I referred to the website from Jordan School District called: *Transforming Teaching Through Technology* and its based on *Research-Based Strategies for Increasing Student Achievement* by Robert J. Marzano, Debra J. Pickering, Jane E. Pollock.

Portion implemented during CEP 812: Addressing all five reading strategies will take a tremendous amount of time, energy, and planning. To ensure that I would create a very in-depth plan that would produce results, I focused on one strategy during CEP 812. I focused on the summarizing strategy because it is a very important strategy students will use in all subject areas. Summarizing helps students grasp the main idea, identify the key elements of the story, and explain the content in their own words. This strategy is difficult to teach, but by using the technology integration, the students and teacher have already started to feel more successful.

Portion implemented after CEP 812: I will continue to create lesson plans for the other four reading strategies: monitoring, evaluating, previewing, and questioning. My goal is to make each of these reading strategies accessible to students through concrete examples, rules, and processes to make mastering the skill seem attainable. I will continue to incorporate the use of technology as it makes a huge difference in students' interest and success. I will continue to implement my plans into my daily curriculum and reflect on my instructional practices and make adjustments and improvements where necessary. I would also like to start blogging about my implementation of reading strategies and

share the challenges and successes that I am experiencing in the classroom. I think there would definitely be teachers who share my concerns and frustrations when teaching reading strategies, so sharing my experiences will hopefully generate discussions on helpful ways to improve my teaching techniques.

How would you know you were successful?

Half the battle of teaching reading strategies is capturing students' interest. Reading strategies have always been an abstract idea that students find difficult and frustrating. Before implementing my TechQuest, students' eyes would glaze over at the mention of practicing a reading strategy. It was not something they found exciting or interesting and they didn't understand the purpose or process linked to the reading strategies. After taking the time to transform the reading strategies, specifically comprehension, into something concrete, the changes in students' outlook towards it were dramatic. I actually had students asking, *"Are we going to practice summarizing with you today?"* or *"I really like using the summary rules. It makes it so much easier."* Students felt empowered with the tools that I gave them to conquer the summarizing strategy. Students were active participants in learning how to summarize and their curiosity, participation, and excitement were proof of the success of the TechQuest integration. After implementing the TechQuest, <u>every single one of my students</u> was able to write summaries in their own words that incorporated the main ideas of the articles and stories. They all felt confident in their abilities and felt that they had a specific task to complete instead of an abstract, confusing assignment. Evaluating the summaries that the students produced after the implementation, compared to previous summaries, was remarkable. The quality had improved dramatically and I know that it will only continue to improve as we continue with this process.

The Setting

Teacher: Direct instruction is a very effective teaching strategy that includes explicit instruction, modeling, and student involvement. Using concrete and specific strategies helps students grasp reading comprehension skills. Incorporating the use of the SMARTBoard and Power Point in my instruction aides in explaining, presenting, and modeling the information to my students. Transitioning to more guided and independent practice after modeling will give the students the opportunity to practice the skills and become more knowledgeable with the concepts.

Learner: The students will be learning through my direct instruction and modeling. They will also be learning through guided instruction, group work, hands on approach, and independent work. As the students become more familiar with the strategy, they will be given more opportunities to work in small groups and independently so they can showcase their understanding and ability to apply the strategies that are taught.

Subject Matter: The subject being addressed is reading comprehension, specifically the five reading strategies used in the Houghton Mifflin curriculum. The strategies are: Monitoring, Questioning, Previewing, Summarizing, and Evaluating. Reading comprehension is a skill that students need to master so that they can be successful in all subject areas. Students will use comprehension skills throughout their education and in their daily lives.

Setting: The learning will take place in my third grade classroom and the computer lab. Students will be working in a very safe and comfortable environment where they can work together, ask questions, and take risks.

Technology-Integrated Solution
Brief Summary:

The technology integration that I implemented incorporated using a SMARTBoard along with Notebook Software, Power Point presentations, Internet use, and blogging. Using a SMARTBoard made it possible for me to display articles, stories, word documents, and summary tools to the entire class. During my direct instruction, I could refer to the document or presentation on the SMARTBoard and it allowed me to present multiple pages of information that I had prepared with the touch of a button. The SMARTBoard made my instruction interactive as students practiced strategies that we were learning by directly manipulating the information on the SMARTBoard. Presenting Power Points to the students to deliver information made it easy for me to model, use visuals, create excitement, and add elements of students' interaction. Using the Internet and our class blog made it possible for all of us to share our summaries and thoughts instantly with one another. Students were given a voice and an important role in the success of implementing summarizing strategies.

Rationale:

My solution for teaching reading strategies has definitely made a change with a difference. Before this project, my strategy for teaching reading strategies involved quick, oral explanations with vague examples. I didn't have any concrete teaching practices in place and usually skimmed over the strategies while expecting students to comprehend the text. Now, I have started to create effective, thorough lesson plans that are specifically planned to address the educational need. I have specific summarizing strategies and tools to teach the students including summarizing rules and summary frames. I have started to take an active role in explicitly teaching summarizing using technology to aid in presenting my ideas to my students. I have goals and a concrete process for students to follow and none of that was in place before I started this project.

Logistics of solution:

I wanted to be consistent with my implementation of technology and to follow the same process when teaching the different reading strategies. The overall steps used in the lessons are as follows:
- Display a story, article, Power Point, or tool to the class using the SMARTBoard
- Use direct instruction and modeling to teach the strategy while referring to the information being presented to the students
- Incorporate students' active participation by
- Use guided practice involving students using the Notebook Software
- Use independent practice for students to practice and share their use of the reading strategies and tools
- Blog to communicate understanding, ask questions, share learning experiences

Implementation Journal

Surprises:
 I was pleasantly surprised with the students' background knowledge about summarizing. We have been working on summarizing throughout the year and I was happy to hear that they retained the information we had learned so far. Students were able to explain the meaning of summarization and seemed to have a strong understanding of the purpose of summarizing. Some of their blog responses to summarizing included:
"I think summarizing is telling the important stuff from a story or an article in your own words."

"I think that summarizing is telling the most important parts of a book, movie, etc."

"You have to know the story well and tell a short version of it that makes sense and can be understood by anyone, even if they have not read the book or seen the movie."

"I think summarizing is telling the about the book, movie etc. in your own words and putting in the main characters, main idea and things like that."

"I agree with all of you that in summarizing you tell the most important parts of the story, the main idea, the main character, the setting, the most important details and the problem and solution."

"A summary is when you make a shorter version of the story or description. You would still have to tell the main characters though. But you wouldn't tell small details that don't matter. You would just write the main things that happened."

I was also surprised with how much easier it was for me to teach summarizing when I had a very thorough plan of action. Having a concrete way to teach the

students was extremely helpful because I gave the students tools to use to complete a specific task instead of asking them to summarize without any direction or concrete expectations. It wasn't just trying to read the story and write a summary without anything to aid them. The summary rules and frames gave us a purpose and direction while we worked on summarizing. I felt that my teaching was sinking in and the students really felt successful. I had a room full of students with their hands raised that were hoping to get called on to practice using the summarizing rules. Students were in awe of how much easier summarizing was when they had specific things to look for in each paragraph and they loved having the opportunity to cross sentences out when it was unimportant information. I was surprised with the huge turn around in how my students felt about their ability to summarize. They seemed instantly confident and eager to have success with such a difficult concept.

Unexpected bumps in the road:
Overall, I feel that my technology integration has been very successful so far. Since I spent a great deal of time and effort planning the lessons, I also tried to predict problems that might arise when integrating technology and teaching new lessons. I checked that I had secured ample time in the computer lab, printed handouts/parts of presentations for students to refer to, and checked to make sure the SMARTBoard was working properly. I also made sure we had a strong Internet connection when using our class website to blog and I double-checked my Power Point presentations that all the interactive portions were working properly. I feel that these preventive steps made my lessons run smoothly and I experienced less problems and frustrations.

One bump in the road I experienced was forgetting to "lock" the article in place using the SMARTBoard software. Without locking the text, words can move around on the document instead of staying in place. A student came up to the SMARTBoard to underline important text and instead it made the words move on the page. I quickly corrected the problem by locking the text in place and the rest of the lesson ran smoothly.

Another bump in the road was that I didn't plan on the lessons taking as long as they did. I wanted to make sure that I presented the information in a coherent, thoughtful, and thorough way while incorporating students' interaction and participation. Lessons ran longer than I expected so I had to reevaluate how to break the lessons into more manageable sections for students to understand the information. I also had to schedule extra computer lab time so that all students could complete assignments. I also had a group of students who finished typing their summaries very quickly. I should have had a challenge or extension activity planned instead of having early finishers working on Type to Learn exercises every time.

Delights:
I was happy to see that all the students were engaged in the lessons and they were all eager to participate. The students were very excited to get the chance to come

up to the SMARTBoard to use one of the Summary Rules or Summary Frames we were practicing. I was happy to see that the students were helping one another and supporting each other through the process. If a student crossed something off that other students didn't agree with, they discussed it and made the appropriate changes. The students really enjoyed using the summarizing strategies that I introduced and they commented that it made summarizing easier. I couldn't believe how many hands were waving in the air to work on summarizing; when it was usually something the students dreaded doing.

Another delight came after guided practice with using the summary rules. I posed a challenge to the students. I told them that they were going to write a summary about "On Shaky Ground" and post it on our class blog. I told the students that we would vote on who came up with the best summary and the winner would win a prize. I reminded the students that making a LONG summary did not make it the BEST summary. The students were thrilled to post their summaries on our class blog! They didn't complain about writing a summary, instead they all got right to work! They couldn't wait to write the summary after we had practiced using the summary rules. It was great to see students have success with summarizing instead of struggling through the lesson. I was also delighted to see that every single one of my students felt confident writing a summary. They all completed the assignment and the students only had a few questions or clarifications to ask me. The students responded really well to having a concrete way of working on summarizing. It didn't seem so hard or abstract to them. All 20 of the summaries show that they all used their own words to explain the article and they all understood the main parts and main idea of the article. I'm delighted that I gave them the necessary tools to feel confident in writing summaries. The winner posted this summary to our blog: *"Polar bear's homes are in danger in Alaska. Unluckly polar bears may get endanger. Officials are planning to make a protected habitat. 25,000 Artic polar bears live on this planet, and 3,500 of them live in Alaska. Polar bears in Alaska face danger. Oil spills could hurt these animals. Global Warming could kill animals!"*

We read aloud the article, "On Shaky Ground" as it was projected on the SMARTBoard. We used the Summarizing Rules to help us summarize the article. The following three screenshots show our implementation of the summarizing rules.

Rule Based Summarizing: Rule #1: Use the ~~**Single Strike Out**~~ to take out material that is not important for your understanding. Rule #2: Use the ~~**Double Strike Out**~~ to take out words that repeat information. Rule #3: Replace lists of things with one word that *describes* the things in the list. *(Example: replace 'apples, oranges, lemons, and limes' with 'fruit')* Highlight these words in red. Rule #4: <u>Find the topic sentence,</u> and change the word color to <mark style="background:green">green.</mark> If you can't find the topic sentence, make one up and change the color to <mark style="background:green">green.</mark>

On Shaky Ground

Polar bears ~~are on thin ice.~~ Their home in Alaska is in trouble. The animals could become endangered. ~~That means to be at risk of dying out completely.~~

~~To help the big bears, some~~ U.S. officials want ~~to set aside more than 200,000 square miles in Alaska.~~ ~~The area would be~~ a protected habitat. ~~It would have special rules to help keep the polar bears safe.~~

~~About 3,500 polar bears live in northern Alaska.~~ That area is part of the Arctic. ~~The Arctic is the northernmost place in the world.~~ About 25,000 polar bears live there.

~~Some people are worried that the number could fall, though.~~ Alaska's polar bears face dangers in their home. Some companies drill for oil off the state's coast. ~~People use oil to heat their homes.~~ However, an oil spill could hurt the animals, ~~some experts warn.~~
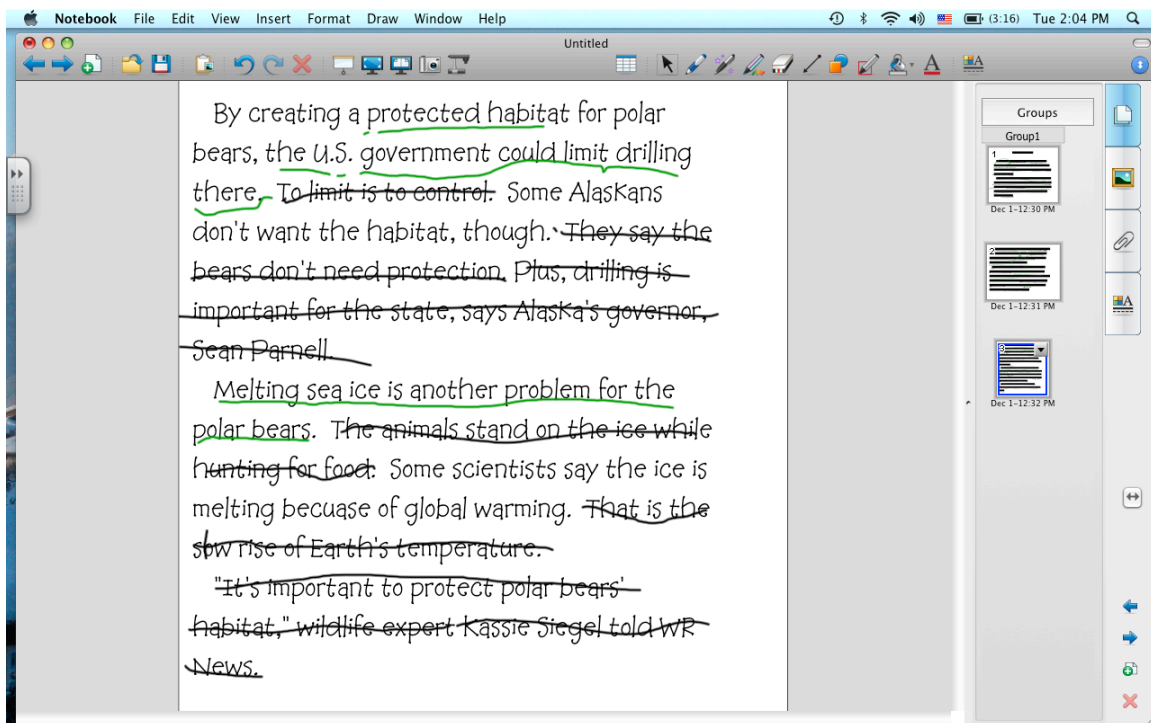
After using the summarizing rules, the students independently wrote summaries of the article and posted it on our class blog. The following link will show you the students' blog postings. (The password is: 3rdgrade)
http://teacherweb.com/blog/CA/Webster/Maccani/1/loginppp.aspx
Click on the post titled: **"On Shaky Ground" Summary**

Findings:
Formative: Did the project get implemented as planned?

For the most part, my project was implemented according to what I had planned. When I first started planning, I was overwhelmed but excited about all the technologies that I could incorporate into teaching reading strategies. I wanted to use a plethora of technologies to enhance the lessons and I found that to be a very daunting task. As I continued to plan the most effective ways of teaching summarizing to my students, I was naturally drawn to the technologies that fit with my educational goals. I found that I was first addressing the educational need and then tailoring that to the technology that would be most effective to implement my ideas. I was excited to reach this milestone in my teaching with technology, because in the past it has been difficult not to focus on the technology and I would lose focus on the educational standards that needed to be met. I found that using the SMARTBoard with the Notebook Software, Power Point, and Blogging to be my best resources to get my plan off the ground. My lesson plans and presentations were implemented into the classroom in the way that I envisioned it and in some ways it exceeded my expectations. As I continue to improve my lessons and incorporate more reading strategies, I predict that I will incorporate other technologies that I have not implemented yet.

The evidence of success that I have seen has been in the form of observing the students and assessing their work. My students have drastically changed their attitude towards working on summarizing strategies. They are not discouraged and frustrated but instead eager to use the tools that were thoroughly explained and modeled to them. Students don't see it as an abstract task anymore; they see it as a process with well defined expectations. Students have been active participants through answering questions, working together, applying the tools, and sharing their ideas. I also saw major success in the students' improvements in independently writing summaries. ALL of my students were able to write summaries that included the main aspects of the text while using their own words and not adding too much detail. They all have room for improvement but they have dramatically improved their ability to summarize in a short period of time.

Implications:
How would you approach another project of this type differently given what you've learned here?

I really enjoyed planning and implementing this project even though I found it to be a huge and overwhelming undertaking. I am definitely proud of myself for choosing an area of weakness in my teaching to focus on and that I really dove in to improving my teaching techniques while incorporating new technology into my instruction. I would approach a similar project with the same intensity and interest but I would change my research techniques and planning format. I feel that I have improvement my Internet searching skills but I know there is room for improvement. I need to work on my organization skills for the material that I find and I would benefit from subscribing to a couple of educational journals. I also want to use the library as a resource so that I can be more thorough in my research findings. As for my planning format, I would form a focus group at school with colleagues that share the same passion for improving their teaching with technology. Learning and collaborating with others is extremely helpful and a huge advantage when taking on in-depth projects.

What are the lessons learned that others might benefit from knowing about?

The endless possibilities and resources available can be intimidating and overwhelming. It is important to remember that teaching with technology is going to be a continuing learning process. Technology integration has its errors and frustrations but as educators we have to remember to be patient. We also have to commit ourselves to taking the time to practice with the technology. The more we "play" with technology, take risks, and implement new ideas, the more success we will have and the more effective we will be in teaching this generation of students.

In what ways will you endeavor to do the same project again, and what will you change or not do?

I would like to use my SMARTBoard and Notebook Software on a more consistent basis in all curricular areas. I also want to create more Power Point presentations for Science and Social Studies lessons as well as more opportunities for students to blog. There are so many resources and endless possibilities for improving all areas of my teaching with well thought out technology based integration usage. I can use the information I learned through this project to guide me in implementing new lesson plans into my teaching.

One improvement that I would make would be to create rubrics and a more formal assessment for this project. Giving students a rubric to follow will aid them in what is expected of them and it is a concrete way to show students what you are looking for in the assignment. Giving students more formal feedback will help students see the areas they need to improve on and it will show their growth over time.

Biography

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