Ashley Keine

Phase I- DREAMIT Project Proposal

I teach in a second grade self-contained classroom at Shoesmith Elementary on the south side of Chicago with an average of 30 students. I have a variety of learners from race, ethnicity, language, social-economic status, and academic levels. I will have the resource of having another adult in the room, as I will be a mentor teacher to a Michigan State intern again this year. Also, I have a variety of technologies available to my students and me that include a Smartboard, six iPads, and a computer lab.

The time allotted for science is based off the Illinois standards for minimum instructional time of 90 minutes per week. In the past, my teaching partner and I have alternated science and social studies times where we would teach science Mondays, Wednesdays, Fridays and social studies Tuesdays and Thursdays. This schedule didn't allow students to develop deep understanding of content or build understanding from day to day. Therefore the past two years, I have integrated science into our literacy block as much as possible using informational texts about science content to teach literacy reading and writing skills. We also decided to create 2-3 week units for science and social studies, devoting grouped weeks entirely to one subject. This scheduling has worked a lot better for our students and we will continue with it this year.

When being accepted into this program, I was very excited to learn more about technology and how I can use it in my classroom. I quickly learned that this experience was going to be so much more than just technology implementation. It is going to be a year that pushes me to develop a whole new approach to my teaching and help support all the great pedagogy that is already present in my classroom. I am very reflective in my practice and as I look back on the first five years of my teaching career, I have identified that my science instruction tends to be put to the waste side because of factors such as prep, time, and the lack of resources. When I identify a weakness in my practice, the best way for me to gain confidence in that area is to engulf myself into that practice. With that being said, I chose my big idea of, *Science is everything; everything is science*, to help boost the presence of science in every part of our day. This big idea will help hold myself accountable to science instruction that I believe is an essential part of my students growth. I see the greatest benefit with this big idea for not only my students but also for my professional goal of being a life-long learner.

I take pride in being a teacher that uses project-base learning, real-world implementation, and high cross-curricular teaching and learning. My big idea will quickly become my student's big idea. My classroom runs best when my students take ownership of their own learning. Therefore, this big idea will help my students see science explanations for daily phenomenon in their lives. Also, science content, whether is be weather, states of matter, the solar system for example, will be infiltrated into other core content lessons. Students will be reading about science, writing about science, and applying mathematic strategies to science content. Most importantly, this big idea will help make meaningful connections to my students by demonstrating that science is all around them.

Since choosing this big idea, I have explored several avenues that will help support the teaching and learning that will be created around this concept. First, my iImage contains everyday pictures and scenes. My question simply asks, "How many examples of science do you see?" My iImage includes examples labeled within the picture, however I plan to use this idea frequently in my daily instruction. Having younger students, they tend to be visual learners. To support that learning strength, I will visually show images of situations that my students could experience in their life and propose a variety of questions including, "How does this image support what we are learning about in science?," "What examples of science do you see in this image?," "What connections do you have to this image and your own life and where does science

fit into it?" Even with a simple image, students can have rich discussion, infer what is happening or why something is happening, and make meaningful connections that will help anchor their understanding of the concept.

Another idea of exploration is my Explain It To Me video. I designed my video to be a preview into our science instruction for the year. I created a perspective video that was designed to show everyday science occurrences in my students' lives. The video promotes curiosity and questioning about why things happen around us. This idea is something I would like to do with my students and would be a great implementation of technology. With my students being younger, a lot of scaffolding will have to take place at the beginning of the year with recording technologies, but after my students feel comfortable with the tools, the possibilities are endless! I envision my students creating short video clips of something that occurs in their life about the science topic we are learning in class. Students can briefly give an explanation for their example. This idea really brings the content to life and again will help make meaning connections.

Lastly, I have been looking at what works really well in my classroom and where science can be seamlessly implemented. I have targeted two areas during my daily schedule to implement science content a part from our blocked science investigation time; morning meeting and my literacy block. These are two elements in my day that happen regardless of the circumstances and therefore I have targeted these to ensure that science is present every day in my classroom. I researched professional texts that will help support my idea and came across two that I have recently purchased and already used in my preliminary planning. The first is, Doing Science in Morning Meeting by Lara Webb and Margaret Berry Wilson. This text provides great activities to implement into our morning meeting that help connect to science content. The other text is, Picture Perfect Science Lessons by Emily Morgan and Karen Ansberry. This text provides science lessons that can be supported by well-known pictures books. This will be a great resource when integrating science concepts into my literacy block.

Within my classroom I use a wide variety of authentic assessments and opportunities for my students to demonstrate their understanding. These assessments help bridge the classroom to the real world, allows students to continue to question and are unique enough that my students do not encounter paper and pencil tests to show their mastery. I have provided a separate document that gives you some insight into what these performances of understandings look like in my class and how I would like to implement them to create more authentic learning around our science content. This document can be found at: http://bit.ly/UEeFCi.

Other examples that will bring my big idea to life in my classroom through our units of study are:

Technology	Pedagogy	Content Knowledge
Digital maps, Smartboard	Project-based learning	Weather vocabulary, weather patterns, weather conditions
Recycling center machinery	Group field trip (collaborative learning)	The process of recycling
Video clips	Discussion/debate (small group or whole class)	Argument/ opinion speaking about various science topics- students using facts learned in science units to support their claim
Video recording and/or pictures on	Individual exploration project around community	Real-world examples of states of matter

camera/Flipcam/iPads		
Computer lab, videos, digital text	Research presentations (peer lecture based instruction)	Careers in Science
Digital graph paper	Individual exploration/ independent study	Applying perimeter and area by creating feasible animal captivity spaces based on animal needs
Video-pictures- voice recording: camera/Flipcam/iPads	Discovery learning / debate	Cause and effect of insects on our environment (positive and negative) persuasive writing/speech
Draw/paint software	Service learning	Community gardening
Blog	Writer's workshop/ peer editing	Real-world science examples and explanations (found in the news, articles, or newspaper)

- **Meteorology reports for our weather unit**- Students will develop a weather map on the iPad using weather terms and patters. They will present the weather map on the Smartboard as if they were a meteorologist doing a weather report on the news with a green screen. Students will take turns video taping their classmates during each news report and we will put together a full movie of all the clips.
- **The science behind recycling-** we will visit a recycling plant that allows students to see the machinery behind recycling.
- **Science discussion that have an argumentative side**- short video clips will be shown on the smartboard introducing various topics that are related to our science unit. An open-ended question will be posed that then will be discussed linking science content that students will use to support their claims.
- **Exploring states of matter in our community**- students will use devices such as camera, camera phone, Flipcam or iPads to create either a picture slideshow or video of states of matter
- **Science careers**- students will do research in the computer lab about a career of their choice that they are interested in learning more about that incorporates STEM.
- **Animal habitats converted into zoo captivity spaces-** students will use virtual graph paper on tablets and computers to design their captivity space for their animals
- **The effects (positive and negative) insects have on our lives**- students will capture through picture and video of these effects in our school garden. They will take it to the next level by writing a persuasive speech and creating a debate among their classmates to defend their position.
- **Community service project around gardening during our plant unit.-** students will design informational signs for our community garden that explain the types of plants, the care needed, and the parts of each plant.
- **Real-World scavenger hunt for science examples and explanations-** students will have the opportunity to contribute to a class blog by posting about something they heard on the news, read in a news paper, or experienced in real life that are examples of science.

Through the explorations, authentic performances of understanding and the careful planning of integration of science content into units of study listed above, I strongly believe that my students will explore, create and share the big idea of, *science is everything; everything is science.*