Team Final Report on Teacher and Student Learning Entergy Team

2015 Course: EDU525 - Attention & Intention: Empowering Learners

SUNY Oswego faculty member: Sue Witmer

Teacher/School: Leighton Elem

SUNY Oswego faculty member: Dan Wood/Josh Russell

Teacher Participant Names: Paula McKenney-Myers PS

Please answer the following questions:

Please update us on any changes you made to your team action plan:

I found that I was able to use the computer technology with grades 4-6 in a project format. Grades k-2 were able to use the ipads on a rotation basis for about 5 minutes at a time. At grades 2-4, students were also able to change sounds using XPand, Vacuum, and Boom in Protools. For grades PK-1, we used the teacher workstation for class recordings and sound manipulation. Grade 3 was able to use the computer technology on a rotational basis for about 15 minutes. Music programs on the ipad included Treble Cat, Launch Pad, Garage Band, Music Trainer, Music Sparkle, Rhythm Trainer. ProTools was used on the computers. Sound system was used in class for singing activities and at school performances.

Analysis of Data on Teacher Learning: We examined our reflections on the 6 shifts, and CCLS and found the following: (Support each claim with examples/evidence)

Shift 2- knowledge in the disciplines- I addressed this ELA shift. During a unit on cultural music and jazz music, we used an online data base called World Book Kids to learn about the music of different countries. We also used Pebble Go and Brain Pop to learn about musical concepts. As the on screen text is read aloud, every word is highlighted. I questioned the students about what they read and heard.
Shift 3- Staircase of Complexity- I addressed this ELA shift. All grade levels read from age appropriate music textbooks as part of their musical study. Students also read from music in traditional and nontraditional notation.
Shift 4- Text Based Answers- I addressed this ELA shift. Any time we dealt with musical text, especially when we used the online data bases, I would ask questions about the text that we learned. Students would have to read the section to find the answers to my questions.
Shift 6- Academic Vocabulary- Students were always learning new vocabulary words in music class. I have words posted on every wall of the room. Every grade level learns about tempo, rhythm, dynamics, etc. All the basic musical elements. We revisit these terms throughout the course of their musical studies all the way up to graduation.

I did not address any of the shifts in Math.

More information available in my teacher journal.

Analysis of Data on Student Learning: We examined usability at different grade levels and found the following: (Give examples/evidence for each claim).
The students were very receptive to the use of technology (computers, keyboards, ipads). Meeting with students once every 4 days made things a bit difficult when working on projects. The students remembered where they were upon returning but it made the projects last for a very long time. They seemed to enjoy the projects. The 5th graders made songs on a cd as a Christmas gift so they were motivated to finish by the deadline. The 6th graders did the sound story project. They weren't in a hurry to finish and they seemed very content with their work on the project. The 4th graders didn't work on a project. They just played with the software for a few classes and that was good for their level.
Anchor breathing was used in general music and chorus. I found positive results in all applications. I especially liked the results in chorus class. The breathing exercises were fully accepted by the students.

More information available in my data analysis.

Myers Journal 2014-15

New initiatives:

1- Bulletin board for chorus news
2- Bulletin board for music class- have some activities on their for kids in the hall
3- Put up keyboard songs in the hallway for kids to take home
4- Remind- using this website as a messager for chorus parents, great communication tool
5- Exit ticket- pop sticks with rhythms on them. Clap a rhythm and if the kids have that pop stick, they line up
6- Put colored tape and instrument pictures on the floor where kids should sit. They learn instrument names and families.
7- I have the monthly agenda for grade levels K-3 and 5. I incorporate any ideas I can from them into my lessons.
8- My lesson plans are on sticky notes. I attach the sticky to the seating chart of the class I'm teaching.
9- My teacher page will be linked with other teacher's pages so parents have information about music class
10- On my teacher page- feature a music listening section to let parents know what songs are trending in each grade level
11- Visual schedule
12- Visual cue cards for listen, sit down, raise hand, quiet
13- Anchor breath and stop sign- when class gets too excited, hold up the stop sign as a cue for the anchor breath

9/2014 5th grade, started bag project. 5th grade, students compose a song using the notes g, a, b. Students learn to read notation and rhythms in music. They record it on the computer. Each student gets a cd and a bag to decorate and give as a gift.

10/1/14 Introduce anchor breath and stop sign to all choirs this week. Helps to refocus without me yelling at them.

10/2014 recording using protocols. Projects going well. Using a PT template really helps. Students are able to get started right away on their recordings.

10/22/14 get help for Baroody (Moreau) Jackson Wallace. Try having an ipad with his favorite songs on it so he can listen to it during transitions or just coming into the room. Cadance- give her jobs if she can follow directions. Teach them anchor breath to see if that helps.

10/23/14 Get help for Mills class (inclusion kindergarten). They can't remember their assigned spots so I now have each section color coded. I can at least have the kids sitting in the correct colored section.

Trying the anchor breath at grades 2, 3, 4, and part of 5 today (Hartmann). Worked very well to get them refocused.

PBIS day 2014 Had 2 groups of 6-10 students. Offered keyboard playing, ProTools recording, and ipad apps (Garage Band and Launch Pad). Many wanted to play keyboards. Had mics at each workstation. Allowed students to play with the audio suite apps in protools. This was a big hit. Josh Russell was on site to help with support.

December 2013 Finish BAG project (composition). The project went well but the students took a very long time on it. CD distribution went smoothly. The bags were decorated in one class. 2 out of the 3 classrooms brought a written element to put into the bag. I did not hear any feedback on the project from parents. Also, a student post evaluation form would be good to add. I obtained verbal feedback from them.

January 2014 Allowing free keyboarding time for grades 1-5. Working well. Showing grades 3-5 how to hook up headphones to keyboards. Raising awareness of how to do it, what to look for in splitters and adaptors. Grades 1-2 the keyboards are on and ready for them. When I turn off lights, students must line up at the door- a good signal for the end of

class. Starting classes with the artsfest sign song, moving to some kind of listening activity, ending up with keyboard playing. K are following the same format except that they are using percussion instruments or freeze dancing at the end. I call this the book break. We have been getting bogged down by book activities. Both myself and the kids were not enjoying music as much. I think a freestyle class every once in a while is good for all.

PBIS day 2015 Had 2 groups of 16 students. I started everyone on keyboards. As they got bored with that, I switched them to Protools to play with Xpand and Vacuum sounds and possibly record. There were a few that wanted an additional activity so I brought out ipads for Launch pad and Garage band. This worked well. Josh Russell came over to help out for both sessions (9:00-9:50, 9:55-10:45). Very positive.

January 2015- started sound story project with 6th graders. They really liked the concept and are excited about the project. Each group started with a template. Using templates allows me to eliminate part of the introductory material I teach when starting Protools. It allows the students to get into the project quicker and feel like they can use the program. There are some groups who are taking an extra long time to get their stories recorded so I had to sit with them to help. The groups of 2 and 3 worked well for the kids. They did not have the creativity when dealing with sound effects. Many didn't know where to begin when creating something from scratch. I showed an instructional sound effects video. This was helpful in getting them to think creatively about sound effects. This year went better than last. Need to create better tutorials for audio suite. Kids were guessing about which apps to use. Perhaps having a couple of days to play around with the apps to see what they do would be helpful to the kids.

April 2015- Projects were finished this month. Introduced audio suite and allowed the students several days to fine tune their sound effects. Not all students used audio suite on every sound effect as directed. Students completed a progress check where we listened to all projects and completed a written evaluation of each one. Responses were collated and distributed to each group. This really helped to focus each group on the completion of the project. Final presentations in most cases were different than the progress check presentation. Perhaps introducing the progress check earlier in the project would be helpful. Students rotated to each workstation to listen privately. I liked this method better.

May 2015- 2nd graders start out class on the keyboards. Upon entering, they choose their workspace and play for 5 minutes. At the lights off signal, they return to their assigned spots for some class work. After an activity or 2, students return to their workspace for 5 more minutes of keyboard time. Students love using the computers. I have xpand on one track. A few weeks later, vacuum is introduced. Then boom. They are very good at switching between the apps.

June 2015- PBIS day. Since all equipment is put away, I offer musical games to grades 1-3. The anchor breath is used as a transition between each activity.

All Year- mindfulness activity anchor breath… i found this really helpful. I would return to this activity any time the class got too noisy. It would work best when everyone was seated in their learning spots. This activity works best for grades K-4. I also do it with grades 5 & 6 but there are some boys in those groups that haven't bought into the idea of it. They will do it but not correctly causing humor instead of the desired affect. I will continue this for next year.

Paula McKenney-Myers (Frederick Leighton Elementary School)
Dan Wood (SUNY Oswego)
Recording Our Future program 2014-15

Projects were completed by 5th and 6th graders. Both groups have prior experience with the technology available in the music room. The 5th graders completed a composition project using ProTools. The 6th graders completed the sound story project (story set to music with sound effects).

Initial Survey:

1- Do you play a musical instrument?
2- Have you used any apps on an ipad or phone that are related to music?

Question 1:
Out of 40 6th graders, 23 play an instrument now. Another 5 used to play an instrument but quit. Out of 50 5th graders, half of them play an instrument now. Another 10 used to play an instrument but quit. In this school, I've found the younger kids more enthusiastic towards organized musical study. The older kids, while more capable, get involved in many activities outside of school. They often feel that they don't have the time or the desire to practice.

Question 2:
Out of 40 6th graders, about 35 have used music apps. Most use music players such as itunes. Less than 10 have used recording or music manipulation apps. Out of 50 5th graders, about 30 have used music apps. Most use music players such as itunes. Less than 10 have used recording or music manipulation apps. A very small number of students in both grades have the interest in creating their own music. They all like listening to music but very few were curious about how the music was created. Once the possibility was introduced to them, more students were interested.

Teacher Questions:

1- Were the students too young to work with this technology (computers, ProTools, ipads)?
2- Would the students be able to work independently in small groups once they knew the technology?
3- Would the students be able to complete extended projects while coming to music once per week?
4- What technology would be appropriate for each age level?

Question 1:
The students at both grades were introduced to the keyboards first. Students would work in teams of 2 to learn a keyboard song. Both grade levels handled the independent work well. They were able to use the equipment and stay focused on the task. 4th graders were also given a keyboard project but their time on task was limited. In grades k-3, keyboard time is given as a reward during the last 5-10 minutes of class starting in February. Keyboard time isn't given during every class, just once or twice per month. The primary grades time on task is definitely limited but they enjoy using the keyboards and can handle short amounts of unstructured time with the equipment. Ipads were tried with K-3. The classes are smaller so students were filtered through ipad workstations for 5 minutes each trying different apps. I feel that more preparation and app research needs to be done with these grade levels. Grade 4 ipad use was not attempted due to the large class sizes. The students can successfully use the workstation if ProTools is open with XPand (a virtual instrument program), with minimal explanation. Grades 1-6 interact very well with ProTools, XPand, Vacuum, and Boom. I was impressed at how well the 5th and 6th graders did with their recording projects. The 6th graders grasped the concept of sound editing with audio suite (a set of programs within ProTools) very well. Most of the 5th grade groups were able to successfully use the MIDI editor in ProTools- this is very advanced for them. All students could work with the technology but the level of involvement needed to be adjusted for each grade level.

Question 2:
The 5th and 6th graders were the most independent with the technology. They were able to complete their group work with minimal intervention from me. I had one 6th grader who showed aptitude and was assigned to do the final mixes on the projects with the assistance of Josh Russell. He was able to eventually work independently on that task. There were three other 6th graders who expressed an interest in working on their own song in a dubstep style. Once again, with the assistance of Josh Russell, they were able to learn some advanced techniques in sound manipulation and complete a composition in their free time on Friday afternoons. Grades 2-4 were able to stay on task much better this year as a result of having prior experience with the technology. All students at those grade levels were only allowed short exposures to the technology (10-15 minutes tops at one time). Some groups were able to work independently for 20-30 minutes. Others, required redirection after 10 minutes. The 1st grade and younger students did not use the technology this year.

Question 3:
I found that the students were able to remember their projects in 5th and 6th grades. The 5th and 6th graders entered class eager to get started on their projects. They remembered their workstation location and how to open their files. The 4th graders had a hard time remembering their workstation location and what song they were working on for their keyboard project. The 4th graders did not complete a computer project. After a month, the students would comment that they've

been working on a project for "a long time" but they've only had 4 classes with the project. I will continue to test projects for future use. Projects need to be kept small and manageable at this age level.

Question 4:
K-3 Keyboard use, ipad use, ProTools with Xpand. No projects. Either focus on one piece of technology in a class or have rotating centers.

4-6 Keyboard use, ipad use, ProTools. Projects are OK. ProTools with virtual instruments and the use of audio suite for sound editing.

Student Self Evaluation (6th grade):

1- Were you able to finish your project?
2- If you answered no, why didn't you finish?
3- What was the toughest part about this project?
4- What was your favorite part of this project?
5- Do you think others would like to do this project?

Question 1:
Most were able to finish their project. Only 3 were incomplete.

Question 2:
The incompletes were due to computer problems, lack of student focus, and too much testing of sound sources in sound effects. We lost the connection that makes the software run (hardware device) in 2 workstations causing the system to reboot. This would happen once or twice per class. We haven't located the source of the problem. There were some students who were so creative that they couldn't settle on one sound source for a given sound effect. They kept testing to improve what they had. There were a couple of groups that needed redirection. One partner would be focused and the other would be socializing with a neighbor for example. The focus problems were very few.

Question 3:
No one said that the software was difficult to use. Most said that creating the sound effects or background music was the tough part. There were 3 workstations with intermittent computer problems but those students did not feel that the problems made it difficult for them. Since we started out with a template, the students had very little to learn to get them started. This gave them the confidence to explore on their own and learn more.

Question 4:
Most really liked being able to use a microphone. They would have been happy to spend a class talking into the microphone and listening to the sounds of their voices. Once audio suite was introduced to them, they were very excited to play with the special effects. In the future, more preparation in audio suite and microphone use would go a long way with the students. They might remember what each effect does and possibly save time in the future. Students also enjoyed the sound editing when creating sound effects.

Question 5:
Most thought others would like this project. Some made suggestions like being able to use short stories instead of the poem. Perhaps if I could find some content that the kids would be able to connect to, they might be more successful.

Student Evaluation (5th grade):

1- Did you like using ProTools?
2- What was your favorite part of the project?
3- Do you think other students would enjoy doing this project?

Question 1:
Most students liked using ProTools. They liked the freedom of being able to create their own project and enjoyed all the sounds available to them. When I give students a keyboard song to play, usually a quarter of the students will ask if they can write their own. Since we started with a template, the students were able to start recording right away. The click track helped them stay in a steady tempo without getting distracted. I was impressed with how well they used the midi editor (advanced students). They liked being able to change missed notes and move notes to the beat to get everything perfect.

Question 2:
Just about all students enjoyed creating the freestyle section of their composition. They started out with 3 notes that they had to use for the main part of their composition. They used basic rhythms, wrote everything out on staff paper, and then played it into the computer. The freestyle part was a section of improvisation- no limits. Most felt that this was their true expression, a part that was really their own. Even though they wrote the first part of the composition, the note and rhythmic limitations were a bit confining for most.

Question 3:
The students worked on this project for about 2.5 months (10 classes) so they felt like they had had enough of it by the time they finished. I did question them during the project and they all felt very positive about it. They did say at one time or another that they thought others would like this project.

Summary:

My experience this year has been a positive one. I feel that the elementary students are more focused and more open to the directions I give them. They are eager to try new things and to be challenged. I was impressed at how well kids as young as 5 can handle technology in music. The mix of technology with a traditional general music class provides a broader experience for them than just having the technology alone (like in the middle school). It's important for the kids to see growth and change from year to year. If they feel like they are getting new things in class then they receive the experience more positively.

The anchor breathing worked very well in calming the students down. This was most effective during class presentations. The anchor breath was also discussed as a technique for students to cope with impatience and technical difficulties.

Plans for next year:

1- Offer exploration centers using ProTools, Abelton, ipad apps, and internet sources like Brainpop, Culturegrams, and PeppleGo
2- Increase the number of music apps used for the ipads
3- Structure the exploration for audio suite (sound editing)
4- Create new smaller projects
5- Create age appropriate documentation or instructional tutorials for ProTools
6- Use the Freddy the Frog book series, website, and ipad apps to teach music notation to students in grades K-3
7- Continue the use of the anchor breath with the stop sign visual

Teacher/School: Fitzhugh Park School

Teacher Participant Names: Nicole Freebern

Please update us on any changes you made to your team action plan:

Our team met in September on two different dates for 5 hours. During that time we began planning, using the STAR Data reports that we brought for both ELA and math. We discussed students' strengths and weaknesses. We looked at our classes and identified the needs of our students.

This year I did an inquiry based learning project where students used digital storytelling to master science curriculum. This year my students have been learning all the second grade New York State science curriculum. Effective teaching strategies have been used to help students master the concepts. As a culminating activity this year students picked a science topic that interests them the most and made a digital storybook. Students had an outline that they were required to follow. I also worked on creating a model of a digital storybook for students to use as a reference. I used the self-expressive model to help implement my project and help my students master the curriculum. The self-expressive model promotes students to use creativity and imagination to help students get the highest form of learning. Students used the self-expressive model when they created their digital storybooks on the science topic of their choice.

On October 26, 2014, I sent Sue my Team Action Plan. At this time I was starting to plan out my project. I received approval for my project in November. It took me a while to plan out my project and get the correct computer that I wanted. I didn't order the computer until January.

Analysis of Data on Teacher Learning:

My reflections on the 6 shifts, and CCLS found that providing multiple opportunities for students to use technology in my lessons motivated my students and increased student engagement.

I am also continuing to use all the other material that I have created and received from the grant. My students are using the ipads on a daily basis during math and ELA centers. They are using the ipad apps to help master addition and subtraction facts and also practice the new common core math. Students are using the ipad apps during ELA centers to practice spelling, grammar, writing, and reading ebooks. Ipads are also being used for research. Students are using the leapfrog reader and writers during ELA centers. These are being used as a center for students to practice fluency and master comprehension. The centers that have the ipads and leapfrog readers and writer are my students' favorite centers. I have students ask to use the ipads and leapfrog readers and writers for recess. They want to use these devices because they are fun. They are being excited about learning and I am seeing growth in their reading and math skills.

This year we continued to have the sixth graders mentor my second grade class. My students love going to the sixth grade classroom and working with their sixth grade buddy. The friendship that they have form with their buddy is amazing. The sixth graders are the teachers and more learning is taking place than a classroom teacher could plan. Some of the quotes I heard was from my second graders were: " I can't believe science can be so much fun." "When can we do this again?" "Can we use our recess time to go to sixth grade?" "I taught my sixth grader how to program the lion and I am only in second grade." "I had to teach my sixth grader how to move the play button to get our alligator open and close its mouth."
The sixth graders and second graders did the Wedo legos and also worked with the ROMO robots.

Analysis of Data on Student Learning:

I examined 17 students.

I started this year with 21 students. A student in my class moved to another school in the middle of winter. I recently had a student move out of state in April. I also have 2 students that are being home tutored and have not been in school since early spring. Therefore the data that that I analyzed was for 17 students. By looking at my data from September I was able to see that a majority of my students struggled with reading fluency and reading comprehension. Since this was the second year implementing the new common core modules I also knew that our district curriculum lacks hands on science. I knew that I had to bring technology into my reading and science curriculum in order to engage and motivate my students. I knew that I had to create science curriculum that had hands on activities and connect it to English Language Arts in order to have time to implement it in my classroom. I decided the best way to do this was by having the students do hands on science activities and make a book on their experience as a culminating activity. I also decided the best way to work on fluency and comprehension was to continue using the Leapfrog reader and writers at a center. I used the minilessons that I created to use whole class on the following topics; self-self connections, self-text connections, self-world connections, questioning, prediction, inferencing, and visualizing. At the center the students used the reader pen to help read the story and then they completed an activity on the topic covered whole class. This year I continued to use the ipads during English Language Arts and Math centers. The ipads were used to enhance, reinforce, and support the curriculum that was being taught in the classroom. The ipads helped students with fluency, comprehension, grammar, spelling, math concepts, and math facts.

My September 2014 Assessment showed the following results:

- Star Reading data shows that 14 out of 17 students are reading at below grade level.
- This work is important because I have 14 out of 17 students that are reading below grade level according to the STAR data. I have the inclusion classroom this year. My students are very low. The new CCLS requires all students to read the same text for our skills strands. This year more than half of my class cannot read the required text from the state. By continuing to using these reading and writing systems I will increase my students' fluency and comprehension. I need to close the gap in my reading levels within my classroom and get my students reading on grade level.
- 3 out of 17 students were on or above grade level
- 3 out of 17 students were on watch.
- 4 out of 17 students were on intervention
- 7 out of 17 students were urgent.

Out of my 17 students that I analyzed 8 students receive title 1 reading.

When I surveyed my class 15 out of 17 students said they did hands on science activity last year.

My May 2015 Assessment showed the following results:

- The Star Reading data shows that 8 out of 17 students are reading below grade level. In September 82% of my class was reading below grade level based on the Star Reading Data and in May 2014 47% of my class is reading below grade level based on the Star Reading Data.
- Based on the Star Reading Data 100% of my class increased on their reading levels from September to June. This means that all of my students reading fluency and comprehension improved throughout the year.
- 9 out of 17 students were on or above grade level
- 3 out of 17 students were on watch.
- 2 out of 17 students were on intervention
- 3 out of 17 students were urgent.
- When I surveyed my class 17 out of 17 students said they did hands on science activity this year.
- Through teacher reflection and monitoring I have noticed that my students are more excited about science and reading now than in September. Students ask to read nonfiction text about science curriculum for independent reading time and look forward to getting new books. When my students come to reading group they are excited about the books that we are reading and can answer comprehension question that are asked. It is nice to see my students eager and motivated to read. Students are eager to engage in hands on science

activities. My students are starting to think like scientists.

I used the growth report to generate the following data:
Average score:
Pretest: GE 1.7
Posttest: GE 2.6

This shows that as a class we have grown a guide level of +0.9. All students in my class showed growth.

NY RL.2.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. (71% of my students mastered this standard)

NY RL.2.2 Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral. (71% of my students mastered this standard)

NY RL.2.3 Describe how characters in a story respond to major events and challenges. (82% of my students mastered this standard)

NY RL.2.4 Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song. (71% of my students mastered this standard)

NY RL.2.5 Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action. (71% of my students mastered this standard)

NY RL.2.6 Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud. (71% of my students mastered this standard)

NY RL.2.7 Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot. (82% of my students mastered this standard)

NY RL.2.9 Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures. (71% of my students mastered this standard)

NY RL.2.10 By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range. (71% of my students mastered this standard)

NY RL.2.11 Make connections between self, text, and the world around them (text, media, social interaction). (76% of my students mastered this standard)

Reflective Piece

By: Nicole Freebern

The ENTERGY grant has given me the opportunity to provide my students with a science curriculum that is engaging and has hands on learning. I was able to incorporate science curriculum into my English Language Arts common core through technology and hands on activities. ENERTGY purchased a Macintosh laptop that I was able to use in my classroom to tie technology, literacy, and science into my curriculum. With the new shift in the common core standards science has been infused in our literacy time. We do not have a separate block for science and I have had to become

creative in ways to incorporate science in the classroom. This grant has given me the opportunity to bring hands on engaging lessons to my second graders. I have been able to develop activities that have made the students excited about science and learning.

As an educator, this grant has allowed me to further my own learning and improve my instructional practices. By bringing real science into my classroom I have motivated my students and helped them develop a passion for science. My students enjoy and look forward to learning in my classrooms. I see students that are eager for science time and talk about what they have learned outside the classroom.

The main focus was engaging students in hands on science activities to encourage students to reach their full potential. The students enjoyed working on different units throughout the year. The lessons that I implemented allowed the students to engage in cooperative learning and hands on activities. An example of a few unit we did was an animal unit where the students explored the differences between living and nonliving things, we did an activity on how animal's structures help meet their needs, we learned about life cycles of different animals, we explored how caterpillars grow and change, we studies the human body, healthy habits, and used the Lego kits to explore alternative energy.

I am also continuing to use all the other material that I have created and received from the grant. My students are using the ipads on a daily basis during math and ELA centers. They are using the ipad apps to help master addition and subtraction facts and also practice the new common core math. Students are using the ipad apps during ELA centers to practice spelling, grammar, writing, and reading ebooks. Ipads are also being used for research. Students are using the leapfrog reader and writers during ELA centers. These are being used as a center for students to practice fluency and master comprehension. The centers that have the ipads and leapfrog readers and writer are my students' favorite centers. I have students ask to use the ipads and leapfrog readers and writers for recess. They want to use these devices because they are fun. They are being excited about learning and I am seeing growth in their reading and math skills.

This year we continued to have the sixth graders mentor my second grade class. My students love going to the sixth grade classroom and working with their sixth grade buddy. The friendship that they have form with their buddy is amazing. The sixth graders are the teachers and more learning is taking place than a classroom teacher could plan. Some of the quotes I heard was from my second graders were: "I can't believe science can be so much fun." "When can we do this again?" "Can we use our recess time to go to sixth grade?" "I taught my sixth grader how to program the lion and I am only in second grade." "I had to teach my sixth grader how to move the play button to get our alligator open and close its mouth." The sixth graders and second graders did the Wedo legos and also worked with the ROMO robots.

My September 2014 Assessment showed the following results:

- Star Reading data shows that 14 out of 17 students are reading at below grade level.
- This work is important because I have 14 out of 17 students that are reading below grade level according to the STAR data. I have the inclusion classroom this year. My students are very low. The new CCLS requires all students to read the same text for our skills strands. This year more than half of my class cannot read the required text from the state. By continuing to using these reading and writing systems I will increase my students' fluency and comprehension. I need to close the gap in my reading levels within my classroom and get my students reading on grade level.
- 3 out of 17 students were on or above grade level
- 3 out of 17 students were on watch.
- 4 out of 17 students were on intervention
- 7 out of 17 students were urgent.

Out of my 17 students that I analyzed 8 students receive title 1 reading.

When I surveyed my class 15 out of 17 students said they did hands on science activity last year.

My May 2015 Assessment showed the following results:

- The Star Reading data shows that 8 out of 17 students are reading below grade level. In September 82% of my class was reading below grade level based on the Star Reading Data and in May 2014 47% of my class is reading below grade level based on the Star Reading Data.
- Based on the Star Reading Data 100% of my class increased on their reading levels from September to June. This means that all of my students reading fluency and comprehension improved throughout the year.
- 9 out of 17 students were on or above grade level
- 3 out of 17 students were on watch.
- 2 out of 17 students were on intervention
- 3 out of 17 students were urgent.

- When I surveyed my class 17 out of 17 students said they did hands on science activity this year.
- Through teacher reflection and monitoring I have noticed that my students are more excited about science and reading now than in September. Students ask to read nonfiction text about science curriculum for independent reading time and look forward to getting new books. When my students come to reading group they are excited about the books that we are reading and can answer comprehension question that are asked. It is nice to see my students eager and motivated to read. Students are eager to engage in hands on science activities. My students are starting to think like scientists.

I used the growth report to generate the following data:

Average score:
Pretest: GE 1.7
Posttest: GE 2.6

Teacher/School: Fitzhugh Park School

Teacher Participant Names: Carol Carroll

Please update us on any changes you made to your team action plan:

Our team met in September on two different dates for 5 hours. During that time we began planning, using the STAR Data reports that we brought for both ELA and math. We discussed students' strengths and weaknesses. We looked at our classes and identified the needs of our students.

I, Carol Carroll, contacted Sue on October 2, 2014 to let her know that Damien, the computer technology professor from SUNY Oswego had a student that was interested in conducting a research project in my classroom. I was very excited to have another one of his students working with my science classes this year. I emailed Christopher Bucher, the college student, and we began discussing how he could conduct a research project with my students. Christopher came over to FPS to meet me and at that time we discussed a few ideas. It was at that time that We discussed using a drone with my students. My students knew how to use the computer to code and we decided to use Romo to apply what they knew as far as programming.

On October 26, 2014, I sent Sue our Team Action Plan. I had the support of my principal, Ms. Simmons to pay for the buses, so the 6th graders at FPS could go to SUNY Oswego for a field trip. I had contacted Damien and he helped organize a field trip to allow our 65 students to go to the planetarium, chemistry lab, and robotics department. I worked with Kristin Gublo and our 6th grade field trip took place on December 8th. We arrived at Shineman around 10:00 A.M. and departed at noon.

On December 3, 2014 I finished ordering everything I needed for the drone. I had Christopher Bucher come into my classroom on multiple occasions. He had the student complete a survey and implemented his research project with my students.

The drone was complicated and I needed support. I contacted Damien and he was in Brazil at the time. He offered his teaching professor, but that took quite a while to get him into my classroom for help. After numerous emails, I finally got support in late February. His assistant was very knowledgeable and spent several hours in my classroom helping to set up the drone and ipad to get it to run. He accidentally stripped a screw that held the camera in place, which meant another delay. I had to contact iris to get more screws. The weather was another problem. I didn't want to run the drone, so I waited till late spring to bring it in. I started by taking a short video clip of the drone flight in my backyard. The students were so excited to run the drone when I brought it into class.

Analysis of Data on Teacher Learning: We examined our reflections on the 6 shifts, and CCLS and found the following: (Support each claim with examples/evidence)

My reflections on the 6 shifts, and CCLS found that providing multiple opportunities for students to use technology in my lessons motivated my students and increased student engagement. Digital technologies increased student engagement and academic success. I had minimal behavior problems during my science classes. I work with approximately 65 students and I had 3 behavior write ups compared to last year, where I had 10 during my science class. My students were more engaged and put forth more effort in the learning process. During first quarter report card, I had 3 of my students failing science, whereas quarter 4 all of my students are passing science. Digital technology provided my students with multiple pathways to learning, addressing students' strengths and needs. My project involved making digital technology accessible to all students. I have seen the value of integrating digital technology as an integral part of learning, teaching, and life to address the CCLS. I have continued to build a repertoire of digital software to foster learning with my students, which has increase academics. I explicitly taught strategies that promote the 21st century skills. Students collaborate and communicate with their peers effectively. We used Google docs. this year and students were capable of sending me their projects via email. Students made constructive comments on other students work and I could see the shift in this area. Students can analyze information and apply what they learn to content area curriculum. Students can think critically and synthesis information. This was evident when they worked on the research project with Christopher Bucher from SUNY Oswego. I watched my students take on the role of teacher when they collaborated with Mrs. Freebern's second graders. Students could articulate clearly the task and preform the task successfully. I have met my goal to interweave digital technology into the curriculum while addressing the CCLS.

Analysis of Data on Student Learning: I examined _____18 students_____ and found the following: (Give examples/evidence for each claim).

I began the school year with 20 students. I lost two students in November and then two more were added in the month of January. In February, another student left and then in April, the student that came from Ohio in January moved back to Ohio. It was one of those years where there was some movement. The data that I analyze is on the 18 students that I had throughout the school year. I began by examining the students' 21st century skills before, during, and after completion of this project. I made a check list and used it throughout the school year. I took into consideration that having access to computers and Internet did influence the need to shift my teaching to meet the CCLS.

I administered the STAR ELA test the first week of September, so I could find out the readiness level of my students. I had the ELA NYS data, but without the test in front of me, all I knew was that 1 out of 20 students in my class had passed the test. That data made me acutely aware of the fact that I had a lot of work ahead of me. I didn't want to plan this inquiry-based project until I had the readiness level of my students. In September I had the students complete both the STAR assessment for Reading and Math. The following data is from the **September 2014** assessment:
Star Reading reported by the district benchmark:
3 out of 18 were on or above grade level.
3 out of 18 were on watch.
8 out of 18 were at intervention.
4 out of 18 were urgent.

Due to the high needs of our school, only three students that were in urgent received additional support for the AIS teacher.

The following data is from the **May 2015** assessment:
Star Reading reported by the district benchmark:
3 out of 18 were on or above grade level.
4 out of 18 were on watch.
9 out of 18 were at intervention.
2 out of 18 were urgent.

I used the growth report to generate the following:
Summary Class Teacher Grade Test
Average Scores Carroll - 1 Carroll, Carol 6
Pretest 5.8, Scaled Score-637
Posttest 6.7, Scaled Score-754
I had a change from pretest to posttest of +117. There was significate ELA growth demonstrated by my students. The growth showed a grade equivalence of +0.9, which is an average of almost one grade. My highest students' percentages were in the 93rd and 78th percentage in our district. At the time of writing this report, there are no NYS ELA results.

Star Math reported by the district benchmark September 2014:
5 out of 18 were on or above grade level.
4 out of 18 were on watch.
4 out of 18 were at intervention.
4 out of 18 were urgent.

Star Math reported by the district benchmark May 2015:
6 out of 18 were on or above grade level.
4 out of 18 were on watch.
7 out of 18 were at intervention.
1 out of 18 were urgent.

I used the growth report to generate the following:
Summary Class Teacher Grade Test
Average Scores Carroll - 1 Carroll, Carol 6
Pretest 5.6, Scaled Score-705
Posttest 7.0, Scaled Score-763

I had a change from pretest to posttest of +59. There was significate Math growth demonstrated by my students. The growth showed a grade equivalence growth of +1.4, which is one and a half grades. My highest student scaled score was 989 scaled score with a grade equivalence >9th in our district. At the time of writing this report, there are no NYS Math test results.

The Star Reading and Math assessments were given at the fall, winter, and spring benchmarks. Every student in my class had growth in both ELA and math. This is based on both teacher assessments throughout the school year and STAR data. Students had significant growth in math and ELA. I looked at the students' scaled score, grade equivalence, and percentile and 100% of my students made gains. My teacher growth was +1.4 grade equivalent. Students were immersed in STEM and I believe that contributed to the growth the students made.

STAR Reading Estimates Mastery of State Standards

STAR Reading provides an estimate of the students' mastery of standards by aligning them to the same 1400-point difficulty scale used to report STAR scores. The Estimated Mastery Range identifies a band of scores where the student is just below or above mastery. The percentage of students who score in or above this range indicates overall progress toward standards mastery. The following NYS ELA standards and percentage of the students in my classroom is below:

NY RL.6.1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text 100% of Students In or Above the Estimated Mastery Range

NY RL.6.2 Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments 100 % of Students In or Above the Estimated Mastery Range

NY RL.6.3 Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution. 80 % of Students In or Above the Estimated Mastery Range

NY RL.6.4 Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone. 100% % of Students In or Above the Estimated Mastery Range

NY RL.6.5 Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot. 100% of Students In or Above the Estimated Mastery Range

NY RL.6.6 Explain how an author develops the point of view of the narrator or speaker in a text. 100% of Students In or Above the Estimated Mastery Range

NY RL.6.7 Compare and contrast the experience of reading a story, drama, or poem to listening to or viewing an audio, video, or live version of the text, including contrasting what they "see" and "hear" when reading the text to what they perceive when they listen or watch. 100% of Students In or Above the Estimated Mastery Range

NY RL.6.9 Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics. 100% of Students In or Above the Estimated Mastery Range

NY RL.6.10 By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range.
100% of Students In or Above the Estimated Mastery Range

NY RL.6.11 Recognize, interpret, and make connections in narratives, poetry, and drama, ethically and artistically to other texts, ideas, cultural perspectives, eras, personal events, and situations. 100% of Students In or Above the Estimated Mastery Range

NY RI.6.1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text 100% of Students In or Above the Estimated Mastery Range

NY RI.6.2 Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. 100% of Students In or Above the Estimated Mastery Range

NY RI.6.3 Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes). 100% of Students In or Above the Estimated Mastery Range

NY RI.6.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings. 100% of Students In or Above the Estimated Mastery Range

NY RI.6.5 Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.
67 % of Students In or Above the Estimated Mastery Range

NY RI.6.6 Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.
100% of Students In or Above the Estimated Mastery Range

NY RI.6.7 Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue. 100% of Students In or Above the Estimated Mastery Range

NY RI.6.8 Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not. 100% of Students In or Above the Estimated Mastery Range

NY RI.6.9 Compare and contrast one author's presentation of events with that of another (e.g., a memoir written by and a biography on the same person). 80 % of Students In or Above the Estimated Mastery Range

NY RI.6.10 By the end of the year, read and comprehend literary nonfiction in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range. 100% of Students In or Above the Estimated Mastery Range

NY L.6.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies. 100% of Students In or Above the Estimated Mastery Range

NY L.6.5 Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. 100% of Students In or Above the Estimated Mastery Range

NY L.6.6 Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression. 100% of Students In or Above the Estimated Mastery Range

Reflective Piece

By: Carol Carroll

- *Fostering student success in academics*
- *Preparing students for the future using STEM.*
- *Project SMART provided a drone.*
- *Utilized Chris Bucher, one of Damien's computer technology students in my classroom.*

This year the ENTERGY grant provided my 6th graders with technology that will motivate and enhance learning.

On October 26, 2014, I sent Sue our Team Action Plan. I had the support of my principal, Ms. Simmons to pay for the buses, so the 6th graders at FPS could go to SUNY Oswego for a field trip. I had contacted Damien and he helped organize a field trip to allow our 65 students to go to the planetarium, chemistry lab, and robotics department. I worked with Kristin Gublo and our 6th grade field trip took place on December 8th. We arrived at Shineman around 10:00 A.M. and departed at noon.

On December 3, 2014 I finished ordering everything I needed for the drone. I had Christopher Bucher come into my classroom on multiple occasions. He had the student complete a survey and implemented his research project with my students.

The drone was complicated and I needed support. I contacted Damien and he was in Brazil at the time. He offered his teaching professor, but that took quite a while to get him into my classroom for help. After numerous emails, I finally got support in late February. His assistant was very knowledgeable and spent several hours in my classroom helping to set up the drone and ipad to get it to run. He accidentally stripped a screw that held the camera in place, which meant another delay. I had to contact iris to get more screws. The weather was another problem. I didn't want to run the drone, so I waited till late spring to bring it in. I started by taking a short video clip of the drone flight in my backyard. The students were so excited to run the drone.

Nicole, Stacy, and I met in September on two different dates for 5 hours. During that time we began planning, using the STAR Data reports that we brought for both ELA and math. I also brought the NYS ELA and Math data, which was not good. Only one student in my 6th grade classroom had passed the ELA and Math. There were so many 1's and 2's, I was very concerned about the academics for the coming year. We looked at all of the students' strengths and weaknesses and identified the needs of our students. From there we brainstormed what we have used in the past and where we'd like to head in the future. We are all very knowledgeable in technology and in preparing our students to be proficient with the 21st century skills. After looking at student data, including STAR data, I realized that my students lacked STEM and I began to plan.

In September I contacted Damien from SUNY Oswego and he had a student, Chris Bucher that was interested in conducting a research project with the students in my classroom. I gave the go ahead to Damien and Chris contacted me by email. We set up a couple of meetings at the school and since Chris wanted to conduct the research project during the fall semester, we decided to use the Romo robots since we had the equipment. We talked about the technology that the computer science program is using at the college and he said he would also support my classroom with using a drone. Another way he would support my 6th graders would involve a field trip to the college, which we planned for the beginning of December.

I sent Sue Whitmore an email on October 2nd and proposed my idea. I let her know that Damien, the computer technology professor from SUNY Oswego had a student that was interested in conducting a research project in my classroom. I was very excited to have another one of his students working with my science classes this year.

Chris worked with my students using Romo robots and computer programming. Since Damien is using drones with his students at the college level and since this is a current science, I decided that I would use the Entergy grant to fund a drone. This project will prepare students to be college and career ready. The Entergy grant and Project SMART provide opportunities to integrate technology in existing curriculum and embed the 21st century skills that prepare students for career and college readiness. One of the benefits of working on this grant is to collaborate with other professionals along with the opportunity to make connections with the college community.

I used my student data to look at their academic needs and what 21st century skills they would need as I began my action plan. I needed to find out my students' readiness level, technology skills, and what 21st century skills like communication, collaboration, critical thinking and creative problem solving that they had developed. I also had to determine what skills and knowledge I wanted my students to gain from this project. Once I had a good idea where my students were in both content and skills, I began planning. I used student data to create lessons for this project.

Summative and formative assessments were used in assessing both content-area development and 21st century skills. I used the summative and formative assessment to reteach those students that didn't grasp the content. I then used the data from those assessments to create activities for the struggling students, while enriching the learning of those students that mastered both content-area and 21st century skills. I created a checklist to monitor student progress and to work with small focus groups of those students that needed more support. This action plan helped me be an effective teacher in using strategies like TAPPLE in assessing and reteaching my students.

My rational for implementing this action project was to increase in student performance and prepare them for the middle school. Students need to be career and college ready and this action plan provided multiple opportunities for students to be successful. Digital technologies do increase student engagement, which in turn promotes academic success. I've seen this in my science classroom. When students are engaged, they put forth a greater effort in the learning process. I also believe that digital technology provides multiple pathways to learning, which help differentiate for those students that need it. My plan involved using technology that I have from past projects, such as: ipods, ipads, Romo robots,We do Legos, and the environmental Lego kits. The various digital technologies that I have in the classroom, provides access to all of my students. This year I used a checklist and found that when students were using technology in the classroom, 98% were on task and engaged. This is constant with the data that I collected last year.

I work in an elementary school that has a high number of social economic disadvantage students. There are approximately 510 students at Fitzhugh Park School and 66% of the students are on free and reduced lunch. Our school now has a backpack program that provides food to be brought home over the week-end. Many of my students would not have the opportunity or experience of working with technology, such as ipads and ipods, if I didn't provide them with that opportunity.

As an educator, I have furthered my own learning by working with my colleagues and the college community. I use data to drive instruction, which makes me an effective teacher. I look at my instructional practices by surveying my students and looking at student data. I have seen an increase in student motivation and rising test scores.

I continue to refine my lessons and utilize digital technology in my classroom. My lessons incorporate digital technologies that prepare students for the Oswego Middle School. Working on this grant has provided an opportunity that directly benefits all students. Digital technology provides students with multiple pathways to learning. I continue to build a repertoire of digital technologies that foster learning in the classroom.

My goal of interweaving digital technology into the curriculum has been met. I realize the importance of providing a supportive classroom environment that is data driven, and technology can help in providing this.

Teacher(s)/School: Riley Elementary School

Teacher Participant Names: Stacy Dawson

Please update us on any changes you made to your team action plan:

The robotics unit took on a life of it's own within my building. I initially thought I was just going to do a unit on robotics with my students. This turned into a building wide initiative to get as many students in my building using robotics. We now have a variety of robotics activities going on at almost every grade in my building. A lot of my time was invested throughout the year in helping other grade levels incorporate robotics into their Science curriculum.

To add more to the mindfulness part of the project, my students interacted several times a week with with gonoodle.com – an interactive sight that has zumba for kids, yoga for kids, mindfulness activities, stretching, brain gym activities, etc.

There was a delay and issues with the Drone. Carol worked to get it flying but we were unable to get our students together to have them show us how to use it.

Analysis of Data on Teacher Learning: We examined our reflections and found the following: (Support each claim with examples/evidence)

- Student engagement was high during Science. Students who were difficult to engage during reading or writing were taking the lead role when working with Romo.
- Student behavior was exceptional during science – there were 0 referrals all year during Science time.
- Students enjoyed using the robots and learning with them. They would ask the minute they walked through the door, "Are we going to use Romo today?"
- Students were provided multiple opportunities to use technology throughout the year, which increased student engagement. They would come in during the morning and see Science on our agenda and get very excited.
- Students were actively engaged during Science. They often wanted to continue to "play" with the robots and LEGOs during recess.
- Students became more proficient with technology through the use of digital thermometers, LEGOS, iPads and computers. This was evident when the students were compared to other third graders. My class knew how to use this technology and problem solve where other classes did not.
- Incorporating robotics has increased engagement in all subject areas. Reluctant students in writing would push themselves to complete assignments so that they didn't have to miss any Robotics.
- I have learned a lot about robotics – an area that was very unfamiliar to me. Even though I am far from being an expert, I've learned that just giving the students the opportunity to play, they truly are digital learners and pick things up very quickly. They were often teaching me things!

Analysis of Data on Student Learning: We examined ____STAR Reading/Math and Surveys_____ and found the following: (Give examples/evidence for each claim).
The beginning of the year data was:

In ELA preliminary data shows:

- 7 Students are in need of urgent intervention
- 4 students are in need of intervention
- 3 students are to be watched
- 6 students are at benchmark
- 15 of 20 students are below the expected pathway to proficiency for the NYS ELA exam

In Math preliminary data shows:

- 4 Students are in need of urgent intervention
- 5 students are in need of intervention
- 2 students are to be watched
- 9 students are at benchmark
- 13 of the 20 students are below the pathway to proficiency for the NYS Math exam

In ELA end of year data shows:

- 1 student in urgent intervention
- 4 students are to be watched
- 15 students are at benchmark

The ELA data shows that every student in the class showed growth from September until May. The class increased 1.5 grade levels this year. They were at the 2.7 grade level in September and are now at the 4.2 grade level.

In Math end of year data shows:

- 1 student in need of intervention
- 1 student is to be watched
- 18 students are at benchmark

The math data shows that every student in the class showed growth from September until May. The class increased 1.6 grade levels this year. They were at the 3.0 grade level in September and are now at the 4.6 grade level.

The robotics provided incentive for students to complete other work they were more reluctant to do. They knew that if they finished their reading, writing and math we had more time to spend on Science.

They worked collaboratively to help one another during Science.

Students were asked for feedback and these were some of their responses:
"I wish we could just do Science all day."
"Romo was my favorite unit of the year."
"I asked for Romo for Christmas and got it!!!!"
"I've never used a robot before and this is the job I want when I grow up."
"I learned a lot about robotics and wish we could learn more!"
"Romo taught me how to make shapes and use angles."
"I got frustrated when I failed missions, but my team helped me."
"Mrs. Dawson says we were learning but I just liked playing with Romo."
"I love "Go Noodle!" It's fun and gets me ready for the next subject!"
"My favorite part of go noodle is the yoga."
"Go noodle helps me rest my brain before I have to learn more."

The survey that students were given at the beginning of the year showed that only 14 of 20 students had internet at home. Using iPads, iPods, and laptops daily helped to close the digital gap for my students. By the end of the year, they were proficient with technology and using a variety of robots.

The beginning of the year survey showed the following data with response to robots:

- 3 of 20 students said that they used a robot before.
- 0 of 20 students said that they programmed a robot before.
- 20 of 20 students said they would like to use a robot – which showed that this is an area of interest for 8 year olds.
- 0 of 20 said that they could teach someone how to use a robot.

The end of the year survey showed the following data with response to robots:

- 20 of 20 students said that they have used a robot.
- 20 of 20 students said that they can program a robot.
- 20 of 20 students would like to continue to use robots in school and at home.
- 20 of 20 students said they could teach someone how to use a robot (and have)

ENTERGY Yearly Reflection

By Stacy Dawson

This has been both an extremely busy and exciting year. ENTERGY has enhanced my classroom and benefited my students in a variety of ways. Through monetary support, I was able to purchase two iPods and two Romo robots that were used by my students during our Robotics unit. I was also able to make connections with people from ENTERGY, SUNY Oswego and Project BLEND, who provided time and support to enhance the learning of my students.

Throughout the year, I worked collaboratively with my principal on a variety of STEM activities. One of my administrator's main goals is to make my school a STEM school. She is consistently supportive of everything that I do with the ENTERGY grant and showed her support both with monetary investments and also by attending events and STEM activities that my students engaged in. Because of ENTERGY's previous support, my administrator has seen the things that my students do and would like to get more classrooms involved. The district is now providing support and money to enhance our Science program.

My main focus for the year was a Robotics unit. I began by collaborating with my library media specialist. In the classroom I taught a nonfiction unit surrounded by a Time For Kids article on Coding. Our class kicked off the robotics unit by participating in the Hour of Code activity. They learned about coding and then used iPads and an app called Light Bot to practice their coding abilities. This was the first time students have coded and many struggled at first and became frustrated. With extra practice, they were all getting the hang of it and advancing to more complex coding tasks.

From coding, we went into using the LEGO WeDo kits. My students used the LEGO We Do kits to engage in inquiry based learning. They built constructions, hooked them up to a laptop and used a computer program to program their constructions to move. Energy levels during this time were at a high in my classroom. Students worked together, problem solved and applied real world problem solving skills to be successful. ENTERGY was extremely supportive and

send in two female employees to support the students during this. They talked about their roles at ENTERGY and was perfect for my students to see that females can become scientists.

Next, we began using the Romo robots. My district was extremely supportive. In addition to the two iPods and two Romo's that ENTERGY purchased, the district purchased an additional 3 iPods and 3 Romos. I now have a total of 5 Romo's and 5 iPods so I was able to make small groups of students. My students were incredibly excited during this unit. They were amazed at what Romo could do! They loved programming the robot. At times when they became frustrated, they worked together to redo missions and problem solve. Through trial and error, students were able to complete the robot space race. Students learned math as well during the programming because many missions involved making shapes such as triangles or squares. Some of their favorite missions were the Robot Space Race, figuring out Romo's favorite color and getting him to follow lines.

My principal also purchased four Sphero's for students to use with the iPods. These small balls that are controlled through the iPad or iPod. Students loved using them. They were similar to the Romo's but are considered indestructible and can even be used outside. Students had to solve missions using Sphero in order to advance to the next level. They also worked to drive Sphero through virtual obstacle courses. This gave the students even more experience with computer programming.

My principle, Dr. Doty has a vision to make our school a STEM school and to incorporate robotics at every level, K-6. She was able to use some of her money this year to supplement the funding that ENTERGY gave. She had my class learn about many of the things and then they became the experts and taught other teachers and students how the equipment. At kindergarten, she purchased Bee Bots, which are small bee robots that have only a few buttons. My students learned how to program them and then went into the kindergarten class to show them. The kindergarteners LOVE them and are learning to be computer programmers.

Dr. Doty also purchased more advanced robots for the upper grades that my students did not have the opportunity to use yet. The older students are enjoying completing more complex tasks with them. Dr. Doty and ENTERGY are really reaching out to all of the students in the building, K-6 and giving them a wealth of experiences with robotics. Children are excited and engaged!

The most influential part of my year was having robotics in my classroom for my students to use on a daily basis. They were used for some projects, but I feel that having them on a daily basis made the most impact on my students as learners. Students would choose to play with LEGOs or Romo's during our long winter recesses when they weren't able to go outside.

In an effort to incorporate mindfulness into teaching and learning this year, my class visited a website called GoNoodle quite often. It is an engaging site that provides students with activities to relax their brain and improve their spirits in order to help them focus and learn more throughout the day. It's like free brain breaks for kids! The children enjoyed the site. Some of their favorite activities were Brainercise, Zumba for kids, Think About It, and Indoor Recess. They enjoyed learning deep breathing, kinesthetic learning and mindfulness. Having these short breaks during the day helped students to clear their mind and refocus. They looked forward to the short breaks and were much more attentive, especially during our long morning. Students had a tight schedule and worked from 8:45-12:55 without a lunch or specials break, so the mindfulness activities were an important part of our day.

The Robots have made a tremendous impact in the learning of my students. I have been able to teach the Common Core Learning Standards by integrating technology into virtually everything I do. Compared to other classes in the building, other teachers have commented that "My students know more about the computer and iPod than the other kids and many of the teachers." Their navigation skills are exceptional. Students in my class have learned how to construct their own learning and create meaning from what they read using iPads. They are becoming computer programmers. Rather than just learning how to play with technology, they are learning the skills needed to create technology for the future. They are more motivated to learn and put forth more effort when doing these projects. Most of all, they are proud of their accomplishments. Students in my class are truly 21st Century Learners who are becoming college and career ready. It was exciting to watch them learn and grow as learners this year. Thank you, ENTERGY for these valuable learning tools.

Teacher/School: Pulaski High School

Teacher Participant: James Hefti

Part 1 - Reflection

The mindfulness theme for EDU525 Attention and Intention: Empowering Learners might have presented a challenge to most high school science teachers. I think that is reasonable considering most teachers are strapped for instructional time as it is. With new state mandates requiring all teachers, regardless of content area, to focus on literacy education and teacher evaluation systems that aren't necessarily favorable to teachers who prefer to think outside the box. I can empathize for some teachers being unwilling to branch out and take a risk in their planning for what is best for kids from a curriculum, instruction, and assessment viewpoint.

I looked at the topic as an opportunity. In order to continue to grow in this profession you sometimes need to, as I structured my SUNY Oswego/Project Smart/Entergy Project this year, keep calm and try something new. My Biology classroom theme for 2014-2015 was slightly different but entirely related – "Keep Calm and Study Biology". If we teachers are afraid to try new strategies how are we to advance the learning process? Thomas Edison was not complacent with nights illuminated by moonlight, starlight, or candlelight. He invented the incandescent lightbulb. He single handedly managed to change the world by creating something that allowed night time to be productive rather than time to just catch up on your sleep. I am thankful for the risks he took – and that others have taken – to make the world around him better.

As educators we have a responsibility to do the same. Allowing ourselves to be suffocated by mandates and APPR scores is not conducive to us inspiring the next great inventor, writer, or mathematician. What we need to do is be bold and try new things. So that is exactly what I did with for this project.

I immediately connected the mindfulness theme with a unit of biology I had been thinking about overhauling for a while. I envisioned my students reconnecting with nature. I could see them disconnecting their beloved electronic devices, all linked up to social media, video games, and entertainment venues, and instead manipulating forestry tools and devices that would require them to use their brains. My goal was to develop a unit in which students learned the Biology, but at the same time, and arguably more importantly, learned about themselves and about each other. I wanted them to go away with the concepts to ensure success on exams and assessments, but also to learn how to appreciate the environment. It was clear to me from the beginning I would teach students about forest ecology in a holistic education manner.

We often times overlook the fact in order for students to maximize their potential we must not view them as empty vessels to be filled. Learning needs to come from them. They need to take command of education. It is not something that just happens to them once they get off the bus and enter the building in the morning. To become learned requires effort and ownership. My challenge became figuring out how I could motivate students and empower them to make connections between content and what they experience outside the classroom. To understand the link between mental clarity and achievement, and to develop some environmental awareness.

Here is what I did…

1. I researched and procured over $700 worth of equipment for forest mensuration, observation, and analysis. A few of the items obtained include: digital calipers, handheld weather station, clinometer, forestry prisms, plant color guides, tree core sampler, tree core sample storage unit, herbarium specimens, tree height gauges, Biltmore sticks, and saplings for planting around the school campus.
2. I identified mindfulness training resources for educators. I used the grant to pay the tuition for a 60 hour online course to learn how to promote mindfulness among my students. I started by doing all of the breathing exercises and trying the stress reduction strategies myself. Then my training allowed me to figure out ways to share these strategies with my students. I consider this aspect of the project to be the biggest contribution to my personal growth as a teacher since leading these kinds of activities is a bit out of my comfort zone. After completing the course I thought about just not trying the new strategies since it felt awkward but I overcame my apprehension and tried some of the breathing exercises with students and the outcome was inspiring for me to try it all with them. My students were hooked from the very first deep breath in! We continued to learn about gratefulness, paying attention with more than just your eyes and ears, we learned that you can connect with others without devices, and that these mindfulness education strategies transcend both Biology class and school. This is education for a lifetime of learning.
3. I utilized grant money to purchase a digital video camera. This item proved to be the most versatile lab device I have used in my classroom. I used it to interview students about what they learned, create videos of interesting specimens, make videos of class highlights, and probably the most rewarding thing for me personally was the creation of a series of teacher resources to be posted on YouTube to assist with the instruction of New York State Living Environment required labs. One of the videos I made now has over 5000 hits on YouTube and there are teachers from all over the state using them in their classrooms. I had no idea these videos would be used beyond Pulaski. Even though they are not the most well-edited or well-scripted because I made them in a hurry, the feedback I received from other educators has inspired me to make other biology education videos and expand the range of topics. I also intend to learn some video editing techniques to improve the quality of these productions. With time I foresee hiring a few students to assist with the development process.

The success of my Mindfulness / Forest Ecology project this year would not have been possible without the extensive support provided by SUNY Oswego along with the corporate backing by Entergy. I would be remiss to not acknowledge the importance of having enthusiastic students. I have never had any problem with getting my biology students at Pulaski to engage with the content of the subject I teach. That makes it much easier to expend energy on professional development with an eye to the future so that we teachers can assist with the growth and positive transformation of the field of education.

In the next section of this report I will share the outcomes of this project and interpret the data regarding students' opinions about this project that were generated with a Likert Scale pre-test / post-test assessment instrument.

Parts 2 & 3 - Analysis / Interpretation

Figure 1. % of Positive, Indifferent, and Negative Responses to Opinion Statements Made by Mindfulness Participants

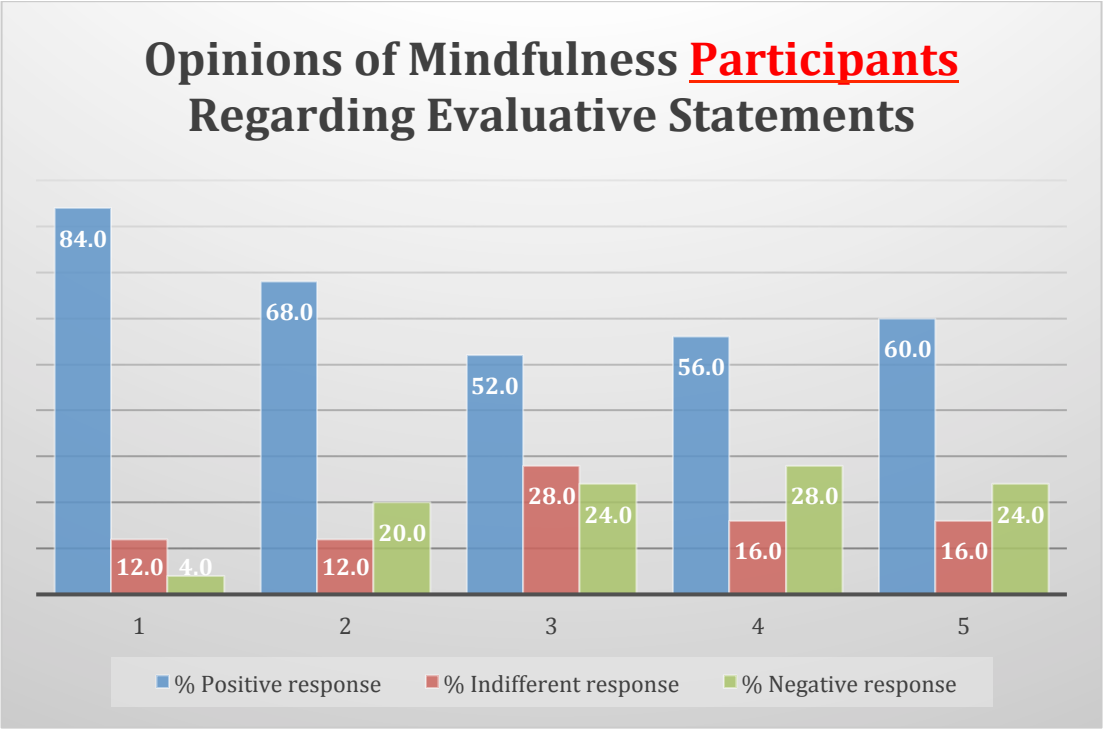
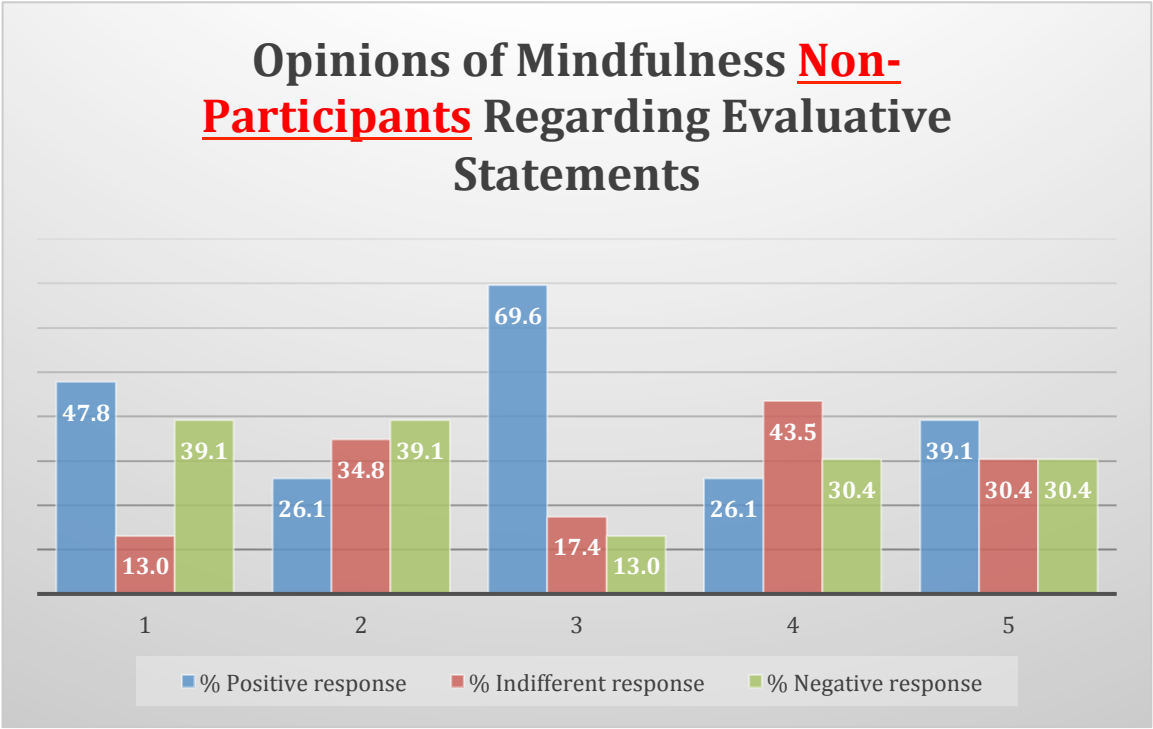


Figure 2. % of Positive, Indifferent, and Negative Responses to Opinion Statements Made by Mindfulness Non-Participants



After comparing the opinions of mindfulness participants and non-participants it became perfectly clear that the time I spent planning for and scheduling this project was highly beneficial. I gave a pre-test and post-test to students from two different classes that were instructed in different ways. The class referred to as "Participants" as one would expect, included some pretty nonconventional activities as part of their biology experience. They learned mindfulness strategies and engaged in a forest ecology approach to biology curriculum, instruction and assessment. The class labeled "Non-Participants" received a high quality experience however their program was not altered from the series of tried and true methods I have used in the past.

My accurate analysis of the success of my attempt to teach outside the box is possible because I structured my classes to create a true single variable, scientifically well-designed experiment. My variable was teaching the new strategies. My control was leaving things alone. My comparison resulted in the following discoveries:

Evaluative Statement 1: Breathing exercises and stress reducers are worthwhile.

Over half the non-participants were skeptical about whether deep breathing exercises and stress reduction strategies could actually empower themselves to become better learners. Only 47.8% of the non-participants felt that I could assist them in the challenge to calm themselves and focus more clearly. This percentage is 36.2% lower than the opinions expressed by the participant class. At 84.0% the participants commandingly stated breathing exercises and stress reduction activities

were worthwhile. These numbers motivate me to move forward with my own training in mindfulness since students were so positive they were beneficial.

Evaluative Statement 2: I can learn about forest ecology and connect with nature at the same time.

As far as connecting with nature goes, students were pretty much indifferent about it unless they actually did it. The non-participants reported a 34.8% rate of not having a positive nor negative attitude about tapping into the natural intelligence. 68.0% of the students in the participant group felt like they were connecting with nature as they were learning. That figure represents a 41.9% difference in the rate of positive responses between participants and non-participants. In our technological society where it is possible to possible to experience nature in virtual simulations, it is nice to know that being outdoors is still enjoyable to kids.

Evaluative Statement 3: Outdoor labs and learning activities are preferred to ones completed inside the classroom.

The percentages of responses for this evaluative statement were extremely mixed. I originally thought students would all like the idea of learning outdoors. In fact, I thought as though the opinions for this statement would indicate 100% approval. I based this assumption on the fact that with this year's group of students, a request was made at least daily to be able to conduct class outside. This is not a request I like to deny, but sometimes it just has to be. Regardless, my students were always willing to take to the outdoors, and that is not always the case.

As it turns out, the post-test results indicate that the participating students were more likely to develop some indifference about completing classroom activities in an outdoor environment. This spring was terribly unpredictable; that may have influenced results.

Evaluative Statement 4: I am more prepared for the Unit 6 Exam (Ecology) than I was for other unit exams.

There was a 29.9% difference in the positive responses of participants versus non-participants. The non-participants experienced a fairly large percentage of indifferent responses. It could be that the non-participants did not know what they were missing so didn't really form an opinion strongly one way or another.

Evaluative Statement 5: Open-ended projects and student-created lessons make me feel more involved with my education.

I was quite pleased to find out that participation led to some positive feelings about this education attribute. Non-participants, as with evaluative statement 4, tended to avoid the making a defining statement altogether. As non-participants they did not feel as though their experience was special or important. Participation overwhelmingly increases connectivity, as one would hope.

Teacher(s)/School: Lanigan Elementary

Teacher Participant Names: Brad DePoint

Please update us on any changes you made to your team action plan:

The only change that was made to the team action plan was to take out the Project Feeder watch. We will be implementing a themed year based around this project.

Analysis of Data on Teacher Learning:

For our team, data played an important role in our weekly team meetings. Our conversations about kids were centered around data and how we could be most effective reaching certain students. We found that by having multiple data points, STAR, end-of-module assessments, exit tickets, etc. we were able to better group students so they could get the most support they needed.

Being in a new school, with new colleagues, teaching a new curriculum was tough but it just reinforced to me how important project based learning is to student engagement and effort. At the end of the year, students did a reflection on favorite memory of the year and most of them said when they built and raced the LEGO cars, several others said when they did the party planning, and others said when they got to go outside and collect data. None of the students said when you were lecturing us in the front of the classroom. I feel we need to consider the changing ways in which children learn and adapt accordingly.

Analysis of Data on Student Learning:

Student learning was evident based on the pre and post project data. I included excel files of the test data. The one thing that really stuck out to our team after finishing the plan a party project was how much their ability to problem solve increased. The majority of the class (92%) passed the "better value" question when only 13 of the 23 (56%) did the first time. Obviously through re-teaching the students improved, but we definitely thought that the content and rigor of the project helped the students show far more success the second time around. Students investment in their learning helped them persevere and understand the same type of scenarios on an assessment. Because one of the major focuses on the project was the ability of students to find unit rates for different quantities of measurements the comparing rates question scored 13% on the initial test. These scores improved to 87% after the completion of the "Plan a Party" Project.

Because of the Entergy grant money we were able to take a field trip to the SUNY Oswego. There one group visited the Planetarium and watched a show presented by Dr. Roby, and also toured the Shineman Science building, while another group was able to visit the Rice Creek Field Station with Dr. Jackson. Many of the students said that it was their favorite field trip ever. The staggering numbers about this trip is that almost 50% of students had never stepped foot on a college campus. With SUNY Oswego so close to home and having state-of-the-art facilities, students were really amazed at what college has to offer. I think their biggest take away from the trip was that Oswego has a lot of different majors surrounding technology, and sciences.

Aquaponics was a major part of our "STEM" projects this year. It started October with a classroom lunch when students were complaining about the salad at lunch. I encouraged them to do something about their feelings instead of complaining. From there, students researched designs, built the structure, brought in an old fish tank, then built the actual system. A lot of research went into the biology and chemistry behind the aquaculture. When the system was introduced, students learned how to test PH, Dissolved Oxygen, Nitrates, Nitrites, and we had a Dissolved Solid electric meter to test (all tests involving decimal values). All of this data was collected and put into a binder for analysis each week. Students developed an understanding of how to make decisions to add chemicals to balance the ecosystem. When the lettuce plants grew, students noticed that the PH and Dissolved Solids decreased and the ecosystem was balancing out. When we finished the first round of lettuce harvest we collected 4 gallon bags. Students were able to have a giant salad and try some varieties of lettuce they never knew existed. They really liked the "Rocket" lettuce because it had a spicy taste to it. This project played into our last unit in statistical analysis very nicely because the students had already seen how to ask statistical questions, collect data, and display data. It made for a very smooth transition to teaching the CCLS.

Another staggering fact was the ability for the classes to come in and get focused while using the meditation and mindfulness routine. We trialed the 2 minutes of meditation vs. the normal transition time and found that the students were more prepared to learn, actually faster transitioning by taking 2-3 minutes to prepare themselves to learn. When students did not come in and sit silently there were behavior problems, a lot talking, and took several more minutes to settle them.

We trialed this mindfulness before students took a STAR test. 2 of the 3 classes did the meditation before taking the assessment. Based on the results the mean increase in score on the 2 classes that did was 58 points. The class that didn't showed only a 20 point increase. The next time we tested we did the same thing but switched the classes. Amazingly the 2 classes that did meditation before increased by 34 points, and the class that only increased by 20 points before increased by 46 points this time. We concluded that mediation led to focus on the task and students were much more productive in reaching their academic goals.

I want to take training sessions on mindfulness in preparation for next year as I feel it will be extremely beneficial to use in the future. Overall, our original thoughts about the data we collected from assessments, and student observation was all positive based on the projects we did this year.

Looking to next year I will be working as the building AIS math provider. I am hoping to push into classrooms and work with teachers to get them to start doing more project based teaching. I am confident that most of the teachers will be willing to give it a try.

Reflection by Brad DePoint

Looking back at the Entergy grant project this year I think of one important lesson that I, as well as my students learned. It is to be mindful in the decisions we make. In the beginning of the year I asked the students to think about what job or career they wanted to have in the future. Some, being impractical in their understanding of what it takes to get there were not "real" with themselves. After researching what it required to get to that point, they either persevered to want to get there, or they looked for something else that would not require as much math, or science, etc. This was a very important part in their success.

The mini-steps that the P.E. teacher, school counselor, and classroom teachers took to get the kids to the final destination was amazing. The mindfulness first started in P.E. Students had to think about or focus on one thing for the first two minutes of P.E. The kids were naturally frustrated, confused and some of them saw no point or purpose in the activity. Our school counselor, came in and talked through some breathing exercises, and some focus points for them to be thinking about. Then, it started to make sense. With such a competitive group, 2/3 being boys, this was a great time for them to decompress and get focused for what they were about to encounter. This then carried over into the classroom. I was shocked to see how well they received this and how quickly they were able to use this focus and energy into tasks within the classroom. A lot of students found peace, made better choices when faced with conflict, and were more focused on tasks and assessments when they were able to settle themselves. Next year I would like to take the course and do a case study on how mindfulness affects the 6th grade population by having one class do a meditation to start and end class and one class to do the traditional transition approach.

As for the rest of the proposed projects, a lot of the decisions that were made this year were based on mindful choices. Instead of participating in the project feeder watch through Cornell this year the students were having a discussion at lunch one day about how disgusting the lettuce was. This led to me asking them if they wanted to do something about that. They all thought that they did not have the power to do anything. I asked them if they had ever heard of aquaponics. In this lunchtime conversation, they went from complaining about the lettuce, to researching best designs for an aqua culture setup in the space we had provided. This soon sparked the interest of most of the kids in the class and it became one of the most successful projects that I have ever experienced. Right before Thanksgiving I brought in my power tools and we constructed the frame for the aquaponics setup. A student brought in an old fish tank and we were in business. Students researched during the 15 min. in the a.m. and 20 min. in the p.m. until they had everything they needed. I went to the store that weekend and bought the materials. We put the setup together and tested everything, then began to plant the 6 varieties of lettuce seed in the starter pods.

A friend who is a chemistry teacher at Oswego, and another person who teaches biology, let us use an advanced water sampling kit to collect dissolved oxygen, nitrite, nitrate, ph, and a TDS meter was also purchased to analyze the water quality. Students took turns recording data into our notebook and then eventually we turned it into line graphs. If PH up or down needed to be added we adjusted accordingly. Only one fish died during the duration of the project, so we did pretty well keeping their environment suitable. I think that this is a project that will stick with a lot of them for their educational careers. The fact that they harvested 8 + gallon bags of lettuce out of something they created was amazing.

Overall, I think that through project smart and the Entergy grant assistance they allow me the opportunity to do something that not all teachers have to offer their students. The trip to SUNY Oswego was not only very fun, but it opened up the eyes to some students that didn't really think they could go to college. Over 50% of the grade level had never been to a college campus. The beautiful new science buildings and careers surrounding technology that SUNY Oswego now has to offer is mind-boggling to students, especially when it is so close to home. I want to thank everyone involved in bringing such a wonderful experience to our students.