PROJECT SMART PARTICIPANT TEAM REPORTS FOR FALL & SPRING SEMESTERS
ENTERGY SCHOOLS WITH IHE SUE WITMER
EDU 525 CREATING COLLABORATIVE SPACES FOR LEARNING

Participant's Names: **Sarah Bame, Stacy Dawson, Diana Proano at Riley Elementary School**

ACTION: Describe specifically how **Creating Collaborative Spaces** frameworks and curricula are incorporated into your project to cultivate and support student learning.

We have selected to explore the Next Generation Science Standards as our path for deeper exploration.

We all have tables in our classroom to promote collaborative spaces for working. We would like to design a Science unit on magnetism that aligns with the new Next Generation Science Standards. Our focus will be on incorporating an Engineering Aspect into the unit. We want to learn more about implementing engineering design tasks and write a unit that aligns with the Forces Standards for third grade. We plan to create a unit and design challenge with magnets. We will use the ETA Squeaky Clean Magnet Challenge. Students will explore the power of magnets and use them to make, test, and redesign a way to clean fish tanks without putting their hands into water. By using critical thinking, communication, and collaboration to design a solution for cleaning fish tanks, students prepare for essential skills of the 21st century. Students work through the Engineering Design Process – to learn the value of rethinking and supporting multiple solutions. We want to promote cooperative learning activities that utilize the collaborative spaces within the classroom. We want students to discuss ideas to solve problems, try them out and make changes to improve their designs. We will utilize privacy shields so that students at tables will have their own areas and privacy to design their own work. The unit will fully align with the new Generation Science standards. We will create a thematic unit that incorporates literature and math into the unit. Our district initiative is using Explicit Direct Instruction. Most of our lessons will align in this format, with the exception of the design challenge and that will be inquiry based.

RATIONALE: Fully state your **rationale** for the project. Why is this work important?

This work is important because we are transferring into the Next Generation Science Standards. We need to engage students in engineering and design activities in order to meet these new standards. The magnet materials will allow us to develop a new unit that aligns with the Next Generation Science Standards and promotes the critical thinking required. We have the tables to allow students to work together and the privacy shields will allow groups to work together with some privacy so that all groups don't design the same thing.

This year:
23 of 23 of Dawson's students have never engaged in an engineering design project,
21 of 21 of Proano's students have never engage in an engineering design project and
20 of 20 of Bame's students have never engaged in an engineering design project.

This year:
21 of 23 of Dawson's students like Science and want to do more of it.
17 of 21 of Proano's students like Science and want to do more of it.
16 of 20 of Bame's students like Science and want to do more of it.

Because of these results, we want to incorporate more Science into our year. Through engagement of high interest topics and providing students with a literature rich environment, we hope that their scores in ELA and Math will improve as well.

The STAR data for the beginning of the year shows that there are many improvements to be made. We hope that by providing students with literacy and math rich activities, that overall ELA and Math scores will improve. The baseline data is as follows:
Dawson STAR ELA

5 in need of urgent intervention
5 in need of intervention
3 slightly below benchmark
10 at benchmark

Dawson STAR Math
3 in need of urgent intervention
6 in need of intervention
14 at benchmark

Bame STAR ELA
9 in need of urgent intervention
1 in need of intervention
6 slightly below benchmark
4 at benchmark

Bame STAR Math
3 in need of urgent intervention
5 in need of intervention
2 slightly below benchmark
10 at benchmark

Proano STAR ELA
7 in need of urgent intervention
4 in need of intervention
3 slightly below benchmark
7 at benchmark

Proano STAR Math
2 in need of urgent intervention
4 in need of intervention
6 slightly below benchmark
9 at benchmark

Our daily schedule has our students in the classroom from 8:45 until 1, when they have their lunch. This is also their first break. We hope to arrange our classrooms and adjust our instruction to provide collaborative spaces for all of our students to learn. We cannot expect them to sit in their seats at 8 years old for such a long period of time. They need to be able to move around, work together and be productive learners in the spaces we provide. We also plan to utilize Go Noodle and incorporate Yoga activities into the day during transition times to help them emotionally. This type of environment will hopefully make it one in which all students can learn and help one another to be successful.

RESPONSIBILITIES/TIMELINE: Identify a series of **action steps** you will take to complete your project. Next to each step, identify person(s) **responsible** for carrying out that task. For each step also identify your **timelin**e (during what month(s) you plan to complete each step).

October- Analyze Data, design proposal
November- Order Materials
December/January – Implement Magnet Design
February/March – Balloon Car Design
May – Analyze Data, Final Report

EVALUATION: What **data** will you collect that shows the impact of your project on teacher and student learning? How will you document student learning? Teacher learning?

We will provide students with a survey to evaluate their feelings regarding collaborative work and Science in the classroom. They will identify their feelings about science and their abilities to design and build at the beginning of the design challenges. At the end, we will reassess them and compare their results. Our hope is that their social and

emotional well-being will improve, and they will be more likely to take risks and be happier in the classroom and work collaboratively with one another.

Additionally, we intend to use the ELA and Math STAR assessments to see if overall learning in the classroom improved when students collaborate and work together to deepen their understanding.

Every day the three of us meet for 30 minutes during our lunch and for 40 minutes during our planning. During this time, we debrief all of our lessons that were taught that morning. We discuss what went well, what didn't go so well, what are students understood and where they lacked learning. We then discuss what specific lessons to plan for the next day. We bounce ideas off each other and build lessons collaboratively to best meet the needs of our students. We make notes on the lessons so that we can make improvements from year to year. We will continue to document our lesson plans with our own learning to make it better for the future. We learn from each other and try to improve our own craft. The STAR test results will show whether or not students are learning.

RESOURCES: What resources will you need for this project? What costs, if any, will be incurred? What are possible sources of funding for needed resources?

Carolina – Magnet Lab Kit (3) $38.95 = 119.55
Carolina – Magnet Center (3) $51.00= 153.00
Carolina Shipping/Handling = $30.00
Really Good Stuff – Privacy Shields (3 sets of 12) = $119.97
ETA - STEM in Action® Squeaky Clean Magnets Challenge $299.00
Miscellaneous consumable materials to supplement the design challenge - $80.00
Total Project not to exceed $800.00

STACY DAWSON UPDATE: Please update us on any changes you made to your team action plan.

The biggest changes to my action plan were in the area of the timeline. Students became interested in things and then I'd veer off and create activities to meet their interests. We ended up creating task forces throughout the year that incorporated collaboration and cooperative learning in all content areas. We set out to focus on Science activities but ended up incorporating 21st century learning skills into all subject areas. Students learned to problem solve, work together, share ideas and use the collaborative spaces around them to come up with solutions to everyday problems. Having a flexible seating classroom allowed me to teach all content areas in a different, more meaningful way.

ANALYSIS OF DATA ON TEACHER LEARNING: We examined our reflections and found the following: (Support each claim with examples/evidence).

I found that having my teammates be part of ENTERGY helped me to learn a lot! I have spent years getting students to work together to gain a deeper understanding of concepts. This year, it was me that had to practice what I preach! We planned together daily, and I found that three minds are much better than one! We worked through and planned lessons that are more meaningful and engaging for all third-grade students. The best part was that all third graders benefitted. In the past, I would have to share a few things with my teammates to keep everyone involved but ENTERGY/Exelon made it possible for all three of us to have the resources needed.
I was able to improve my teaching style this year. Group activities have been infiltrated into all subject areas. I have improved strategies to teach students how to work effectively with one another. Giving students the background knowledge to be successful in completing tasks worked best. Then, giving them the time to work together to plan helped their designs to be more successful. Giving them the opportunity to improve their designs is where I found the most learning occurs, and this is the part that I would often skip before.

I learned that I had to cut down the time I spent on direction instruction. This wasn't a class that was able to sit for a long period of time to listen to me. I had to design tasks that were engaging, involved movement and allowed students to construct meaning of content.

I learned that redesigning my classroom and my instructional style allowed more students to be successful in my classroom. As the year progressed I found that behavior problems and disruptions were minimal because students were engaged.

I found that using Go Noodle helped the students with mindfulness practices. This helped to settle them. They all know how to take relaxation breaths and how to manage their stress better. They enjoyed the stress relieving activities and ask for it several times a day. They are quick 2-3-minute activities and benefit all students in the class. Having your mind take a break allows them to come back and have a fresh look at things. They learned to take walks or mental breaks which helped them to come back and focus. I found students who participated with the school psychologist in a mindfulness study were using the strategies that they learned.

ANALYSIS OF DATA ON STUDENT LEARNING: We examined _____ and found the following: (Give examples/evidence for each claim).

I examined my STAR ELA data and found that:

I had 5 students in need of urgent intervention in September and only 1 in May.
I had 5 students in need of intervention in September and only 3 in May.
I had 3 students slightly below benchmark in September and 5 in May because some had moved up from urgent and intervention.
I had 10 students benchmark in September and 15 in May.

At the beginning of the year I had 30.4% of my students at or above the 50th percentile. At the end of the year, there were 62.5% of my students at or above the 50th percentile. As a class, their scaled score increased an average of 132 points on STAR and their class average went from a 2.9 grade level to a 3.9 grade level. Most students are now reading on grade level or above.

I examined my STAR Math data and found that

I had 3 students in need of urgent intervention in September and 0 in May.
I had 6 students in need of intervention in September and only 2 in May.
I had 0 students slightly below benchmark in September and 2 in May.
I had 14 students benchmark in September and 20 in May.

At the beginning of the year I had 60.8% of my students at or above the 50th percentile and in May 79.2% of students were at or above the 50th percentile. As a class average, their scaled score increased an average of 129 points on the STAR test and their class average grade level went from a 3.0 to a 4.6. They also increased 21 percentage points on average. Nearly all students are at or able grade level for math. The significant growth in math can be attributed to the hands on engaging lessons throughout the year. Students are going deeper with their learning when they have to construct and work together.

Also, having the privacy shields for assessment purposes helped students to have relaxed, defined personal space. Although it is nice to have tables for cooperative learning experiences, the dividers provide the opportunity for them to have their own space for certain situations.

DIANA PROANO UPDATE: Please update us on any changes you made to your team action plan.

The biggest changes to my action plan were in the area of the timeline. Students became interested in things and then I'd veer off and create activities to meet their interests. We ended up creating task forces throughout the year that incorporated collaboration and cooperative learning in all content areas. We set out to focus on Science activities but ended up incorporating 21st century learning skills into all subject areas. Students learned to problem solve, work together, share ideas and use the collaborative spaces around them to come up with solutions to everyday problems. Having a flexible seating classroom allowed me to teach all content areas in a different, more meaningful way.

ANALYSIS OF DATA ON TEACHER LEARNING: We examined our reflections and found the following: (Support each claim with examples/evidence).

Becoming part of the Entergy/Exelon project this year was huge benefit to my teaching and to my students. As 3rd grade team we worked together to create highly effective lessons as well as more a mindful classroom atmosphere. Our 3rd grade team became stronger because we worked together to plan, implement and reflect on lessons taught in our classrooms. Stacy's experience helped keep us on track and lead us to success and having common resources made it much easier to execute lessons and create a pace we could do together.

We created lessons around group work we called a "Task force" in all subject areas. Allowing children time to build meaning with their peers is wonderful to watch unfold. I came to realize quickly students in charge of their learning with the correct amount of scaffolding and support creates high functioning, motivated learners. Students planned designs together and given the opportunity, returned to improve their designs. We were missing that element of instruction, allowing students the time to work towards improvement. And what I found was many students automatically tried out different ways to do things. They were curious and as teachers, we encouragement their curiosity. '

Engaged students are happy students, they are focused on the task at hand because they are in charge. I lessoned my talking time to shorter spurts of on the spot teaching. My teaching style improved when I let go of long teacher directed instruction but when needed I made sure I utilized turn and talk partners to keep them engaged and focused. I rarely had any behaviors doing lessons designed around task force groups because they were excited to Move through the tasks assigned feeling empowered and in charge of their learning.

Our privacy shields helped define personal space for task force groups and for individuals during assessments Tables are excellent for cooperative learning experiences, but dividers provide them with personal space when needed. Dividers create a nook that make certain students feel more comfortable and relaxed in testing situations.

To foster mindfulness practice in the classroom (especially in the winter months) I used GoNoodle seated yoga exercises. These were becoming an intricate part of day because we are in the classroom from 8:45-1:00.
All are short activities that were beneficial to all students in the class and helped students transition from one subject to the next. Also 4 students were allowed to participate with the school psychologist in a mindfulness study used strategies that they learned to center themselves when needed.

ANALYSIS OF DATA ON STUDENT LEARNING: We examined _____ and found the following: (Give examples/evidence for each claim).

I examined my STAR ELA data and found that:
I had 6 students in need of urgent intervention in September and only in May.
I had 4 students in need of intervention in September and only in May.

I had 3 students slightly below benchmark in September and in May.
I had 8 students benchmark in September and in May.

I examined my STAR Math data and found that:
I had 2 students in need of urgent intervention in September and only in May.
I had 4 students in need of intervention in September and only in May.
I had 6 students slightly below benchmark in September and in May.
I had 9 students benchmark in September and in May.

SARAH BAME UPDATE: Please update us on any changes you made to your team action plan.

The biggest changes to my action plan were time related. Time really got away from us this year and everything that we created that was not planned all came from the students' interest. We ended up creating task forces throughout the year that incorporated collaboration and cooperative learning in all content areas. Science was the focus of most of our lessons and units created but we also incorporated a lot of technology throughout these as well. Students learned to problem solve, work together, share ideas with one another in order to come up with solutions to the science exploration activities they participated in.

ANALYSIS OF DATA ON TEACHER LEARNING: We examined our reflections and found the following: (Support each claim with examples/evidence).

This year was my first year working in 3rd grade and with my teammates. They truly taught me so much this year and I feel like I am a better teacher due to this experience and working with them. Collaborating daily was something I was not used to being on previous teams but have always wanted! One of the biggest things that I added to my curriculum this year was the use of "task forces" or collaborative group work. This was something Diana and Stacy created a few years ago and implement throughout the year. These task forces are amazing to see and listen to when the kids take the lead and get moving. One of the things I was most grateful for this year was the materials provided for our 3rd graders by ENTERGY/EXELON.

As I mentioned before, the task forces or their collaborative groups that the students worked in in all subject areas, was one of the best things implemented in my room this year. We assign one "facilitator" or one leader of their task force. This person plays a huge role in the success of the tasks to follow. Before students go off and work in their groups on their own, we provide the background knowledge needed to be successful throughout the task force. The tasks vary depending on what subject we are teaching and what standards we are trying to hit. We used this group work throughout all science lessons and throughout the science curriculum taught this year... When we use Mystery Doug, he incorporates a lot of partner or small group work. To see the independence and leadership throughout these groups is incredible. Students want to be leaders and work hard when they are encouraged to do so and provided with the confidence to do so. These groups are ability based so the high students work with highs and the lows work with the lows with more teacher support.

I introduced my co-workers to GoNoodle which is something that I have used in my past classrooms and previous grade levels. Our mornings are extremely long, with the students not getting a break until 1 pm. They NEED not only a movement break but also a mindfulness break/practice as well. Students can get antsy even with the most engaging lesson or experiment. This is one reason why we did so many hands-on science experiments that were student led. They needed to explore and try things out to see what works and what doesn't, but I realized that this break is crucial to their participation, attitude, and overall performance in the classroom. I found that my students not only needed this but enjoyed it and requested it multiple times throughout the day. If there was ever a day we didn't get a chance to do

one or if our schedule had changed I noticed negative effects throughout the classroom as a whole. This site allows for breathing activities, stress relieving activities, yoga, movement breaks etc. Some of these can be 2-3 minutes and others could be up to 10. Overall, I believe the amount of negative behaviors and disruptions decreased throughout the year because of this.

ANALYSIS OF DATA ON STUDENT LEARNING: We examined _____ and found the following: (Give examples/evidence for each claim).

(We have not STAR tested for May yet)

I examined my STAR ELA data and found that:
I had 6 students in need of urgent intervention in September and only in May.
I had students in need of intervention in September and only in May.
I had students slightly below benchmark in September and in May.
I had students benchmark in September and In May.

I examined my STAR Math data and found that:

I had 3 students in need of urgent intervention in September and only in May.
I had 6 students in need of intervention in September and only in May.
I had 0 students slightly below benchmark in September and in May.
I had 14 students benchmark in September and in May.

The STAR data proves that student learning was plentiful in my classroom this year. The high level of engagement in all areas helped student's literacy and math scores to improve significantly.

Also, having the privacy shields for assessment purposes helped students to have relaxed, defined personal space.

Although it is nice to have tables for cooperative learning experiences, the dividers provide the opportunity for them to have their own space for certain situations.

Participant's Names: **Caitlin Carroll, Nicole Freebern, Stephanie Green, and Courtney Johnston at Fitzhugh Park & Kingsford Park Schools**

ACTION: Describe specifically how **Creating Collaborative Spaces** frameworks and curricula are incorporated into your project to cultivate and support student learning.

Our project is important to us because we feel that every student deserves a positive, safe, and enjoyable learning environment. Classrooms need to provide students with a learning community that encourages them to take risks, learn, think critically, and allow them to reach their full learning potential. Students need to feel like they belong to a classroom community and that they are important. This year, we are going to create a responsive classroom where students will take risks and think outside the box using STEM activities. Teachers will provide engaging STEM activities that will allow students to interact with peers, be challenged, connect to their interests, and have purpose. Teachers will create and support a positive community in their responsive classroom. The teacher's job will be to develop a sense of belonging for all students, provide a safe learning environment where all students feel comfortable taking risks, and allow students to work with a variety of peers. In our responsive classroom setting, students will feel

like their work is significant and important. Teachers will create a calm classroom environment that is effectively managed and allows for students to focus on their STEM learning. The responsive classroom and STEM activities will increase student engagement, improve academic achievement, decrease discipline problems, and lead to high-quality teaching.

2 Freebern/Green: Our second-grade students will mentor, and peer teach the STEM activities to the kindergarten students in Mrs. Johnston's classroom. We will also be creating STEM bins to use within our classroom. STEM bins will be hands-on activities for students that finish work early, to use during centers, for morning work, positive reinforcement for behavior, or to help calm students. STEM bins are plastic boxes that are filled with engineering manipulatives (Legos, toothpicks, playdough, blocks, etc.) These boxes will contain sets of task cards that have picture tasks for students to complete.

3 Johnston: My Kindergarten students will get to work collaboratively with second graders to complete STEM challenges each month. The STEM activities will be hands on learning where students are actively engaged in Science, Technology, Engineering and Math. STEM activities will provide a fun and engaging way to get all of my students involved and to decrease behavior problems. I will also be using flexible seating in my classroom to meet all of my student's needs. Teachers need to change their classroom environment to meet the needs of their students. My students will be able to sit in a seat where they feel comfortable and allow them to focus during instruction. Flexible seating will help make my classroom environment be more collaborative, increase communication, and increase creativity.

4 Carroll: My goal will be to foster a sense of independence and confidence in my students through the use of Science, Technology, Engineering and Math hands-on activities. Students will use problem solving and critical thinking skills to explore concepts within these curricular areas. These skills will then become interchangeable into other curricular areas such as: ELA and Writing. I will use these STEM activities for positive behavior reinforcement, centers work, and a supplement to current science curriculum. Students in my class will mentor other fourth grade students in these activities, as this will help us prepare for the NYS Science Exam in Grade 4 that requires three hands-on experiments. I will also be using flexible seating within my classroom as a way to foster engagement in learning, as well as student ability to focus on instruction and tasks. Flexible seating will provide my students with more opportunities for collaboration and cooperative learning experiences.

RATIONALE: Fully state your **rationale** for the project. Why is this work important?

Rationale for this project:
There is need within our classrooms to create a responsive classroom that provides students with a positive, safe, and enjoyable learning environment.

A need to create STEM activities to allow for students to interact with peers, to take risks in the Science, Technology, Engineering and Math curriculums, and challenge their thinking.

The need to shift from the "traditional classroom" to a "student-centered" classroom that supports the needs of social-emotional learners/21st Century learners.

A need to shift our teaching to meet and implement the new Common Core state science standards into our classroom. Provide students with flexible learning space that will allow for students to work collaboratively and independently, while fully engaging them.

Freebern/Green Data:
We have 11 out of 22 students that have had significant traumas in their lives that have increased their social and emotional needs. These needs are impacting their academic learning.

The data showed that 13 out of 22 students did not have appropriate grade level social skills when interacting with

peers.
100% of students should be able to focus on a task for at least 20 minutes.

Create a safe learning environment for all students, but especially trauma students. Data shows that 18 out of 22 students can't focus on a task for 5 minutes.

We have 13 out of 22 that lack grade level appropriate social skills. We have 2 out of 22 students that have to be removed daily from my classroom for behavioral reasons.

Star Math data shows that 14 out of 22 are performing below grade level in math. Star Reading data shows that 15 out of 22 students are reading and writing below grade level.

0 out of 22 students have engaged in STEM activities in kindergarten or first grade.

Johnston Data:
I have 4 out of 18 students that have had significant traumas in their lives that have increased their social and emotional needs. These needs are impacting their academic learning.

The data showed that 15 out of 18 students did not have appropriate grade level social skills when interacting with their peers.

100% of students should be able to focus on a task for at least 10 minutes.

Create a safe learning environment for all students, but especially trauma students. Data shows that 10 of 18 students can't focus on a task for 5 minutes. At Kindergarten students are learning how to manage emotions, build social skills and develop positive relationships with their classmates.

Star Reading and Math data shows that 12 out of 18 students are reading and writing below grade level.

0 out of 18 students have engaged in STEM activities.

Carroll Data:
According to the NY State Testing Program benchmarks, STAR Reading Data shows that 9 out of 16 students are reading and writing at the Intervention Level, while 4 out of 16 are reading and writing at the Urgent Intervention Level.

According to the NY State Testing Program benchmarks, STAR Math Data shows that 6 out of 16 students are mathematically performing at the Intervention Level, while 9 out of 16 are mathematically performing at the Urgent Intervention Level.

Student survey shows that 100% of students would like to see an increase in the amount of hands-on science curriculum.

Observational data shows that 8 out of 16 students did not exhibit appropriate grade level social skills when interacting with peers, without teacher prompting. Observational data shows that 9 out of 16 students are not able to remain focused on a task for a length of ten minutes (a grade appropriate amount of time).

This project is important because the state has developed new Common Core science standards that we are required to implement. In our current schedule, we do not have adequate time to teach science. Our current science block is 20 minutes four days a week (FPS) and 30 minutes five days a week (KPS). As teachers, we must find a creative way to incorporate science-based learning into other areas of our curriculum. This project will allow for our students to complete STEM activities throughout the year and develop a love for science, technology, engineering and math. STEM is an important part of our everyday life and students need to develop skills in these areas to think critically. STEM activities will help us create a responsive classroom environment.

RESPONSIBILITIES/TIMELINE: Identify a series of **action steps** you will take to complete your project. Next to each step, identify person(s) **responsible** for carrying out that task. For each step also identify your **timelin**e (during what month(s) you plan to complete each step).

September: We will be collecting student data. We will assess our students and get to know their needs. We will administer STAR ELA, STAR Math, and collect data on focusing and redirecting and social skills in our classrooms. We will also survey the students on the use of STEM activities in school.

October: We will submit our proposal for approval.

November: We will order materials for the project. We will continue to implement mindfulness practices into our classroom. We will start to implement mindful morning meetings into our daily routine. A colleague trained in mindfulness will come weekly into our classroom to help train staff and students on mindful school. We will continue to use gonoodle.com for movement breaks throughout the day. We will start teaching students deep breathing to help lower anxiety and calm the body. We will outline, develop and modify monthly STEM lesson plans for each of our classroom.

December: We will start to implement flexible setting into our classroom and establish a safe learning community for all students. We will set the rules for flexible seating and start letting the students try out different seating options. The classroom will be redesigned giving student's choice in which kind of learning space works best for them, meets their needs, and helps them work collaboratively, communicate, and engage in critical thinking. Teachers will model flexible seating.

We will also start implementing monthly STEM activities. We have three activities/lessons planned for each month. Second Grade students will also start mentoring their kindergarten buddy in Mrs. Johnston's classroom. The second-grade students will get a kindergarten student that will be their STEM buddy. Second grade students will peer teach the kindergarteners the STEM activity that they completed in their classroom. Fourth grade students will begin to learn the procedures of STEM activities through extensive teacher modeling and peer communication/feedback.

January-May: Students will use flexible seating throughout the day. We will monitor and assess how flexible seating is improving focusing, calming students, increasing motivation, and learning. We will continue developing and modifying monthly STEM lesson plans for our second-grade classroom. They will complete weekly tasks with their kindergarten buddy in the area of STEM. Teachers will progress monitor students throughout the STEM lessons and make changes based on data. Second grade students will peer teach the kindergarteners the STEM activity that they completed in their classroom. Fourth grade students will continue to use STEM activities to strengthen their knowledge of the Scientific Method, and foster confidence and independence in these activities. Fourth grade students will partake in cooperative learning experiences with peers in other fourth grade classrooms, modeling and peer teaching some STEM activities. Students at FPS will email/blog with fourth grade students at KPS about their monthly STEM activities.

May: We will be collecting student data. We will assess our students and get to know their needs. We will administer STAR ELA, STAR Math, and collect data on focusing and redirecting and social skills in our classroom. We will also resurvey the students on the use of STEM activities in school.

EVALUATION: What **data** will you collect that shows the impact of your project on teacher and student learning? How will you document student learning? Teacher learning?

The data that will be collected that shows the impact of our project on student learning is the STAR ELA, STAR Math, student observation, science survey, student feedback, teacher observation, and science journals. We will write SMART goals after each monthly data meeting. Students will be progress monitored monthly using the STAR ELA and STAR math. This can be used to document student and teacher learning. We will assess our students' social emotional learning through kid watching. We will make anecdotal notes for each student. In our notes we will comment

on what we are seeing in our classroom and also if the flexible classroom is calming our students and helping them focus. At the end of each quarter we will ask our students to reflect on the use of flexible seating and STEM activities in the classroom. We will use our students' reflections to help drive our classroom and instruction. At the end of the year we will have the students reflect on the projects we have done, and students will share the benefits of each activity.

Teachers will reflect on the learning of S.T.E.M activities. We will meet as a group and talk about what went well for the lessons. We will collaborate to see what improvements need to be made to improve our S.T.E.M. bins. Teachers will complete S.T.E.M. activity before giving students the task to make sure all directions are clear, and students have all supplies need. Expectations on the S.T.E.M cards will be clear with step by step directions. At the end of each month students will fill out a reflection sheet and this will help drive instruction and help us improve for future lessons.

We will document our classroom transformation with pictures. We will take before and after photos. We will use student feedback and input in order to help make this transformation student-centered. We will also take pictures of the STEM activities and students will develop a science portfolio that will display their learning.

RESOURCES: What resources will you need for this project? What costs, if any, will be incurred? What are possible sources of funding for needed resources?

The resources that we will need for our project will be:

- STEM monthly bundle activities/lessons for primary grades: $35 (Nicole, Stephanie, Courtney)
- STEM monthly bundle activities/lessons for intermediate grades: $25 (Caitlin)
- Supplies for STEM lessons: $214 (toothpicks, playdough, spoons, etc.)
- 3- 15 Drawer rolling cart storage for STEM lessons and supplies: 3 x 69.99 plus tax= $226 (One cart for each classroom)
- STEM bins: containers and supplies $100 (Nicole and Stephanie)
- Flexible seating chairs $100 (Courtney)
- Flexible seating chairs $100 (Caitlin)

Total for the project: $800

** All lessons and supplies will be shared in all three classrooms. Administrators will help support additional supplies needed for STEM activities.

We will also use all the flexible seating that was purchased last year with this project. We will continue and use the legos that were purchased to enhance our STEM activities.

FREEBERN/ GREEN UPDATE: Please update us on any changes you made to your team action plan.

Our goal this year was to create a responsive classroom where students felt comfortable to take risks and think outside the box. We created a classroom community where students were encouraged to take risks, learn, think critically, and allowed to reach their fullest learning potential. This was challenging at times and changes had to made in order to meet the needs of all our learners. Our team met in September and analyzed the data that was collected. We discussed our students' strengths and weaknesses. We identified the needs of our class and decided we would incorporate STEM into our curriculum. This year the state developed new common core science standards that we are required to implement. At the beginning of the year our schedule did not have adequate time to teach science. Our science block was 20 minutes four days a week at the end of the day. We needed to get creative and figure out a way to incorporate science-based learning into our curriculum. This project allowed for our students to complete STEM activities throughout the year and develop a love for science and math. The first thing we needed to do was to find a science time in our schedule. At the beginning of the year we started with having our science block after specials

from 3:00-3:20. This was the worst time of the day to have science and allowed for no time for hands on activities. Adjustments had to be made to our schedule and we had to get creative with working in a science block. We found a way to incorporate a science block in our schedule for a full 40 minutes. We also pulled the topics we were learning in science into our ELA block. Another change we made to our project was with our mentoring and peer teaching in our kindergarten class. Originally, we were only going to meet with them once a week and complete a STEM activity. After we completed a few STEM activities we decided we needed to meet more than once a week. We found that we wanted to meet two days a week, because there was so much learning and collaborating taking place. We were so impressed with the learning that was taking place.

By building a responsive classroom, we incorporated mindful morning meetings into our day. We start each day off with a mindful morning meeting that is led by the students. Our students come to the carpet and we go through our daily agenda, announcements, share out any news, and end with a mindful activity. Some examples of mindful activities are breathing activities, yoga, stretching, body scans, or empowering activities. Students are encouraged to participate in these activities but are never forced too. Most of the time all students participate in these mindful activities. Once a week we have an adult who is trained in mindfulness come in and teach a lesson on being mindful. A change that was made to our action plan was mindful journals. Each student has a mindful journal that we work in to help us remember our mindful strategies. These journals will be taken home at the end of the year so students can continue to use mindfulness in their lives. We have continued to use gonoodle.com throughout the day as mindful breaks and transitions between content areas.

One of the biggest changes in our action plan was in flexible seating. Unfortunately, this year we had a class that could not handle flexible seating and our administrator asked us to remove it from our classroom. At the beginning of April, all of our flexible seating was removed from our classroom and was given to Mrs. Johnston's kindergarten classroom to use for the remainder of the year. We will try to use flexible seating with next year's class because I truly feel that it is beneficial. The reason our administrator asked us to remove the flexible seating was because of behaviors and safety. I had a handful of students that ruined it for the entire class. I had one child that was coming to school and sleeping in the bean bags every day for two to three hours a day. We decided to remove the beanbags and then he went to the couch. The other problem we faced with flexible seating was safety. I had a few students that were making unsafe decisions with the seating and got hurt. We tried multiple strategies to make flexible seating work in our classroom and nothing seemed to work.

JOHNSTON UPDATE:

My goal was to create a responsive classroom where students stepped out of their comfort zones and took risks. I built a classroom community in September where all of my students knew their expectations and roles in my classroom. I wanted my students to feel comfortable collaborating with their peers to complete tasks. I strive to have all my students work together, take risks, and work to their fullest potential. In the beginning of the year, this was difficult for most of my students since they are so young, and school is new to some of them. Many of my students lack social and emotional skills. I had to make changes along the way to meet the needs of my students. I met with my team in September and we analyzed our data. We looked at our student's strengths and weaknesses which, helped us pinpoint the needs of our students. We decided to incorporate STEM into our curriculum to engage our young learners in Science, Technology, Engineering and Math. This year our school district adopted new common core science standards for each grade level and implemented one new unit. Our schedule is pretty packed so finding the time to fit Science in is very difficult, but we knew how essential it is to teach students hands on Science. I was able to rearrange my schedule where I could have a solid 40-minute block to teach science. This gave me a chance to create and implement rich science lessons. In the beginning of the year, we worked with a second-grade class once a week to complete a STEM challenge. After meeting a few times, we realized that one day a week was not enough time. We started to meet twice a week. This gave us a chance to break the STEM challenge into two days. The students had more time to develop their plans, complete their projects, test their project and make

changes/improvements if they needed them. By completing STEM challenges, students had a chance to collaborate with their peers and complete hands on science projects. My students truly developed a love for Science and Math this year.

This year our school district piloted a mindfulness program which aligns nicely with creating a responsive classroom. Once a week we have a trained teacher/staff member push into our classrooms to teach the students a mindful lesson. Each week the lessons build on each other. Each day every classroom in our building started their day off with a mindful morning. In my classroom we started our day off with a mindful morning meeting at our carpet. During this time, we complete our morning message, which tells us about the day, our calendar where we talk about important dates for the month, a mindful minute challenge (breathing or yoga exercise), and good and new where the students have a chance to share out something about their lives. Throughout the day I use mindfulness if my students are stressed, upset, frustrated, angry, etc. My students are able to calm their bodies down and regulate their emotions by taking deep, mindful breaths.

In my action plan, I was originally going to use flexible seating with my students. After getting to know my students, I felt that there was a bigger need in my classroom. Many of my students lacked social skills. My students did not know how to interact with each other or work together. Instead of ordering flexible seating, I order STEM manipulatives that my students use on a daily basis. I ordered magnetic tiles, k'nex toys, and motion sand. I used these during center time and play choice. This gives students a chance to work together to build things. Often, I would join a group and give them a challenge to see if they could build something. I was able to work with the students to show them how to share and work together to build things. My student's social skills have improved tremendously.

CARROLL UPDATE:

My goal this year was to foster a sense of independence and confidence in my students through the use of Science, Technology, Engineering and Math hands-on activities. Students were to learn how to use problem solving and critical thinking skills to explore concepts within these curricular areas. My hopes were that these skills would then become interchangeable into other curricular areas such as: ELA and Writing. When creating my action plan, my goal was to use these STEM activities for positive behavior reinforcement, centers work, and a supplement to current science curriculum. Throughout the school year, I implemented STEM activities that correlated with my science curriculum, as well as my social studies curriculum. My students were first introduced to this as a supplement to science curriculum, but then grew accustomed to how fun and exciting the activities were which created positive behavior reinforcement!

In my action plan, my goal was for students in my class to mentor other fourth grade students in these activities, as this would help us prepare for the NYS Science Exam in Grade 4 that requires three hands-on experiments. As the year went on, I found it was difficult to find collaborative time often enough to mentor another classroom on these STEM activities. As a grade level team, I did share my STEM Challenges with my colleagues and they have begun to use these resources in their classrooms, as well.

My goal was to use flexible seating within my classroom as a way to foster engagement in learning, as well as student ability to focus on instruction and tasks. Flexible seating would provide my students with more opportunities for collaboration and cooperative learning experiences. As I got to know my students better, I was not sure they were responsible and mature enough to use flexible seating items appropriately. Toward February, I began to notice that most of my students were beginning to show the appropriate amount of independence and responsibility I would want to implement the flexible seating. I chose to order five balance balls to use at my guided reading table. My hope was that these seating options would help my students to focus during reading and ELA instruction. The change from my original action plan is that my students have not been using flexible seating for as long of a period as I had originally planned. My goal is to begin using these seats right from the beginning of next school year so students will be well aware of the expectations right when they step foot into the classroom.

While looking at my action plan, I realized that I wanted to incorporate another way to use mindfulness in my classroom this year. I began to use a research-based strategy called The Second Step Program. This program promotes mindfulness and social appropriateness. Every week, I teach a lesson from this program to my class. Some of the topics include: empathy, emotion management, strong feelings, calming down anger, etc. Within these lessons, the students are able to watch a video clip and listen to a song that helps them learn strategies and techniques to manage their feelings in all different social situations. This was an update added to my fall action plan.

ANALYSIS OF DATA ON TEACHER LEARNING: We examined our reflections and found the following: (Support each claim with examples/evidence).

FREEBERN/GREEN ANALYSIS:

This project allowed us to create engaging STEM activities that allowed students to interact with peers, be challenging, connect to their interests, and have purpose. Through mindfulness practice and responsive classroom, we created and a support positive classroom community. This positive learning community allowed students to have a sense of belonging, provided a safe learning environment where all students felt comfortable taking risks, and allowed students to work with a variety of peers. In our responsive classroom setting students feel like their work is significant and important. Teachers created a calm classroom environment that is effectively managed and allows for students to focus on their STEM learning. The responsive classroom and STEM activities increased student engagement, improved academic achievement, decreased discipline problems, and led to high-quality teaching.

Throughout the year teachers reflected on the learning of S.T.E.M activities. We met as a group and talked about what went well for each lesson. We collaborated to see what improvements needed to be made to improve our S.T.E.M. bins. Teachers completed S.T.E.M. activity before giving students the task to make sure all directions were clear, and students had all supplies needed. Expectations on the S.T.E.M cards had clear step by step directions. At the end of each month students filled out a reflection sheet and this help drive instruction and helped us improve these activities for future lessons.

By utilizing these STEM activities into our curriculum, we saw an increase in academics and a decrease in behaviors. Students are excited about science and love working with their kindergarten buddies.

Some of the quotes from our students about STEM activities:

“I love working with my kindergarten buddy and being the teacher.”

“Science is so much fun. We are learning new things and having fun at the same time.”

“I didn’t know science could be so much fun.”

“Can we try this again at recess time?”

“I can’t wait to try this at home with my mom. She is never going to believe that I made this boat and it floats.”

“I taught my second-grade buddy something knew. I am as smart as a second grader.” (this came out of a kindergarten student’s mouth)

By creating a mindful morning meeting in the morning, we were able to create a positive classroom community. This practice allowed for my students to come together as a community and develop strategies to help them focus their minds. By giving them mindful strategies, we are helping prepare our students to be college and career ready. Today students are faced with abundance of stress and students need to learn at an early age how to deal with this stress. By using mindfulness practice students learned how to readjust their thinking through breathing techniques, yoga style practices, and mind clearing exercises. Students use and practice mindfulness activities to build social and emotional skills. We continue to use “gonoodle.com” daily to help engage in mindful activities.

JOHNSTON ANALYSIS:

This project has provided my classroom with engaging hands on STEM activities. These activities have helped students develop social skills and has taught them how to work collaboratively with other students. I was able to connect these lessons to things that interest the students and also challenge them. By using mindfulness in my classroom daily it has created a warm, calm, and positive learning environment for every student. As the students enter my classroom they know that they are in a safe environment where they will be loved and able to take chances and learn. Overall by creating a responsive classroom I have noticed that my students have positive attitudes, I see an excitement for learning and my students are excelling academically.

Throughout this year I have taken the time to observe my students and reflect on lessons. I have also meet with my team to reflect as well. Together we were able to pinpoint strengths and weaknesses for each lesson. Before implementing lessons, the teachers tested the lesson out at home to make sure the directions were clear, and that the activity was age appropriate. We talked what changes we would implement for next year. We also share ideas that we can each try in our classroom this year and next year. As we shared different ideas we talked about how we can modify the lessons to make sure it ages appropriate for our students. I feel that we have learned a lot and grown throughout this year with our STEM challenges. I am excited to see what next year has instore for our incoming students.

I listed some quotes that I often heard my students say about their second-grade buddy and about completing STEM activities:

“Mrs. Johnston what time are the second graders coming down for STEM today?”

“What is our STEM challenge today?”

“I can’t wait to work with my second-grade buddy.”

“I love STEM Challenges”

“I am going to ask my mom if I can try this at home.”

“Science is neat.”

In my Kindergarten classroom I have seen a decrease in disruptive behaviors and an increase in student participation and engagement. I have seen students grow academically. Since my students had second grade mentors they have formed a bond with their buddy and learned a lot from them. STEM Challenges and mindfulness have really had a positive impact on my classroom this year. I think these two things have helped create my classroom community this year. My students are able to self-regulate and calm their bodies down which helps them get ready to focus and complete a task. My students are also able to work together to complete projects which can be challenging at the kindergarten level. Overall my students are calmer, less stressed and more excited about learning. STEM has allowed me to differentiate lessons to reach every type of learner. My students have developed skills that they will be able to use throughout school and life.

CARROLL ANALYSIS:

This year, Project SMART was influential in my learning and reflective processes as an educator. By collaborating with my Project SMART teammates, as well as others who were enrolled in Project SMART, I learned valuable new strategies on how to implement a collaborative, creative learning environment in my classroom. In the beginning of the year, I looked at data to determine my students’ strengths and weaknesses and how best to reach those gaps of learning. I believe that this type of reflective planning helped to create a welcoming, safe learning environment where my students felt confident to dive into their STEM Challenges.

When my students entered my classroom in September, I made sure to build a classroom community where social expectations and ideas of how to treat one another were clearly outlined. I believe this had a large impact on the type

of conversations and learning discussions I observed while walking around during STEM activities. I could hear students using questioning techniques I had previously taught, along with constructive ways to agree/disagree with one another. Students were having fun, all the while meeting learning standards from science, social studies, math and even ELA speaking and listening. Collaborative pairs and groupings fostered relationships between all of my students, even ones who did not get along in the past. Using the Second Step program and integrating mindfulness through movement and exercise breaks, my students were able to learn because their social, emotional and physical needs were also being addressed during the day. Engaging curriculum, flexible seating and mindful practices excited my students and created a classroom where they wanted to come learn each and every day.

Our Project SMART team did a lot of collaborating to make sure that the lessons we created and were using were the right fit for each of our grade levels. We discussed ways that we could possibly manipulate the activities to make it appropriate for younger and older students. If one of us did an activity before the other, we would share ways to improve and things we would do differently next time. This collaboration and reflection helped us to be prepared for each lesson, as well as allows us to create this same type of rigorous, enjoyable learning for our students coming into our classrooms next year. I believe that our use of STEM challenges this year has instilled an excitement and enthusiasm surrounding science, technology, engineering and math for these students. I hope they are able to carry this momentum with them to their next grade level. Next year, I plan to incorporate the same strategies, as well as finding time for more hands-on STEM Challenges.

ANALYSIS OF DATA ON STUDENT LEARNING: We examined _____ and found the following: (Give examples/evidence for each claim).

FREEBERN/GREEN DATA:

We have 11 out of 22 students that have had significant traumas in their lives that have increased their social and emotional needs. These needs are impacting their academic learning. I still have the same number of students that have significant traumas in their lives. However, by creating a responsive classroom these students are able to leave “their stressors” at the door and focus on academics. These students are able to complete classroom activities, motivated to learn, and engaged in activities.

In May 2018 the data shows that 5 out of 22 students did not have appropriate grade level social skills when interacting with peers. In the fall 59% of the students did not have appropriate grade level social skills and in May 2018 22% still do not have appropriate grade level skills. This project has helped decrease this 37%.

100% of students should be able to focus on a task for at least 20 minutes. In May 2018 98% of my students can focus for 20 minutes on task.

Create a safe learning environment for all students, but especially trauma students. Data shows that 18 out of 22 students can’t focus on a task for 5 minutes. In May the data shows that 0 out of 22 students can’t focus on a 5-minute task. In the fall 81% of the students couldn’t focus for 5 minutes. In May 2018 0% of the students can’t focus on a 5-minute task. All students were able to focus on a task for at least 5 minutes. This is a huge improvement from the fall. In the fall we have 13 out of 22 that lack grade level appropriate social skills. In May 2018 we have 4 out of 22 students that lack grade level appropriate social skills.

We have 2 out of 22 students that have to be removed daily from my classroom for behavioral reasons. In May 2018 we have 1 out of 22 students that have to be removed twice a week from the classroom for behavioral reasons. The other students have not been removed from the classroom since before Christmas break.

Star Math data shows that 14 out of 22 are performing below grade level in math. In May 2018 we have 5 out of 22 students performing below grade level in math.

Star Reading data shows that 15 out of 22 students are reading and writing below grade level. In May 2018 we have 7 out of 22 students performing below grade level in math.

Fall Data: 0 out 22 students have engaged in STEM activities in kindergarten or first grade.

May Data: In 22 out of 22 students have engaged in STEM activities in second grade.

Through teacher reflection and monitoring we have noticed that our second-grade students are more excited about STEM activities. There is a decrease in disruptive behaviors during this time and an increase in student participation. Students are eager to engage in hands on science activities. It is nice to see students eager and motivated to learn.

JOHNSTON DATA:

I have 4 out of 18 students that have had significant traumas in their lives that have increased their social and emotional needs. These needs are impacting their academic learning. Since the Fall I have had a few news students enter my classroom. I have also had some dynamics change in my some of my student's lives. I now have 8 out of 21 students that have had significant traumas in their lives. By adapting new teaching styles and bringing new strategies into the classroom I have seen a positive impact. The manipulatives and stem challenges that I use daily/weekly in my classroom have allowed students to put their stress and anxiety to the side and focus on learning. These students are engaged, excited and eager to participate and complete tasks.

The data showed that 15 out of 18 students did not have appropriate grade level social skills when interacting with their peers. By incorporating stem challenges into our weekly schedule with our second-grade buddies it has improved our social skills drastically. My students have learned how to work with partners and in small groups. My students are now sharing, collaborating, taking turns, and getting along. I now have 2 out of 21 students that lack appropriate grade level social skills when interacting with their peers.

100% of students should be able to focus on a task for at least 10 minutes. In May 95% of my students can focus on a task for at least 10 minutes.

Create a safe learning environment for all students, but especially trauma students. Data shows that 10 of 18 students can't focus on a task for 5 minutes. At Kindergarten students are learning how to manage emotions, build social skills and develop positive relationships with their classmates. In the fall 55% of the students couldn't focus for 5 minutes. In May 2018 0% of the students can't focus on a 5-minute task. All students were able to focus on a task for at least 5 minutes. This is a huge improvement from the fall.

Star Reading and Math data shows that 12 out of 18 students are reading and writing below grade level.

In May 2018 I have 5 out of 21 students performing below grade level in ELA and Math.

0 out 18 students have engaged in STEM activities. In May 2018 21 out of 21 students have engaged in STEM activities in Kindergarten.

Through observations, discussions and reflections I have noticed that my kindergarten students enjoy STEM challenges. My students often ask when their second-grade buddies will be coming into our classroom for our challenge. My students look forward to working with their buddies. During our STEM activities there has been a decrease in disruptive behaviors in my classroom. It is nice to see how passionate the students are about hands on Science projects and how eager they are each week to see what the challenge will be.

CARROLL DATA:

**September 2017 data will be listed in normal font, while May 2018 data will be compared in bold font. **

o According to the NY State Testing Program benchmarks, STAR Reading Data shows that 9 out of 16 students are reading and writing at the Intervention Level, while 4 out of 16 are reading and writing at the Urgent Intervention Level.

According to the NY State Testing Program benchmarks, STAR Reading Data shows that 4 out of 17 students are reading and writing at the Intervention Level, while 3 out of 17 are reading and writing at the Urgent Intervention Level. Through the instruction of the scientific method and STEM learning challenges, my students have had practice using their reading comprehension, sequential order and following directions strategies. They have also been asked to analyze, reflect and revise their work during these activities. At the end of each STEM challenge, we reflect orally within partners or whole group. These types of learning opportunities all fostered ways for my students to practice their reading, writing, listening and speaking standards.

o According to the NY State Testing Program benchmarks, STAR Math Data shows that 6 out of 16 students are mathematically performing at the Intervention Level, while 9 out of 16 are mathematically performing at the Urgent Intervention Level. According to the NY State Testing Program benchmarks, STAR Math Data shows that 2 out of 15 students are mathematically performing at the Intervention Level, while 1 out of 15 are mathematically performing at the Urgent Intervention Level. I have two new students who have yet to take this assessment data. Students needed to access current or background mathematical knowledge in order to create a plan for most of these STEM learning challenges. Examples of concepts that students used during this instruction were: area, perimeter, length, along with science concepts such as: force, motion, balance, weight. All of these opportunities to use their knowledge of the curriculum in a "real-life" experiment helped to enrich their mathematical learning.

o Student survey shows that 100% of students would like to see an increase in the amount of hands-on science curriculum. Student survey shows that 100% of students would like to see their next year's teacher use STEM activities in their classroom. Student excitement, engagement and willingness to participate in this curriculum is enough alone to continue creating time during the school day for this type of instruction. I plan to continue using this instruction, as well as sharing more of my findings with my colleagues.

o Observational data shows that 8 out of 16 students did not exhibit appropriate grade level social skills when interacting with peers, without teacher prompting. Observational data shows that 3 out of 17 students did not exhibit appropriate grade level social skills when interacting with peers, without teacher prompting. Opportunities for collaborative pairings and groupings fostered social skills instruction that helped my students to overcome obstacles they were facing before with below grade level social skills. Mindfulness practices, such as movement breaks and the Second Step program, supported my students with how to act socially appropriate during all different times of the school day.

o Observational data shows that 9 out of 16 students are not able to remain focused on a task for a length of ten minutes (a grade appropriate amount of time). Observational data shows that 4 out of 17 students are not able to remain focused on a task for a length of ten minutes (a grade appropriate amount of time). STEM Challenges have provided an outlet of energy for some of my students.

Through observations, data and reflections, I have witnessed STEM challenges enrich the learning in my classroom in most, if not all, curricular areas. Students are willing and eager to participate in these activities. We are providing our students opportunities for social growth and awareness that they may not have in other types of learning environments. The spring data above supports the continued use of STEM challenges in our classrooms for years to come.

Participant's Names: **Brad DePoint & Holly Rhoads at J.E. Lanigan Elementary**

Action:

This year students will be given the chance to essentially design their "ideal" learning environment. As the push for technology integration continues to become more of a reality, so does the environment in which students learn best. Many times, the standard classroom set up is not ideal for collaborative spaces using technology.

To start this project, we are teaching students how to create a scale model on graph paper of the classroom. Then, place the fixed items within the space, and finally get creative with what is left. They will have the opportunity to create their "ideal classroom". With the sketches we receive we will make decisions on what to order or include based on how much money we have to spend.

This involves several math, art, and career readiness standards to get them to a final product.

As always, when students have the opportunity to visit the SUNY Oswego, they are in awe. This gives students the opportunity to see something that many of them never dreamed of seeing. Each year I am amazed at how the trip opens students' eyes to what their future could hold. This is why I would like to continue to make the trip to the college in the Spring.

To continue focusing on mindfulness our school district has adopted a program called Second Steps. We have 15 minutes of time dedicated to teaching students how to be responsible, respectful, problem solvers, and most importantly do this together. We have many discussions that are led by prompts from the program. We will be able to teach students how to be responsive and adaptable to situations that arise with peers and have self-awareness about what they need as learners as well.

Rationale: Fully state your **rationale** for the project. Why is this work important?

This project is important because creating a productive learning environment for students is essential to results and learning. This project will also increase community involvement with (building furniture, boot scrapers, and other items for classroom comfort/community). The boot scraper idea came up because of how dirty the classroom carpets would get in previous grades when entering the building from recess time. Students are very excited to have the opportunity to be a part of the decision making that goes into their work environment.

Many students enjoy the option of the standing table that was introduced last year. Students often talk about how they would like other seating arrangements like they had in 4th or 5th grade. Research has been conducted that shows an increase in attention due to increased blood flow to the brain, academic focus, and overall better attitude toward learning.

Responsibilities/Timeline: Identify a series of **action steps** you will take to complete your project. Next to each step, identify person(s) **responsible** for carrying out that task. For each step also identify your **timeline** (during what month(s) you plan to complete each step).

List of action steps:

October- Have students brainstorm ideas of "ideal collaborative classroom" on graph paper.
November- Analyze and discuss options based on student drawings (look for themes)
take a field trip to storage area at 4th street for repurposing furniture
November- collect data for on-task/off-task
Survey for classroom about seating
End of December- Phase 1
January-Feb.-Phase 2
End of March-
May 7-11-Trip to college.

Evaluation: What **data** will you collect that shows the impact of your project on teacher and student learning? How will you document student learning? Teacher learning?

Beginning, Middle, End Survey Data
We will give the students a survey asking questions about their classroom environment and overall learning experience. This survey will be conducted in Early November. Teacher learning/data collection will also be conducted

via on-task observation during writing block time. This will be done in each of the 6th grade rooms (before, during process of conversion, and after breakout spaces are created).

Resources: What resources will you need for this project? What costs, if any, will be incurred? What are possible sources of funding for needed resources?

We do know we will need **8 bean bag chairs**.
Total cost- $25 each x 8 chairs**= $200.**
10 Stools – $ **120.00**
2 Boot scrapers 17.95 each – **$35.90**
2 Classroom Carpets – 70 each - **$140.00**

Trip to college $300.00

Total expenses - $795.90

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

The only change that we made to the team action plan was not doing the on task/off task tallies.

ANALYSIS OF DATA ON TEACHER LEARNING: We examined our reflections and found the following: (Support each claim with examples/evidence).

Based on the data collected; 9 out of every 10 students said that having a choice of seat helps them to find success in the classroom. These numbers were staggering to me. I would have thought that it would be closer to half. One of the things that Holly and I discussed was doing an entrance to 6th grade survey and having 5th graders do a survey before coming to us if they feel the same way. If they do take the survey, we can adjust our rooms to accommodate their interest/learning style for the fall. The options for the future question got me thinking about having more seating available at a lower level so that it's almost like a "stadium seating" concept. However, the question in regard to what the greatest benefit is to choose your own seat, students were very reflective on. Most commented on being able to see the board from a different angle, not sitting next to friends so they fool around, concentration, they also commented often on the ability to move if a situation arises. Examining the responses offered great reflection between Holly and I about why we offer the seating the way we do. In certain classes we had to have a 3-day rotation of bean bags because of the high interest. However, kids were the ones who problem solved and came up with a solution. The most influential and reflective part for me was that the majority of the kids come in to my class and want to learn. By allowing kids to make their own decisions about learning, it often puts peer pressure on them to do the right thing.

ANALYSIS OF DATA ON STUDENT LEARNING: We examined _____ and found the following: (Give examples/evidence for each claim).

When we examined the beginning of year data 67% of students thought that they would be better focused if they had seating options. In fact, 90% said that they were actually better focused after 6 months of experiencing first hand. The "traditional" classroom is a thing of the past. With collaborative settings and technology overtaking the workplace we have to prepare our students for success in college or whatever career path they pursue.

15 of the 58 responses on the "greatest benefit" question had to deal with focus. This is not a shock to me based on this group of students. Many of them take much pride in their education and do not want others interfering with their ability to learn more on a daily basis.

16 of the 58 responses on the "greatest benefit" question had to deal with comfort. I wasn't really thinking that almost 1/3 of the students would respond with comfort, but it was the #1 response category. Some of the suggestions for future were a bit unrealistic, but it was quite amazing that so many students just want to be comfortable when they are learning.

On the 4th survey question it asks if their seat allows them to focus, a bit of a difference from the first question because this is just talking about a specific place vs. choice of seat. A drop of 10% from the 90% occurred. This simply means that about 5 students do not need the seat to focus, they just need options.

Lastly, we examined group work. This was the most reflective question for me, and one that I immediately addressed with the students. Only about 60% of the students said that group work helped them. This is something for years that has been brought up in meetings, summits, workshops; the ability to work in a group. Being part of a team is difficult. Especially when you have students at such a variety of levels within one classroom. We have to do a better job of preparing kids for real world experiences in school. Many times, it is the personal skills that will get someone a job or make them marketable these days. With that reflection, I made it a point to work in one or two lessons a week that involve collaborative problem solving. Groups will be mixed ability, mixed gender, and we will discuss teamwork, how to take a leadership role, and possibly bring in some guests to observe how to improve.

Every year I enjoy bringing a new component into my teaching and hope to learn something new from the process and especially from the feedback I receive from the kids.

Participant's Names: **Kevin Finerghty, James Hefti, Carl Nylen at Pulaski High School**

ACTION: Describe specifically how **Creating Collaborative Spaces** frameworks and curricula are incorporated into your project to cultivate and support student learning.

Our project will focus on the principles of Communication and Collaboration Spaces in order to cultivate and support student learning. We intend to do this by building a weather station at Pulaski High School and sharing the meteorological data it generates with various weather reporting websites (such as Weather Underground) and posting real-time data on our district website.

The communication aspect of this project will be accomplished mainly through scientific literacy. We are bombarded with weather information on a daily basis. Increasingly, people are looking to the internet for accurate reports on conditions and dependable forecasts. By utilizing information technologies, the weather station we selected can potentially push conditions to social media, traditional website hosting organizations and through visually interesting consoles which transcend the newsprint weather reports due to their interactivity.

We say communication is a cornerstone of this project because we will be doing lots of that to support any teachers or classrooms (in addition to our own) wishing to learn more about weather conditions or measurements reported by our station. In this regard we will help others look for patterns. By training others on the effective interpretation of meteorological data we feel we are creating collaboration spaces via the weather station.

Our collaboration space begins at Pulaski High School. We will have computer students helping us design and build a webpage to host our findings. We will bring in Earth Science students as the experts of meteorology. Chemistry students will help explain how climate is influenced by changing atmospheric conditions. Biology students make connections between the weather and ecosystem conditions. This project is very much interdisciplinary, however that was likely to have been expected considering each participating teacher's area of expertise. Using the weather as an overarching theme throughout our science courses makes all topics more relevant, but collaboration goes well beyond Regents science courses.

Our weather station will allow us to collaborate with elementary and middle school teachers. We will offer training sessions once the station is up and running. We hope to explain how the various sensors work and what the data mean. We want to show other teachers how easy it is to make sense of measurements when you have just a few basic understandings. If that can occur, then the weather station allows us to teach beyond our classrooms. We reach an unlimited number of students when we "train the trainers." Academic understanding increases and more students take an interest in science – and hopefully at a younger age.

Mindfulness is another component of our project because we envision the formation of a coterie of meteorology-minded students. Everyone is welcome to join this group – we will not deny anybody – however we are hoping to

inspire students with in interest in learning about weather beyond the defined restricted objectives of classroom instruction. Our exclusive meteorology students will meet informally and without a schedule to interpret and analyze weather measurements. They will hopefully find others whom share in their interests. As the supervising adults we will do what we can to foster their imaginations and give our students a platform to utilize the weather station as a rallying point in their daily education routine.

By doing so we feel many students will become more at peace at school. Those with unique interests will find solace knowing there are other students with similar unique interests, and that it is perfectly acceptable to be interested in STEM professions. A lot of times students with such interests feel excluded because what they deem important and fascinating is not applauded over the morning announcements, or an activity that generates a lot of publicity within the school. We look forward to creating a newfound acceptance for people with such passions as making sense of data, analyzing trends and being interested in the weather.

RATIONALE: Fully state your **rationale** for the project. Why is this work important?

Our project is important because Pulaski Central School District has glaring deficiencies regarding meteorological data collection instrumentation and methods for reporting such measurements. Our existing weather station was purchased twelve years ago through a donation from a local community member. For the time it was considered adequate, however much monitoring technology has changed a great deal in this time span. Pulaski High School's current equipment is very much outdated and severely limited in its capacity for broadcasting information through the internet. Due to the weather station's limited potential to handle present and future upgrades in information technology and because meteorological sensors were not as reliable then as they are now the instrument is largely overlooked. For the most part, people would rather look to the internet for weather information. We intend to shift this mindset not only within our district, but also in our community. We believe people should look to the school for useful and accurate weather information.

Weather data monitoring can start at early grade levels and continue in steps of increasing complexity all the way through the high school commencement level. As high school science teachers we feel compelled to remedy our weather station inadequacies and are excited by the prospect of training teachers whom desire to utilize the station and corresponding data in their respective classrooms. We have a responsibility as district experts in each of our science concentration areas to perform outreach and extend our classrooms beyond the confines of the high school.

The weather station provides us with an avenue in which we can develop citizenship and responsibility amongst our students and local community and the rest of the world. Sharing data with weather reporting websites will allow us to share our conditions with people anyplace they can link to the internet. It is likely that Pulaski students whom take an interest in our atmospheric conditions will want to find out what conditions are like elsewhere. A weather station can actually contribute to the global thinking of our citizens. We feel we can increase scientific engagement throughout our community simply by sharing meteorology data.

RESPONSIBILITIES/TIMELINE: Identify a series of **action steps** you will take to complete your project. Next to each step, identify person(s) **responsible** for carrying out that task. For each step also identify your **timelin**e (during what month(s) you plan to complete each step).

October / November 2017: Research and procure weather station (Finerghty, Hefti, Nylen)

December 2017: Install weather station; work with information technology administrator to push data to district website (Finerghty, Nylen; Hefti)

January 2018: trouble-shoot station and internet communications; build SUNY Oswego meteorology contacts (Finerghty, Nylen; Hefti)

February 2018: Teacher training workshops; SUNY Oswego field trip (Finerghty, Hefti, Nylen)

March 2018: Fine-tune station and internet efforts; community outreach (Finerghty, Hefti, Nylen)

April 2018: Analyze effectiveness of project (Hefti)

May 2018: Station improvements (Finerghty, Hefti, Nylen)

EVALUATION: What **data** will you collect that shows the impact of your project on teacher and student learning? How will you document student learning? Teacher learning?

We will carefully document the outreach efforts in which we engage during the 2017-18 academic year. Training sessions will include sign-in sheets, so we can see exactly how many teachers we interact with in regard to how to interpret and analyze weather station data.

It is possible to track metrics on website traffic over the course of the year. It will be interesting to find out if there are certain times of year people are more likely to check on data. We can discern how long people stay on a page and cross reference times of heavy internet traffic and unique meteorological events.

We intend to perform surveys of students' interests and aptitudes toward withdrawing weather information from the district website rather than existing sources of information. These surveys will likely include Likert scale analyses where students can share their positions on topics through a range of responses such as highly interested, interested or not interested, for example. We would like to perform these surveys with a variety of weather station user age groups including elementary students, middle school and high school students, and additionally a range of community members.

We will discuss the effectiveness of our own learning toward the latter portion of the year in order to evaluate our personal learning as a result of this project. We will identify successes and failures, highlights and frustrations experienced as a result of the weather station project at Pulaski High School. As far as determining the amount of learning taking place amongst the teachers we train we plan on sending out a survey toward the end of the year to give our colleagues an instrument in which to report what they experienced. By doing so we can modify our programming for the following year.

RESOURCES: What resources will you need for this project? What costs, if any, will be incurred? What are possible sources of funding for needed resources?

The weather station we are looking to purchase is $1,100. We are hopeful that Project SMART will fund $800 of this expense and then we will withdraw an additional $300 from our Pulaski High School Science Club account.

We checked with our district information technology administrator to learn more about the logistics of increasing the wireless network's capacity to reach our intended weather station location. She informed us that a wi-fi signal repeater could be installed at the district's expense if necessary to make broadcasting information to the internet feasible and more efficient. This committal potentially reduces the overall cost of this project by up to $200.

Our information technology administrator also granted us permission to use district server space for archiving data. We anticipated an expense of up to $50 a month had we needed to purchase cloud data storage space. Additionally, the district will be hosting all meteorology information on its website saving us a $10-$20 monthly expense.
We are very grateful for the financial assistance of Project SMART and SUNY Oswego as well as the support of our school district in this project.

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

Our efforts focused on bringing the Pulaski school system and local community together through weather monitoring. We brought together a total of 241 different people through this project, a group consisting of ourselves (three high school teachers), a total of eleven middle and elementary school teachers, 182 high school and middle school students, and 45 community members indirectly associated with our school system. We experienced some challenges to our master plan but feel as though we accomplished our objective to generate interest in meteorology and further develop a sense of community. The biggest changes to our plan revolved around two sets of circumstances beyond our control.

First and foremost, we were unable to procure the weather station upon which we had our sights set. After spending a great deal of time researching weather stations and analyzing each of their pros and cons we determined the AcuRite Atlas Elite to be best weather station for our school. It has numerous high-end features other stations in its price

range lack and easily connects to a wireless network to broadcast meteorological data seamlessly to the internet. As of fall of 2017 the release date for this weather station was to be January 1, 2018. Unfortunately, the release date kept getting set back further and further, usually a month at a time, but after announcing a release date that was to coincide with the vernal equinox of 2018 the release date was kicked back to July 1, 2018. This made it impossible for us to utilize the Atlas Elite in our project for Exelon, Project SMART and SUNY Oswego for this year.

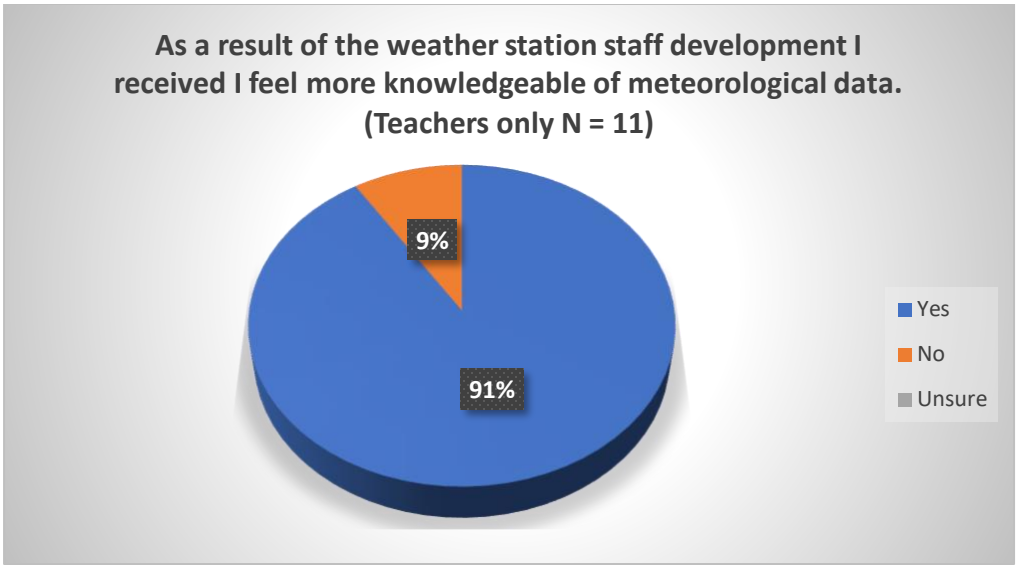
Thanks to the generosity of our sponsoring agencies we were able to purchase a different weather station, so we could move forward with our project. We bought the significantly less expensive (and resultantly less powerful) Ambient Weather Wi-Fi Osprey. It is a good station and has generated interest in meteorology despite its inferiority to the Atlas Elite model we were hoping for and we are extremely grateful for having something at our school that is functioning. Another positive here is that we will be bringing the Ambient Weather station over to Lura Sharp Elementary School once we obtain the AcuRite station for our high school. Eventually we will have multiple data collection points and the elementary school students will be able to directly observe their station on a daily basis since we intend to place the unit somewhere in between the main entrance to the school and the sidewalk leading to the playground on their campus.

We experienced another challenge in our project as a result of personnel changes at our district. We were counting on the excellent relations with our district information technology / network administrator to facilitate the inclusion of weather data on our district website. We were unable to use the district website to broadcast information because our administrator changed jobs. The position has not been filled and we are waiting to work with the next supervisor to achieve our goals. We are currently using a third-party website called Wunderground to host our results, but wireless network connectivity is sporadic at best since we are relying on the public Wi-Fi network at the present moment.

Due to scheduling conflicts and weather delays and closings we were unable to organize a field trip to SUNY Oswego, and the logistics of making that happen became complicated since the three of us make up 75% of our high school science teaching staff. We think it would have been useful to see what resources exist at SUNY Oswego and we intended to include this experience in our project, so our students could compare our weather station and the equipment used at the university level. It took us a long time to get a weather station operational and therefore we were crunched for time to plan out a field trip experience for students that would be worthwhile beyond making a visit to the SUNY Oswego campus.

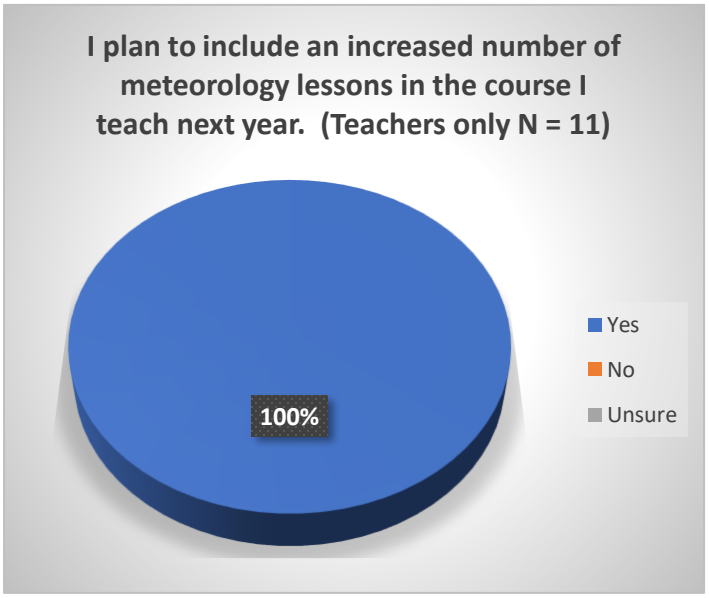
ANALYSIS OF DATA ON TEACHER LEARNING: We examined our reflections and found the following: (Support each claim with examples/evidence).

Our outreach efforts were very well received as 91% of the teacher participants in our professional development training session expressed they felt more knowledgeable of meteorological data following our staff development day session. All of those teachers plan to include an increased number of meteorology lessons in the courses they teach next year which provides evidence into the value of community building through sharing knowledge. Through the weather station, we created a collaborative space where teachers learned from teachers and drew in students whom happened to be interested in weather-related phenomena.

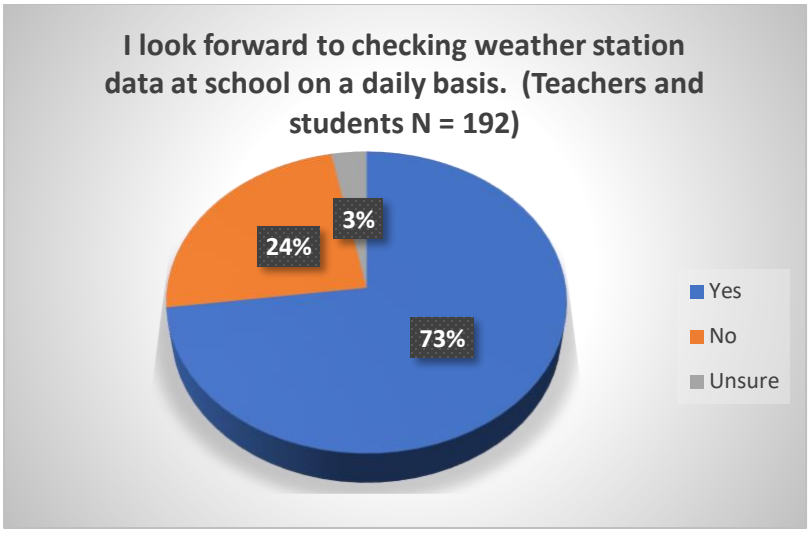


In our training session we taught teachers of a wide range of backgrounds about meteorological data and how to interpret the information. We demonstrated the skills needed to create a station model and explained weather monitoring concepts and techniques. A few teachers were pleased to find out we intended to share our teaching materials with them and expressed appreciation for our efforts because they were now going to have resources to accompany their new skill set. On a side note the only teacher to respond to our survey regarding feeling more knowledgeable of meteorological data had recently taken a meteorology course at a SUNY Oswego.

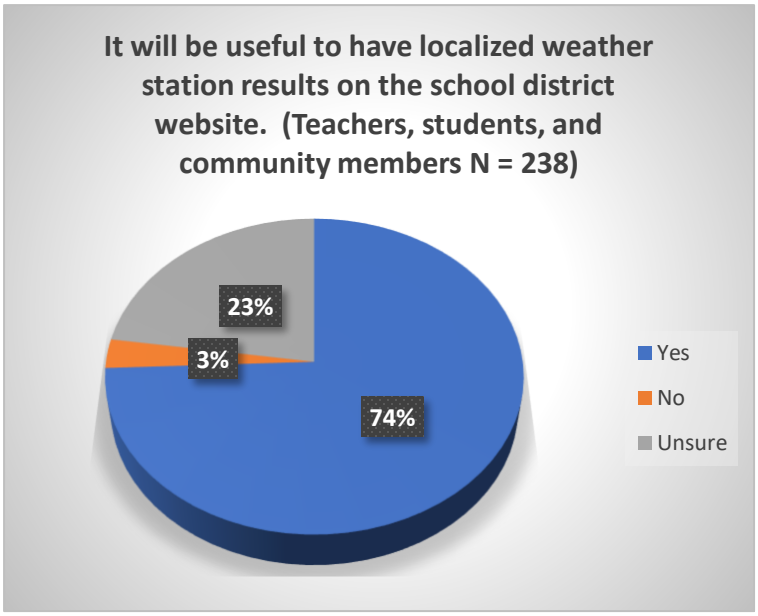
We found it rewarding to learn all eleven of the participants in our training session intend to include an increased number of meteorology lessons in the courses they teach next year. The mere presence of the weather station at their school, they predicted, will generate interest in meteorology and create dialogue that formerly did not exist. The teachers were excited to "scale up," as one teacher put it, the study of the weather and weather-related variables in their instruction.



A large number of people rely on internet reports on the weather to make daily decisions about what to do outside each day, or how long to plan for travel, or even such fundamental choices as deciding what to wear. When we inquired with teachers and students about their enthusiasm to check hyperlocal weather data measurements they were overwhelmingly interested in having a source of information generated from precisely where they were. 73% of our 192 teacher and student respondents indicated they eagerly anticipate checking the measurements from the weather station at school on a daily basis.



To take our meteorological data a step further and to justify the network privileges we are hoping to obtain we surveyed school and community members to find out whether or not they would find it useful for meteorological data to be pushed to the school district website. Once again, the results turned out exactly as we expected as almost three out of every four responses stated it will be useful to have localized weather station results on the school district website. Only 7% of our respondents indicated it would not be useful to have access to such data and 23% were unsure about whether or not it would be helpful. Considering 177 of the 238 people surveyed (74%) felt it useful to be able to find out what the weather is doing in real time through the school district website we are making it a priority to fulfill one of our original objectives for this project, which is to communicate results via the internet. As soon as we have network rights, server space and the web administrator's clearance to post results we will share our weather station measurements and conditions to literally anyone any place in the world!

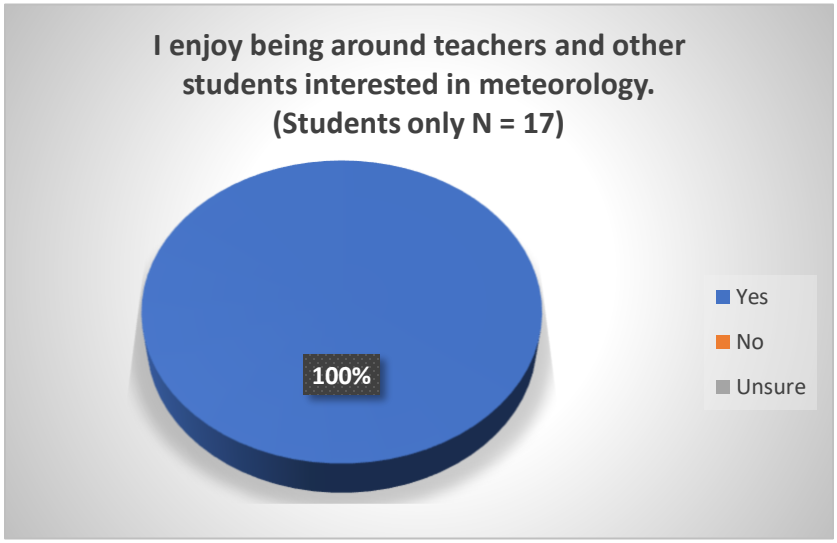


ANALYSIS OF DATA ON STUDENT LEARNING: We examined students' attitudes and preferences and found the following: (Give examples/evidence for each claim).

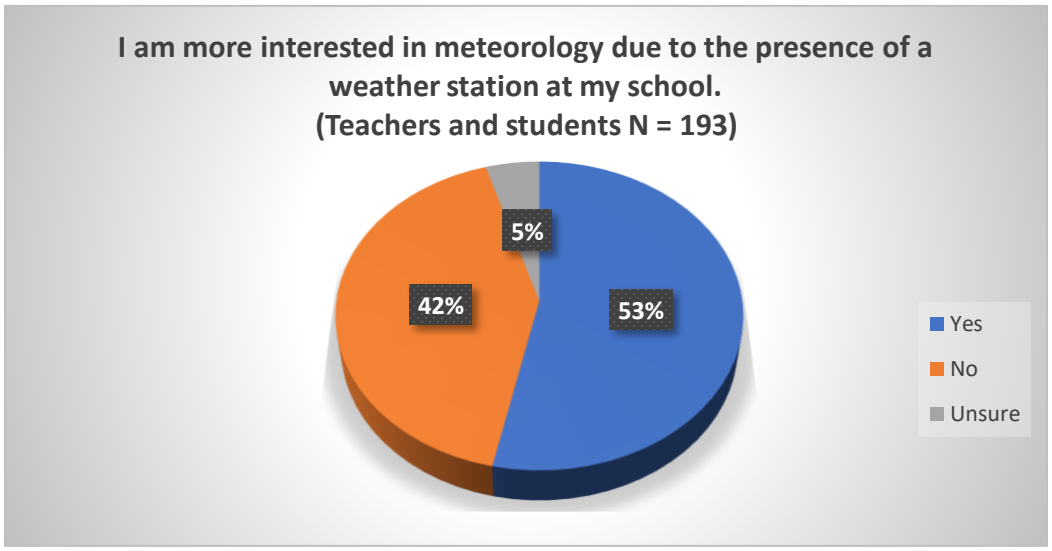
All of the students surveyed shared they enjoyed spending time with other students and teachers interested in meteorology. They reported that it made them feel extra-involved with this project to be able to assemble the weather station when it arrived, to help build a mounting system and then put it up, and to be able to help optimize the weather station settings once it was outside. The sense of community amongst the high school students whom participated in

our data interpretation meetings and helped present information to the middle school science club was evident as friendships were formed or strengthened and involvement increased from students who typically did not enjoy extracurricular activities.

A brief discussion pertaining to the fact the students involved with this project were not your usual high-achievement, full calendar of extracurriculars generated a very noteworthy result. 100% of the students who attended at least two tenth period sessions to analyze meteorological data expressed they enjoy being around other students and some of the teacher who happen to be interested in the weather. The sense of community allowed for connections to be made. For example, a brief comment was made to a passing student in the hallway stating we had gusts of wind in excess of sixty miles per hour during the night brought the student back with a friend later on in the day to scroll through the feature on the weather station data logger that displayed greatest wind speeds. This gave the kids something to talk about and generated discussion about power outage experiences from the previous evening.



Our students seemed to take great pleasure in checking in with adults whom also observed data generated by the weather station. Dialogues ensued, and a sense of belonging was nurtured. As teachers we realized that connections with students can be made in totally unexpected ways and through activities that may not be appealing to the majority of students but to a select few connecting with teachers can be something they look forward to each day.



Finally, we wanted to include that for over half of the teachers and students involved with the Pulaski High School meteorology project stated they are now more interested in meteorology due to the presence of the weather station at our school. We were successful in our endeavor to bring people together through talking about the weather. After all, when complete strangers converse it is often statements such as “Nice day,” or “Looks like rain.” The weather

has the potential to bring together people with very little in common except the fact they are all subject to the earth's atmospheric conditions and the prevailing climactic variables for their location.

Participant's Name: **Sandra McKenney at Red Creek Middle School**

ACTION: Describe specifically how **Creating Collaborative Spaces** frameworks and curricula are incorporated into your project to cultivate and support student learning.

Red Creek Middle School 6th Social Studies and Science students will develop responsibility for their own learning while attending to a student-center/collaborative space. Up to this time, students coming from elementary school have experienced mainly direct instruction while being assigned to a sit/desk for the month.

This school year, students will be introduced to an activity list (taken from the LATIC framework) where students will find a variety of ways to learn and show their learning, while collaborating with each other. They will also be responsible to choose where to sit. Through this process, student will use mindfulness during different steps of their learning process. When students come into the classroom, they come to the tables for clarification of learning activities for the day and morning warm up. During this time, students need to be mindful and reflect on their choices for their day (where to sit, who to work with, how to learn) based on prior experiences. Throughout the day, we will use messages of growth and reflection using a growth mindset, encouraging students to approach focus and choices as a practice, while examining the root of their successes as well as distractions.

This will be a drastic change from prior years. Students will be given the responsibility to do the following during social studies and earth science classes:

1. Participate in morning warm up
2. Clarify learning target expectations
3. Be mindful and choose a place in the classroom where they will be the most effective
4. Be mindful and choose to either partner up or work independently during class
5. Be mindful and choose a learning experience from a posted list
6. Follow instructions for learning experience
7. Be mindful and choose a format (with a partner) to show that they have met their learning target
8. Mark progress and plan for study hall (if applicable)
9. Participate in closing session

The implementation of this plan will be gradual based on availability of resources. Students in Red Creek Middle School have one-on-one devices (Chromebooks) that facilitates the implementation of such a plan in terms of availability of content to learn from, and a variety of formats to show students' learning, and online collaboration, while having flexible sitting choices. Class activity lists where options are described, will be posted on a weekly basis. This will allow students to take the responsibility to manage their time, knowing ahead of time what are their choices to meet the learning targets, and to choose who to collaborate with. No budget is allocated for this part of the project.

Another aspect of the transformation of this classroom is having flexible seating options. I currently have 1 standing desk, 2 yoga balls on base with wheels and back rest, 2 Adirondack chairs, 2 bean bags, and 5 balance disks for chairs. This allows me to offer flexible sitting for half of my class. All classes are 24 students each period. This plan assumes a budget of $400 to buy additional equipment to offer flexible seating to all students in the classroom, while

providing physical collaborative spaces (see below for details on additional sitting). Flexible seating is known to make learning spaces more student-centered, while developing students' awareness and responsibility for where they learn, how they learn, and who they learn with.

Soft lighting will be created with the use of lamps, some already available, some will be donated. No budget is allocated for this matter.

Responsibility is the key to the success of this project. Students will go through a whole transformation during the first months of the school year. Besides the direct benefits, I envision that there will be minimal class disruptions and behavior issues. When students are given the choice of learning experiences while having flexible sitting options, they feel empowered and engaged in their learning.

RATIONALE: Fully state your **rationale** for the project. Why is this work important?

Up to this time, students have not had the opportunity to develop an awareness of how or where in the classroom they can be better learners. At the same time, they haven't been given the choice as to how to learn what they need to learn based on the school curriculum/learning targets. This project will create a collaborative learning environment; think Google offices in San Francisco where there are pods, bean bags, couches, ski lifts, slides, yoga balls, and wobbly stools, instead of the typical office furniture, divided by cubicles, where the only place to collaborate is the meeting room. This 21st century classroom will be a welcoming environment for creativity, collaboration, and fun.

RESPONSIBILITIES/TIMELINE: Identify a series of **action steps** you will take to complete your project. Next to each step, identify person(s) **responsible** for carrying out that task. For each step also identify your **timelin**e (during what month(s) you plan to complete each step).

Responsibilities

My role during the planning, implementation and execution of this project will be the following:

1. Design a weekly activity list that includes a variety of learning activities that will appeal to different learning styles.
2. Encourage students to choose the learning activity that better fits their learning style
3. Run mini-lessons targeting specific skills, where students sign up ahead of time if they are interested/or in need of the skill
4. Select and order flexible sitting equipment and model their use in the classroom.
5. Facilitate the development of rules (by students) for the classroom to ensure that flexible sitting improves the learning environment, while collaborating with peers. (i.e. how to be fair, how to transition, how to collaborate while sitting on a bean bag, etc.)
6. Become a facilitator in the classroom.
7. Collect data before, and after implementation.
8. Maintain a teacher journal for observations, learning experiences, and reflections of project implementation, and future adjustments based on lessons learned.

My student's role during this project will be:

1. *To be mindful and develop an awareness of how to best learn*
2. *To be responsible when choosing where to sit*
3. *To be responsible when choosing who to work with*
4. *To develop collaborative skills through modeling positive behavior*
5. *To develop additional social skills through social skills sessions*
6. *Learn that having choices come with responsibility*

Timeline

October-November 2017 Evaluate current and previous learning methods, learning environments, individual learning styles, ability to collaborate

November 2017 Introduction of activity list

November 2017 Place order on Amazon.com (see sitting options listed under budget)

November-December 2017 Introduction of flexible sitting (assuming all sitting is available)

December 2017-January 2018 Make modifications to the implementation based on current student engagement

February 2018 Evaluate LATIC learning methods, and new learning environment including all aspects of collaborative learning (choices of learning methods, learning environments, individual learning styles, ability to collaborate)

April 2018 Prepare report

EVALUATION: What **data** will you collect that shows the impact of your project on teacher and student learning? How will you document student learning? Teacher learning?

I will perform a pre and post evaluation of current and previous learning methods, learning environments, individual learning styles and ability to collaborate. I will use Google Forms to gather data from students regarding:

-their learning experiences in their current classrooms and prior learning experiences
-their current sitting arrangements and available sitting spaces
-their ability to collaborate
-their grades

Data collected in the pre-evaluation and post-evaluation will be compared. Student engagement will also be measured based on a comparison of the amount of discipline reports before and after the project has been fully implemented.

Teacher learning will be evaluated based on the teacher journal. The journal entries will document what worked and what didn't work, as well as what improvements can be made.

RESOURCES: What resources will you need for this project? What costs, if any, will be incurred? What are possible sources of funding for needed resources?

All resources purchased through Amazon.com (see details below), all funded by Project Smart

Budget= $401.00

$130 ($65.00 x 2) Merax Adjustable 5-Position Folding Floor Chair Lazy Sofa Cushion Gaming Chair Coffee

$131.00 Classic Bean Bag Chair Color: Red Matte, Blue and Black

$140 ($70 x 2) Learniture Active Learning Stool, 20" H, Blue, LNT-3046-20BL

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

After analyzing the data from the survey from November 2017, I decided to introduce more options for students to show their learning. Up to this date, I had introduced a variety of learning activities for students to learn and show their learning. Some students showed that they really did not want to explore a variety of formats but rather stick to the one they were comfortable with. While I want my students to take more risks, I also want them to feel successful in class. So, I decided that while it was more work for me to have traditional activities for students to learn and show their learning, I have to make sure that those were available as much as possible.

By March 2018, students could be learning the same concept in class in 3 different ways.

- Some students with traditional preferences like to answer prompts to show their learning.
- Other students enjoy writing about it using different formats.
- Poster boards are surprisingly popular, perhaps because they have done many over the years and students feel comfortable creating them.
- Clay/paper models have been a big component of science class as the Next Generation of Science Standards calls for the creation of such models to ensure students understanding of scientific phenomena.

All of these and other activities can be found in the weekly activity list that students receive via Google Classroom every Monday.

ANALYSIS OF DATA ON TEACHER LEARNING: We examined our reflections and found the following: (Support each claim with examples/evidence).

There were different results with each choice that was given to the students. At the beginning it was a bit difficult to give students the ability to choose and move around the room. I am lucky have a room big enough where students can move around and still have room for bean bag chairs, and Adirondack chairs. It was part of my instinct to tell students where to sit; some other teacher also commented on the difficulty of letting students choose where to sit or who to sit, I thought I knew what was better for students and sometimes I pointed out at the beginning of class where students needed to sit. Eventually I was able to let go and give students the responsibility for those choices. The data does show that they made some progress when it came to make the right choices.

It took time for students develop the mindfulness and awareness of what is better for them. After a full cycle of grading,

I learned that not all students were choosing a format to show their learning where they could be the most successful. A few students chose to show their learning with a very open format, however, they lost track of the objective and even though they were provided with a timeline and a rubric to be used as "Criteria for success", they were unsuccessful. I did notice that while some of these grades were below the passing mark, these group of students seemed to be engaged at all times, and no discipline reports were submitted during this time. With time, students started to make better choices and learned what made them successful.

I continued to evaluate and adjust the collaboration spaces used as part of their learning environment in the classroom. I had to be mindful that on days when science labs are happening, students need to be reminded that they need to stay at a table and should not work on the bean bags. These labs are usually scheduled on Thursdays and/or Fridays, so we still have the ability collaborate using flexible sitting the other days.

Another learning experience was that while I am very flexible, and I can adapt to change rather quickly, I forgot that it takes time to implement changes. Educators can be change agents, however, many opportunities are to be provided to students so that change can happen. I will continue this trend next school year when I get a new class who will certainly will come from traditional classrooms. The opportunities for collaboration have to be provided so that students learn to work together. Data showed that students enjoy working with friends and/or with students they can learn from.

ANALYSIS OF DATA ON STUDENT LEARNING: We examined _____ and found the following: (Give examples/evidence for each claim).

Overall the data showed that students appreciate a teacher that give students choices and at the same time they become more successful when having choices in the classroom. Even though they are only choosing for one of their 6 classes, it was a great experience for the students to have some freedom.

There were also mixed results when giving students the choice to decide how to learn and how to show their learning. While many students showed much enthusiasm due to the fact that they could make these choices, they needed some guidance, and some were not successful. I anticipated that they were going to be more responsible because they were making those choices. This concept was very new to them and they are still getting to know what is best for them and how to be more successful.

Another noticeable learning experience was the students' ability to be mindful and reflect on the best flexible seating based on their likes, mood, and even the needs based on the task at hand. I noticed that in each class, at least 20% of the students started their class sitting on a particular seat, and by the end of the class, they were sitting on a different seat, and on a different place in the room. They first followed their instinct but as the class progressed and their need to collaborate was bigger, they made adjustments to their choices to become better collaborators and more successful.

Some of the activities that students enjoyed the most in terms of personal and emotional learning were:

- listening skills: we used funny messages and passed them in a line to demonstrate the importance of communicating clearly and listening to others.
- negotiating conflict: we modeled a variety of techniques that can help students during different situation, student's role played to practice them. This was particularly important because they needed these skills to be able to share all the flexible seating options.
- empathy: we used different discussion topics to get the message across, this was a hard topic to model as middle schoolers can be self-center.
- gratitude: around the classroom, I placed papers that could be teared and passed to others as messages of gratitude. This a favorite activity because I saw the effect that a little message of gratitude had on different students. Students were also extremely grateful for the amount of flexible seating in the classroom.

Participant's Name: **Paula McKenney-Myers at Frederick Leighton Elementary School**

ACTION: Describe specifically how the Creating Collaborative Spaces for Learning themes are incorporated into your project to cultivate and support student learning.

Students at Frederick Leighton Elementary will have the option of choosing the seat style they will occupy for music class (flexible seating). They will still have their assigned spots, but they will have several seat choices as they enter the room. This will provide a more comfortable and inviting learning environment for the students. Since the seats are portable, students may move them about the room to create collaboration spaces.

Students will have collaboration opportunities whenever they are allowed to work as a group. Examples of this include the answering machine recording, rhythm band, and keyboard performance projects. During any given music class, students may be directed to discuss something with a partner or group.

Collaboration is also being addressed among SUNY/FLS faculty as we continue to provide a means for SUNY students to earn service learning credits. SUNY students will be teaching piano lessons at FLS as well as providing technical support during computer music projects in class. Josh Russell will also be assisting music classes during the computer music projects.

It is my hope that students will stay in their spot if they have a more comfortable seat. The class as a whole will experience fewer disruptions related to students leaving their seats during lessons. The learning environment will be improved during lessons as a result. The students will be more comfortable in their spots and will be more settled during lessons and discussions.

Mindfulness will be addressed in the seat selection process. Students will have to think about their mood and what seat choice would be the most conducive to productive learning for that day. They will be prompted before they enter the room to think about their emotional state. Once in their seats, they will be prompted to take deep breaths and "settle into their learning environment". From class to class I will ask how their seat choices have changed and affected their learning.

RATIONALE: Fully state your **rationale** for the project. Why is this work important?

Comfortable students make more happy and relaxed students. Happy and relaxed students lead to calmer instruction. Students are also given choices which makes them feel empowered. We have experienced too many disruptions due to students either leaving their assigned spots or picking the tape that marks their spots. I want students focused and calm during the lessons and the new seating options will help accomplish that.

RESPONSIBILITIES/TIMELINE: Identify a series of action steps you will take to complete your project. Next to each step, identify person(s) responsible for carrying out that task. For each step also identify your timeline (during what month(s) you plan to complete each step).

Paula Myers will be responsible for all aspects of the project.
November- pretest for the students, purchase seating materials
November/December- implement methods for choosing seating
December-February- establish procedures for seat choices, evaluate the effectiveness of flexible seating
March- give posttest for the students
April/May- evaluate the data
Ongoing- teacher journal for observations regarding the flexible seating

EVALUATION: What **data** will you collect that shows the impact of your project on teacher and student learning? How will you document student learning? Teacher learning?

-pretest/ posttest
- using google forms, students will complete a survey about their current learning environment in music class. At the end of the project, they will complete the same survey with a few added questions about the seating changes.
-observations of classroom atmosphere as noted in the teacher journal
-observations of the TA's who assist during instruction (do they notice a difference in the classroom environment)

RESOURCES: What resources will you need for this project? What costs, if any, will be incurred? What are possible sources of funding for needed resources?

All resources purchased through Amazon.com

Lakeshore Soft Seats - 6-Color Set

1 @ $55.00
In Stock. Offered by Lakeshore Learning Materials.

ALPS Mountaineering Weekender Seat (Steel Blue)

3 @ $17.27 (in blue, orange (3 @ 21.73))

Jeronic 11-Inch Plastic Folding Step Stool, Green

8 @ $9.99 (in white, black, green, blue)

[Coleman Stadium Seat, Blue]

2 @$7.67 blue, 2 red (22.34),2 black (14.99)

Norwood Commercial Furniture Plastic Stack Stools, Assorted Colors, NOR-STOOLACP-SO (Pack of 5)- 17”

$51.51

400.92 (plus tax and shipping $7.49)- all funded through project smart

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

Seat selection: I chose 3 beach chairs with a hard frame and soft back. One of these broke and the others didn’t have much back support as the frames bend easily. Students still love this seat, but I have to make sure they put it against the step to provide back support.

The stadium seats weren’t as sturdy as I thought. There were support sticks in each that began to fall out. These will need to be sewed back into place. I did return one for this reason. We modified how theses seats were used in class. The students still like them. The adjustment straps had to be marked with tape as it was confusing to the kids which straps to pull for adjustments.

Daily question: I didn’t ask the students daily about their seat selection. In most cases, we had all we could do to make the seat choice follow the seat rules. Many had to be reminded to follow the seat specific rules so to minimize damage to the seats. 40 minutes is not enough time to make the seat choices, provide instruction, and provide feedback on their seat choices.

Seat usage: There were some groups that had over 20 students in them. I didn’t use the seats with these groups as there wasn’t enough for everybody. There was one group that had a student who would lose control if he didn’t get his way. I also didn’t use the seats for that group to avoid any problems. The day we did use the seats, the student bullied others to get the seat he wanted despite the rule about “no trades”.

ANALYSIS OF DATA ON TEACHER LEARNING: We examined our reflections and found the following: (Support each claim with examples/evidence).

There were pros and cons with each seating type. Overall, the use of flexible seating was a good thing. It added a layer to the atmosphere in music class. I did find that the students didn't pay attention to the instrument stickers that marked their spaces. They did peal the stickers less, but they also talked less about what instrument they sat on. They talked more about what seat they got to use in class that day.

I felt that having flexible seats gave students a comfortable means to have discussions in collaborative spaces. When I told students to talk to a neighbor about something, they would always bring their seat. When students had to work on a written assignment, the seats were always used to make their work area more comfortable. Students also helped each other getting settled in with their special seat. If someone wasn't using the seat properly, there was always a classmate to correct them. I liked incorporating the seats into instruction-setting up rows of stools, giving the students the choice of stool to sit in for the lesson. "If you're in the tall stool you will play the drums. If you're in the short stools you will play the triangles. Pair up with a matching color seat."

I hope that students considered how they would best be successful in music as they chose their seat for the class. If they chose a cushion, hopefully it would be because of something they needed to be successful. We did have to deal with what is fair versus what people need. For example, when someone is first in line and they behave correctly on their way into the music room, they got to pick their seat first. If someone is first in line and they behave incorrectly, they get sent to the end of the line and don't get to pick first. Why? Good behavior should be rewarded.

I really liked how many students wanted to earn their seats. When asked why, the most popular response was that they liked the challenge of earning their seats. This shows a level of mindfulness. They are thinking about their personal strengths and limitations. They are getting the opportunity to show off their strengths with the reward of getting their seat choice.

ANALYSIS OF DATA ON STUDENT LEARNING: We examined _____ and found the following: (Give examples/evidence for each claim).

I examined the use of flexible seating in the music classroom. I wanted to see if students would perform and behave better if they had the choice of what they sit on when they come to class. Overall, students liked using the flexible seats and reported that they would like to continue using them next year.

Students were given a pretest to determine if there was a need for change. Through this survey, we established a need for change in the classroom environment- a new seating plan. While I wasn't ready to give up on the assigned spots, I did think that giving students a choice of what they sit on would be a positive step in changing the classroom climate and quality of learning. Before administering this survey, I explained that it is a powerful way for them to communicate their needs to me. Students communicated a need to have their backs supported, to sit higher than ground level, to have something soft to sit on, and most importantly to have a choice in what they sat on.
Students were also given a posttest to determine the effectiveness of flexible seating. I didn't notice any significant patterns in responses based on gender or age. Overall, the use of flexible seating is a positive thing and should be continued. The majority of students liked the seats (71% felt we should continue using them) and felt they did a better job using them (59%).

It was interesting to hear students communicate with each other before entering the room about which seat they wanted to use that day. Some just wanted to try different seats in class and some tried to choose their favorite each time. It was nice to see students consoling their peers when they didn't get the seat they wanted or even offering their

seat to someone else. They showed empathy and compassion towards their classmates. I observed this at every grade level. There were times when this became a distraction, so the flexible seats were eliminated for a couple of classes.

Having that reward of the special seat made students more self-aware as they work on how they behave in the group, how they present their self, and figure out what their tendencies are in learning. The responses to these questions show that the use of flexible seating supports embodied learning. When asked about their emotions, the majority of the students could not connect that to the use of flexible seating.

Moving Forward:

Students reported wanting bean bag chairs. I would also like to get more beach chairs and bumpy cushions. I would also like to try giving the students the option of choosing a special seat and choosing where to sit in the room. Depending on the groups we get next year, it might be a way to incorporate the embodied learning without too much effort. Students need to start thinking about their state of mind, their goal for class, and how their seating choice can help facilitate the achievement of that goal.