CFE ACTION RESEARCH LEADERSHIP INSTITUTE 2013-2014

STEPPING ASIDE

FOSTERING MIDDLE SCHOOL INDEPENDENT INQUIRY

Catherine Tanner, NBCT

Fine Arts Teacher

Wildwood IB World Magnet School

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Research Question *(what is my topic or question/sub question?)*

What happens when students participate in long term research? More specifically what happens to student ownership of learning through a year- long student designed independent investigation?

Rationale *(Why is it important to me and my students/school/other teachers?)*

I chose this question because I was selected to pilot a Sixth Grade Personal Project course this year. The course was designed to increase student engagement and student ownership of learning. The course used the Project Approach to Learning as a framework, the International Baccalaureate Middle Years Programme (IB MYP) Design Cycle for the investigation model, and incorporating the IB MYP Principles and Common Core State Standards to provide student learning criteria outlining the content and skills needed to establish a positive digital footprint reflecting their journey through a year-long investigation. I was charged with facilitating 29 student interest driven inquiry projects. I wanted to help students move from a teacher driven guided inquiry to a student driven independent inquiry. What would that preparation look like?

The Chicago Public Schools Framework for Teaching identifies classrooms that are student initiated, student led and student assessed as the highest standard of a classroom experience. I take that as a challenge. What would constitute a student led classroom? How do I help fifth graders with few choices become sixth graders making all of the choices?

Context *(What is the school context for this study?)*

The focus of this study is to provide insight into how to support middle school students as they guide their own independent learning. Wildwood is an International Baccalaureate World

School. The IB schools have common principles, curriculum and program requirements. In the very near future, the International Baccalaureate Middle Years Program will require Eighth graders to complete a Personal Project. Therefore we are piloting the Personal Project with two groups of students, our disengaged Eighth graders and our high achieving 6th graders. Both of these groups represented a challenge that a traditional 19th Century model of education doesn't address, how to increase student ownership of learning while providing and assessing rigorous individualized instruction. I participated with my school's Instructional Leadership Team in an intensive summer design workshop. We focused on increasing student ownership of learning. It was decided that I would pilot the Personal Project in the 6th grade. I would design a course that would help students gain and use the skills and content necessary to design and guide their own learning experiences, motivated by student interest; not grades. This class met 4 times a week for 45 minutes per session with a class consisting of 32 students, 13girls/ 19 boys. These students would be described as high-achieving and used to jumping through teacher hoops.

Literature Review *(What have others had to say regarding this topic?)*

Teacher Led Guided Inquiry

I sought to introduce students to the Design Cycle through a more familiar approach, the Project Based Learning experience. Patton states "Project-based learning refers to students designing, planning and carrying out an extended project that produces a publicly-exhibited output such as a product, publication, or presentation." (Patton, 2012, ebook). The students would use a familiar learning approach to anchor them as the work load becomes more independent. While the students conduct serious research, they would be expected to keep a record of their process and share their creations with the world. The projects should foster a range of work-related skills that would help prepare them for life beyond High School, no matter their choices.

Student Centered Independent Inquiry

Independent Inquiry requires students to have an interdisciplinary conceptual foundation from which they can link into any topic or subject matter. Fostering this type of learning requires multiple peer critique sessions and seminars as Thio (2005) states, "…there is a certain body of knowledge that needs to be communicated to ensure that the student is able to comprehend the material…Seminars can help students research more effectively and efficiently … the author suggests that student interest can be sparked after discussing Big Ideas and discovering key concepts related to topics."(Thio, p3) Shouldn't school be a place where collaboration allows students to share their ideas, support authentic investigations and improve critical thinking and communication skills?

This type of instruction requires daily access to digital devices. The students are expected to understand and use the Common Core Standards, and The IB Areas of Interaction, and IB Design Cycle. The teaching and planning would logically have to shift as well from being Teacher led to Student centered, from group to individualized instruction.

Connected Learning, Drive and Motivation

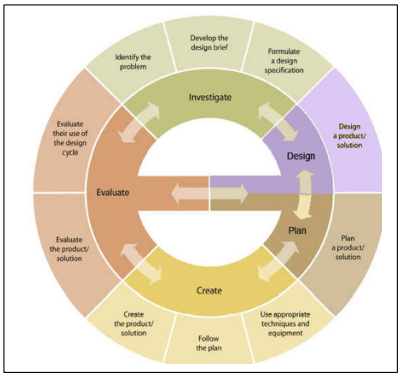
I wondered how I would be able to manage a possible 32 individual projects. This course would have no grades, so what would motivate 32 different students to persevere through a yearlong investigation? I looked to Pink. (2009) He refers to a way of learning which fosters children to follow their interests to help them decide what and how they learn. Students are further challenged to share what they have mastered and teach others what they have learned. These guidelines inspired me to help students frame their interests through their Personal Projects. The

students should be able to share something they have mastered, develop criteria and hold multiple peer critique sessions, connect their project to standards and skills.

I sought to frame my instructional goals to help students connect with each other and the broader world. Connected Learning provides a platform whereby schools can reach out and share their work via social media creating a positive digital footprint. Michaelson (2013) asks, "What then motivates students to participate in a project like this? How do I as a teacher encourage students to contribute? What actions do I take if some are contributing less? …Every educator wants to experience the moment of flow. When all the goals are set and understood, and work is easy and natural (location 910, e-book) According to Pink (2009) the best predictor of success is grit, defined as perseverance and passion for long term goals! I used these two quotes to help guide me toward a more student centered classroom. Michaelson quotes Pink who writes about motivation. I would need to understand student motivation if I was going to empower and support student interests through their work.

The Design Cycle

The IB Design Cycle is student centered and moves the teacher from the sage to a guide. The Design Cycle is a tool used by International Baccalaureate students to help them create and evaluate solutions in response to challenges.



http://www.mpsaz.org/academy/staff/kmprocopio/class3/class_23/files/introducing_the_ib_design_cycle.pdf)

The IB Design Cycle is student centered and moves the teacher from the " Sage on the Stage" a central controlling figure in the classroom to the "Guide on the Side" a person who sets up the learning situation and helps students as needed as they make their own way. The Design Cycle is a tool used by International Baccalaureate students to create and evaluate solutions in response to challenges. The Design Cycle has five phases, Investigate, Design, Plan, Create and Evaluate. Students much complete the objectives in each phase before going on to the next phase. In the Design Phase students should develop and explain a variety of designs they might use for their identified problem/issue. Students should evaluate each proposed design to determine effectiveness in achieving proposed goal or outcome. The student should develop project criteria to help justify and clarify their decision in selecting project design. In the Planning Phase students should create an Action Plan with a timeline for their step-by-step plan. Students should use their reflection journal to document their work. Students should share their plan with teacher and peers. In the Create Phase the student should be regularly and systematically documenting their reflections. Their creation process, methods, and tools should be explained and any changes to their final design should be justified. Students should provide evidence of their work via journals and documentation. In the Evaluate Phase students should document their learning their process. They should include feedback, reflections, evidence from each phase of the design cycle. This evaluation should discuss the areas of success, areas of improvement and any further research necessary. I strived to create a new course which endeavored to prepare students to lead their own long term research project. I needed to ensure this course was aligned to the existing State, District and School mandates and requirements.

Teaching Standards

The Design Cycle provided me with an inquiry cycle framework based on IB principles and methods. I also needed a way to frame my instruction, classroom management and curriculum to meet State and District goals. To begin I looked to the Chicago Framework for Teaching, to provide me with rubrics for facilitating student inquiry and investigation rooted in Teaching and Learning Standards. The following descriptors from Standard 3c helped me understand expectations for my role in shifting from teacher led to student owned investigations.

- Teacher selects or designs tasks and activities that are fully aligned with standards-based learning objectives and tailored so all students are intellectually engaged in challenging content.
- Teacher selects tasks, text, and materials that are complex and promote student engagement and initiation of inquiry and choice.
- Students contribute to the exploration of content.
- Teacher skillfully scaffolds instruction to ensure all students access to complex, developmentally and grade-level appropriate texts.
- The teacher's structure and pacing of the lesson are developmentally appropriate and sequenced so that students reflect upon their learning.
- Students may also help one another build depth of understanding and complete tasks.
- Students flexibly group themselves during the lesson and achieve mastery of the content.

I learned what the expectations for teaching should be to uphold high expectations of student learning and behavior to help institute and implement independent inquiry.

In Standard 3d we find guidance on Using Assessment in Instruction. The following descriptors help create Formative Assessments to guide students in reflection and assessment of their products, process and progress through a self-guided year-long investigation.

- Formative assessment is fully integrated into instruction, to monitor student progress, and to check for understanding of student learning.

- Teacher uses questions/prompts/assessments to evaluate evidence of learning.
- Students can explain, and there is some evidence that they have contributed to, the criteria by which their work will be assessed.
- Students self-assess and monitor their progress.
- Teacher and peers provide individual students a variety of feedback that is accurate, specific, and advances learning.

I used the Framework for Teaching as I wanted to know how to evaluate student process, product and project effectiveness. This helped me identify criteria with students as they developed their own performance rubrics and formative assessments.

Learning Standards:

Common Core State Standards: I sought to find mandated Student Learning Standards to create an authentic content and skills correlation as a baseline of student work. I reasoned if these are the measureable content and skill requirements then students can use these existing standards to guide their work and assess their progress.

- 6W6 CC.6.W.6 Production and Distribution of Writing: Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.
- 6W 7 CC.6.W.7 Research to build and Present Knowledge: Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.
- 6W8 CC.6.W.8 Research to Build and Present Knowledge: Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.
- 6 W9 CC.6.W.9 Research to Build and Present Knowledge: Draw evidence from literary or informational texts to support analysis, reflection, and research.
- 6SL1 CC.6.SL.1 Comprehension and Collaboration: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.
- 6SL4 CC.6.SL.4 Presentation of Knowledge and Ideas: Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.

- 6SL5 CC.6.SL.5 Presentation of Knowledge and Ideas: Include multimedia components (e.g., graphics, images, music, and sound) and visual displays in presentations to clarify information.

I used the Common Core Standards to align learning standards to the Personal Project to ensure students were meeting actual requirements tied to State, District and School mandates.

International Baccalaureate World School Mandates

I then looked to the International Baccalaureate (IB MYP) Middle Years Program guide to align this pilot program with IB mandates. In IB the student is at the center of the learning in a multi-disciplinary approach which uses Areas of Interaction. The Areas of Interaction include: Approaches to learning "which encourage students to take increasing responsibility for their learning, to question and evaluate information critically, and to seek out and explore the links between subjects. Learning how to learn and how to evaluate information critically is as important as the content of the subject disciplines themselves."(From Practices to Principles, 2008) This 6th grade independent inquiry course would place the student directly in the driver's seat of his/her own project, process and progress.

Research Question *(what is my topic or question/sub question?)*

What happens when students participate in long term research? More specifically what happens to student ownership of learning through a year- long student designed independent investigation?

Summary of Data Collection Methods

1. I collected student surveys from the beginning of each semester to learn more about my students and their interests.
2. I collected samples of student work from the guided and independent inquiry projects to assess what content knowledge and skills they have gained and or need more practice.

3. I monitored and collected student/peer conference and weekly project status reports to build student awareness of concept and skills acquisition and time management, to connect with outside partners, as well as to facilitate student reflection and sharing products, process and progress with others.

4. I kept an ongoing weekly journal throughout the Action Research Investigation. I referred to observations of student behavior shifts to guide my next steps.

Research Story

In September, 2013 a class of thirty two students and I were fortunate to work with a muralist who would be painting a Wildwood inspired mural on our mobile classroom. The students worked with the artist as she demonstrated her process through the Design Cycle. To begin the First Phase; the Investigation, we adopted an old oak tree in the playground as our focal point of the mural. The students met at the tree as the artist explained her own personal project and how she finds inspiration through nature and site based art projects. This led us to the Design phase of the project as she worked with the students on capturing the tree through photography, poems and sketches. The next phase was the Planning Phase when students collected, arranged, and edited images they collected during their investigations. They made sketches and submitted them to the artist. The Creative Phase began as they actually helped paint the mural on our Mobile Unit. The experience was captured and shared with our community to end the Evaluative phase and choose next steps.

In October, the students and I engaged in a shared authentic experience, an Urban Tree Study, to kick-off their year-long Personal Projects. Students would be expected to build conceptual knowledge connected to key learning standards as they conducted self-guided investigations using a variety of methods, media, and sources while implementing organizational and self-management skills.

After the mural was completed, I used brainstorming and concept webs to assess students' pre-conceptions about the environmental benefits of trees to spur on the Tree Study, which was to be our Guided Investigation. As I analyzed the student Tree Study Concept Webs, I wondered if the Tree Study might inspire some students to consider exploring Environmental topics for their Personal Project.

October 8, 2013: What Do you want to know about trees?	
Positive Responses- Ask about trees	Negative Responses
11111 11111 11111 (15)	I honestly don't have an interest in this. Why should we learn about trees? How can studying about trees help me in my Personal Project? Why are we interested in this? 1 1 1 (3)
Community Service	Environment: Awareness & Stewardship
111 (3)	11111 11111 11111 (15)

Looking at the Tree Study Concept Webs, I found three outliers who were adamantly opposed to a Guided Inquiry based on the schoolyard trees. (See Appendix A for Examples) I chose to follow these students throughout their investigations, because of their forceful and negative reaction to our Guided Inquiry about the trees in the park instead of working on their personal project. I was interested in discovering if and how their attitudes might change as the year progressed. On October 8, 2013 I administered a brainstorming session to assess students' connection to the Environmental Study. Ali commented: "This project is stupid, why can't I do PP (personal project)." Elisabeth commented: "I can think of a lot of questions about trees, but I don't want to study them" and Vanessa commented: "I love the topic, but you're forcing us to do it". I realized that the connections from Tree Study to individual project was not obvious, so I would have to help the students identify any useful concepts or necessary skills which could be adapted to any project.

Phase Two: Investigation

I used the Tree Study as a guided experience to introduce students to different genres, methods and graphic organizers (See Appendix B for examples) and to inspire them with ways to make a product. Because we did not have reliable access to computers, I shared fictional and nonfictional accounts of environmentally based activists including environmental artists, scientists, naturalists, journalists, and industrialists through print and non- print media, as well as hands on investigations and Socratic discussions.

As the Investigation Phase continued, I wondered if the students' attitudes about trees had changed as a result of our semester long investigation and if any of them were going to pursue environmental projects. On December 3, 2013, I asked the students to write about whether their feelings had changed toward trees (See Appendix C for examples) Ali, "felt the same about trees, but was inspired by the environmental art we created, and suggested a photography project to take a picture of her favorite tree throughout the seasons." Elisabeth, "cared more about trees, stating that she knows more about nature, and is aware of the balance of nature and doesn't take trees for granted anymore." Vanessa felt, "the same about trees." She mentioned that she "has always had a love for trees." She knows they are important living things. She could list many connections to trees. Below is a chart illustrating the whole class response to my question:

December 3, 2013: How has your opinion about trees changed?		
	Positive	Negative
Changed (have feelings, awareness, stewardship)	11111 1111 (9)	(0)
Not Changed (didn't care before or now)	(0)	(1)

This chart helped me gauge student interest in the tree study. The chart identifies that nine students did form more positive feelings about stewardship and environmental awareness with one student declaring they did not care before or now. What I did wonder was why did I only receive ten surveys back from thirty two students?

In January, at the end of the first semester, I wondered if the other students' attitudes had changed over the course of the project. From the survey on January 14, 2014, six students said their feelings about trees had changed because they knew more about trees and eleven students said their feelings about trees had not changed, as they had always known that trees were important, and were resentful about having to fill out a paper about it. (See Appendix D for examples). I decided to shift from Teacher Driven activities to more time devoted to personal projects based on student feedback and my own reflections. I needed to assess just where the students were in their Investigation Phase and if they were ready to enter the Creation Phase. The following chart illustrates what I found:

Question 1: Spending so much time on this Nature study was useful		
Not Useful	Somewhat Useful	Very Useful
11111 (5)	11111 1111 (9)	1111 (4)
Question 2: Using computers and technology would help increase interest of this study?		
Not Useful	Somewhat Useful	Very Useful
(0)	1111 (4)	11111 11111 1111 (14)
Question 3: I want to spend more class time to learn more about the local trees and environment		
Not Useful	Somewhat Useful	Very Useful
11111 1 (6)	11111 11 (7)	1111 (5)
Question 4: I want to move on to an unrelated topic of my own choosing		
Yes	No	
11111 11111 11111 (15)	111 (3)	
Question 5: I want to continue with Environmental Studies as my Personal Project.		
Yes	No	
11111 (5)	11111 11111 111 (13)	

I learned that thirteen students thought working on the Tree Study was useful, while only five thought it was not useful. This told me that the Tree Study was a useful endeavor for the majority. I learned that students need direct access to technology for all phases of the Design Cycle and computers were necessary for them to work on their projects. I learned that the majority of students wanted to continue working on personal projects related to environmental issues. I also learned that the majority of students were ready to work full time on their own projects.

On January 22, 2014, I asked each student to fill out a project abstract describing their project. Ali stated that she was endeavoring to write, direct, produce and act in an adaption of a Harry Potter story. She outlined some next steps including, casting, rehearsal, and production schedules, costumes and scenery plans. Elisabeth described her project as a blog about her life and interests, she was still in the Investigation Stage. Vanessa had decided to create and share eco fashion. She stated she was investigating different projects and trying out a variety of eco-friendly materials, including recycled plastic bags. It was interesting to note that these three students were at three different phases of the Design Cycle. Ali was in the Creation Phase, with Elisabeth in the Investigation Phase and Vanessa straddling the Investigation and Creation Phase. They were all aware and could identify the phase they were in. (See Appendix E for examples) the varied degrees of progress from these students was fairly representative of the class (See Below).

January 22, 2014: Personal Project Update Describe your progress			
Investigation	Design/Plan	Create	Evaluate
11111 11111 11111 111 (18)	11111 1 (6)	(0)	(0)

At this point in time at the end of the first semester, I expected to find the students in the Design Phase. I wondered why they weren't further along, and why did it take so long to latch on to an idea or project to pursue? I did find that the students could accurately identify which phase of the Design Cycle they were in. I also wondered why I only received fourteen responses from thirty-two students.

Phases Three and Four: Creation and Evaluation

As January and the first semester were ending, the students stated they were no longer interested in the Tree Study and were gaining momentum with their own projects. As the students were not completing self-directed journal entries, I had been administering weekly project reflection assessments throughout the semester. Many of the students stated that if they were working on a Personal Project, they shouldn't be filling out worksheets that I made, I felt strongly that it was necessary to institute these protocols to provide opportunities for students to share evidence of their learning.

In February at the beginning of the second semester, I had been struggling to get the students to document their learning, the students were complaining that I was making them do paperwork instead of working on their projects. I realized they could now take the lead on their projects. By now the students could select and research their topics using a variety of print and non- print resources, they could form opinions based on critical thinking using claims, evidence and interpretation. I was able to shift instruction from teacher directed to student directed by providing protocols for sharing personal project work.

I administered a progress update on February 5, 2014, the beginning of the second semester, to provide students with a reflection and communication opportunity. Ali was able to outline her

progress, stating that 95% of her script had been written and she had received the principal's permission to hold rehearsals and present the play to a school audience. She still needed to complete casting and script. Elisabeth was still brainstorming and researching her blog, I tried to connect her to some successful teen twitter and online blogs for help. She was resistant to my help and was not interested in the resources I selected. Vanessa had a Pinterest page and used it for pinning interesting projects. She had eliminated some fabrics and discovered some benefits to eco-fashion. She was ready to select a project and concentrated on making something. This data provided me with evidence about what each student was working on and helped them reflect on their project and progress while another student listened to and reflected on to the report. (See Appendix F for examples) I would have expected most of the students to be moving from the Design/Plan phase to the Create phase by the beginning of the new semester, as we had spent so much time in the Investigation phase during the first semester. The students seemed to be able to identify the Design Cycle phases and most could describe the work they were doing. I was concerned about the students who fooled around during our class time, as they were also the students who would not complete reflections and journal articles. In the chart below, I show their reported progress:

February 5, 2014: What have you accomplished?							
Investigation		Design/Plan		Create		Evaluate	
11111 111	(8)	11111	(5)	11111	(5)		(0)

The information I learned from the chart showed me that students were making progress on their projects and could accurately identify the Design Cycle phase they were in. I did note that some students were still 'stuck' in the Investigation Phase. I needed to find ways and time to help them move forward.

On February 18, 2014, I administered a content and skills survey to assess how students were connecting their projects to academic standards and life skills. This data yielded information showing me the more time students devoted to project the more they were accomplishing.

I wondered if students who worked at home or outside of our allotted meeting time were accomplishing more. The average daily time students spent on their project was two hours. The majority of the students claimed to work on their project every day in and out of school. Two of the three girls each stated they worked about two hours every day both in and out of school. (See Appendix G for examples) Here is the chart showing their time spent on Personal Projects:

February 18, 2014: Time Management Survey				
How much time do you spend on your Personal Project?				
Daily	Weekly	At School	At Home	Both
2hr 30 mins – 11 (2)	Everyday – 11111 11111 1111 (15)	11111 11		11111 11111 111
1hr- 1111 (4)	4 hrs -11 (2)			
1hr 30 mins – (1)	Every other day – (3) 111			
4hr15mins – (1)	Once a week- (1)			
45mins – (1)				
1hr -111 (3)				
3hr – (1)				
20mins- (1)				
1hr15mins- (1)				
2hrs – (1)				
		(7)	(0)	(13)
What kind of outcomes are you learning?				
Tangible (things) 11111 1 (6)		Intangible (ideas) 11111 11111 11 (12)		
What Kind of skills are you using:				
Communicator Writing Listening 11111 11111 11 (12)	Risk-Taker 11111 (5)	Inquirer 1111 (4)	Thinker 1111 (4)	Open-minded 111 (3)
Creativity Ingenuity 11111 (5)	Researcher 11111 111 (8)	Leader 11 (2)	Brainstorming 11 (2)	Technology 1111 (4)
Planning 11111 (5)	Gaming 1 (1)	Drawing 11 (2)	Crafting 1 (1)	Resourcefulness 1 (1)
Observation 1 (1)	Problem-Solving 111 (3)	Time Management 11 (2)	Designing 1 (1)	Organization 11 (2)

Comment [CT1]:

Principled Fairness 11 (2)	Patience 1 (1)			
What kind of concepts are you learning?				
Modern technology 1 (1)	Art 1 (1)	Animals 111 (3)	Environment 111 (3)	Humanity 11 (2)
What support do you need?				
For the Principal to follow through -11 (2) Help from community and family- Human Resources-111 (3) Technology-1 (1) Planning/Time Management -11 (2)				
No Help – 11111 1111 (9)				

On this survey I intended to build student awareness of the skills and concepts they were learning from their projects. I wanted to find out how aware students were of the executive functions and conceptual understandings they were building. Students related their knowledge of the IB Learner Attributes to skill building. From the above data, I can see that the majority of students claim to spend at least two and a half hours every day both at home and in school on their projects. I correlated this to which Design Cycle phase the students were in. I noticed that the more time the student spent on projects, the further along they were in their project progress. The skills notated were also skills supported by Common Core, 21st Century Skills and IB criteria. They were unsure of the meaning of concepts, therefore I taught a mini-lesson and held a class discussion on what 'concepts' were before we proceeded on independent work.

During March the students continued working on their Personal Projects, with most of them completing the Investigation Phase and beginning the Creation Phase of the Design Cycle. We began each week with reflections and peer conferences. It seemed like the right time to step aside again as I realized that I was not the only content provider available to the students. I challenged them to find an outside collaborator, mentor or expert to help them with their research. As I

continued to meet with individual students for updates and to provide guidance and feedback, I also sought to help them make connections with outside partners. Ali got stuck because no theater department would return her call. Ali did persist until the guest director of our school musical talked with her. Elisabeth did not want an outside mentor. Vanessa reached out to her cousin to help her select materials for her project.

Students completed another project check-in with their peers. Ali and Vanessa were beginning their Creation Phase. Ali was organizing her cast and coordinating rehearsal times, Vanessa was narrowing down products, as she determined which materials and resources she would need, and Elisabeth was narrowing down a topic for her first blog. These students represented the continuum from completely self-directed to unmotivated in the process. I discovered that when the students were used to being given what to think, how to think, and when to think they could not always shift into thinking and doing for themselves, even when they liked what they were doing. The chart below shows the status of the whole class:

Describe your progress				
Investigation	Design	Plan	Create	Evaluate
11111 1111		11111 1	111	11
What kind of support do you need?				
Human Resources: 11111 111		No support: 11111		
Time: 11		Technology: 11		
Approval: 111		Marketing/Advertising: 1		

From this I could see that I needed to help students still in the Investigation Phase to commit to a presentation project, and begin to choose a platform and presentation to help them reflect on their process still implementing the Design Cycle, but shifting from an Investigation to designing a presentation about the student's investigation process as their personal project. This way students had a choice about how to analyze their almost year's work of inquiry on a self-chosen

topic. The Personal Project culminates with student sharing a product through social media. I was teaching from the side, using probing questions to provoke student engagement though choices and tasks. I also used this survey to assess students' marketing and advertising plans which outlined their presentations and/or projects along with explanations of how they connected with outside partners to help them further their research.

In April most of the students were making a product to demonstrate their understandings gained from their investigations. Some students had completed a project, made a product and were now in the Reflection stage of the Design Cycle.

I administered another student survey twice, once in April and once in May, to assess changes in student attitudes, progress on projects and teacher/student roles in student investigations.

I asked, "How have your attitudes toward research changed from beginning to end of the year?

In the first survey Ali professed, "I noticed how hard it is to plan projects" and in the second survey she noted, "I have more respect for things like Google because I got a lot of information from Google."

In the first survey Elisabeth answered, "My attitude has changed because now I am more excited about research because I am deeper into my project." in the second survey she stated, "Now I am more enthusiastic about researching because I found a topic I am very passionate about."

In the first survey Vanessa stated, "My attitude about research has changed by letting me express myself by which places I go to and what things I search." In the second survey she said, "No, not really, as my attitude toward learning has always been to stay on task while researching."

It is interesting to note that Ali has maintained her self-direction and stuck with her originally proposed project, Elisabeth has yet to move from Investigation phase and Vanessa, while respectful is starting to emerge as a more confident student.

In the first survey I also asked, “Did the Guided Inquiry Project help you? Ali stated that, “It helped me learn how to research.” Elisabeth said, “I don’t think it helped because I don’t think anyone is interested.” Vanessa replied, “Yes, it helped a lot because it showed me what and how much research I need for this project.”

I dug deeper in the second survey asking more about the process reports. I asked, “Do the process reports help? Ali answered, “They don’t really help because when we want to do research we have to do papers upon papers.” Elisabeth mentioned, “They do not help because we spend a lot of time on them and we could be using technology.” And Vanessa added, “The templates helped me because they have ideas that can help start a conversation with our peers and they also help us get ideas of what the outside world is.”

On both surveys I asked what content and skills the students were gaining. On the first survey Ali couldn’t state any content knowledge and mentioned patience, knowledge and risk-taking as the skills she was using. On the second survey she still was unable to name any content she was using and listed Communication, Leadership and Patience as the skills she was building. Elisabeth couldn’t list any content knowledge on the first survey and named research skills, writing skills, empathy, creativity, and background knowledge as the skills she used. On the second survey she directly asked, “What is content knowledge?” and listed leadership, writing and communication skills as the skills used to complete project. On the first survey Vanessa said she gained more information on fashion and on what was interesting to girls. She used organization, communication and writing skills in her project. On the second survey she could

name the skills she used, communicating, research and making things. I discovered the students didn't realize that they were learning something through this project. We had a class discussion to create a working definition of Content Knowledge and described it as relating to the Subject Areas: Literacy (Communication & Research Skills), Social Studies, Math, Science, Arts, Technology.

As I analyzed the student responses I could begin to see who was learning through this independent inquiry experiment. I noticed that the students understood that they were gaining and practicing skills, they could recognize student and teacher roles. The interesting shift occurred on the second survey. The student descriptions changed from teacher directed to student owned responsibility over their learning. As you can see in the following chart:

March 13, 2014	
QUESTION 1- How have your attitudes about research changed from the beginning of the year?	
We have class time to work	1(1)
Have not changed	1111(4)
I used to treat research as note taking for 2 hours, now I see it is a gradual knowledge-building process. More in depth, concentrated. At the beginning of the year I didn't really care, but now I have a great work ethic. Now I want to research way more than last year. I want to find out the answers and learn new things. I have become more enthusiastic about research now that I am further along. At first I was unsure about what I was going to do but now I'm more sure of what I am doing. In the beginning I could care less about it, now it's really good. I used to not like it but now it's cool.	11111 1111 1 (11)
No answer	11111 1 (6)
We have actually improved on doing our research and advertising	1 (1)
A positive attitude gets you a positive outcome	1 (1)

April 28, 2014	
QUESTION 1- How have your attitudes about research changed from the beginning of the year?	
I understand how to do it better, Now I know what	1111111111111111111

I am doing. From teacher directed to student directed- I wasn't interested , now I really want to make this project	(19)
No, I still feel fine about researching	11 (2)
I am stuck	1
We were doubting it would happen	1

Looking at Question 1 on the March survey I noticed that the majority of the students, who answered the survey, noted that they didn't like research before but now they are more interested in research and finding things out. On the April survey the majority of the students, (I noticed an increase in the amount of students who returned the survey, so this represents a more accurate picture of my class), made statements like, "I understand how to *do it* better". They also said, " I wasn't interested (when it was teacher directed) and now I am (student directed). "

I also asked what they thought the role of the teacher and student were. On the first survey, Ali stated that, "the teacher's role was to give us time to work and gives us suggestions" and the student's role was, "... to do my project and learn." On the second survey she says the teacher's role is, "guidance and help" and the student's role is, "to make the plan happen". Elisabeth thought the role of the teacher is, "to help students when they need help and guide students on the right track," on the first survey. She thought the role of the student was "to listen to directions, follow rules and work on my project, when instructed." On the second survey she says, "The role of the teacher is to help children with their projects." The role of the student is to do their project." Vanessa mentioned on the first survey that, "my role is to inform people about my project and how long it took and tips." On the second survey she said, "The role of the teacher is to help and encourage and the role of the student is to complete, make or define personal project." Below are more examples of student responses:

March 13, 2014		
Question 14- Define the role of the teacher in the Personal Project.		
A teacher. To teach us about programming, etc.	11	(2)
A guide, motivator, helper and supplier To help me plan. To help me with anything I need and to guide me.	11111 11111 111	(13)
The role of the teacher is a leader because she is leading us and teaching us how to advertise. Gives us time to work.	1	(1)
No answer	11111 11	(7)

April 28, 2014	
Question 14- Define the role of the teacher in the Personal Project.	
A guide- To help us know what to do	11111 11111 11111 111 (18)
The leader	1
Distant helper	111

When I compared the March and April student responses about what they described as the role of the teacher to be, I noted that in March they emphasized that the teacher is the leader and gives us time to work. Their responses shifted in April where they stated that the teacher is a helper, even suggesting a *distant* helper and a guide. The shift was exemplified in the responses to their responses as to define the role of the student in Personal Projects. In March they stated that their role was to listen, focus, follow directions and get things done. This seemed to reflect a very teacher directed attitude. In April there was a shift to words like, "I am the worker.", "I have a project about my interests and something I want to do."' "I want to explore the possibilities of personal project.", "Students role is to be independent and make smart decisions.","‟ to become a better thinker…" This suggested students already owned the work and the product of their project.

March 13, 2014	
Question 15- Define the role of the student in the Personal Project.	
The cool architect who is famous and happy	1 (1)
Listening and getting things done. To participate and do your best. Focus on our projects. Listen to the teacher, follow directions.	1111 (4)
Our role is to persuade and inform other students	11

	(2)
To guide myself in the right way. To do most of the work. To get my work done and get more cool ideas. To learn and have a successful project. To make project come true. The person doing the research and pretty much the whole project.	11111 11111 (10)
No answer	11111 11 (7

April 28, 2014	
Question 15- Define the role of the student in the Personal Project.	
Main controller/contributor. The person doing the project	111111 11111 (11)
The worker. To get research and be knowledgeable of their project. I have a project about my interests and something I want to do. To explore the possibilities of personal project. To be independent and make smart decisions. To work hard and create something spectacular and become a better thinker	11111 11111 1 (11)
inform community about project results	1

The answer from these questions informed my next moves. I chose to guide students instead of administering 'paperwork' while students designed their final presentation. To facilitate the shift in learning responsibility, we had a group meeting and outlined our work plan. We agreed we would use Mondays to reflect on and share our progress and the other days would be used for project work. I needed to secure a computer cart for that class period three sessions per week. I would use class time to troubleshoot with students, allowing them to manage their own time. Their project presentations would be due for sharing in early June. They would create their own individualized Action Plan to help them complete and share their projects and establish a positive digital presence.

The remainder of May was spent Creating and Sharing projects. The students showed grit by staying the course of their projects, some are eagerly looking forward to year two.

Looking back at the Standards, Skills, and IB Principles & Practices I can note that students have used technology for each phase of the Design Cycle. They researched, created games, blogs, posts, and designs. They consciously aligned Common Core Standards to their investigations. They identified Science, Math, Literacy, Social Studies, Fine Arts and Technology connections. The students were able to cite examples that demonstrate ways in which they used work habit skills throughout their investigations. Students demonstrated they can use the Design Cycle to organize a work plan, they used graphic organizers to guide their investigations; i.e. research citations, design process protocols, time sheets, action plans, claim and evidence, reflection and assessments.

By the end of April, one project was completed. Lillie, Jack and Fatima designed, organized and implemented a Pie Eating Contest for our school's annual Pi Day Celebration. They subsequently posted a ***Weebly*** documenting their presentation and arranged for a personal field trip to a local Baker's Square pie shop to make a connection to help sustain their project. Todd and Rocco organized a Dodge ball Tournament to help raise funds to purchase new playground balls. Ali set a date for presenting her play and reprised a scene for our annual Fine Arts Showcase. Elisabeth used her experience and created a survival guide for new sixth grade Personal Projects. Vanessa posted a Pinterest page and established herself with a local store to provide craft classes for kids. Aaron collaborated with Owen, a fifth grader, to establish a new school compost program to reduce waste by collecting and composting lunchtime waste. Interestingly enough there were ten of the nineteen projects related to Environmental issues and four directly stemming from the Tree Study.

In Conclusion ***(In summary, what have I learned? What will I do differently going forward? What are the areas of further questioning?)***

In summary, I have learned that student ownership of learning is possible through a personal project. The students did show interest in their own work, while they didn't always see the investigation as learning. They did not connect with a Teacher Directed Guided Inquiry, but were motivated by pursuing their own interests and wanted class time to be self-directed. These students did not automatically document their learning process and stated resentment at my creation and administration of any kind of paperwork. We were able to compromise a weekly class schedule to devote one class session for reflection and peer conferencing and three sessions for in class project work time. Students began to lead sharing sessions

The students expressed that this activity let them learn about more projects and gave them more communicating sharing their research with others.

I learned that while it is necessary to begin with a Guided Inquiry Project, I will let the students select the investigation. I will release ownership of learning to students through community building activities and introduce graphic organizers, protocols and resources to provide academic support and maximize independence. I also think including the students in on the lesson planning and development will help them understand how to identify and align content standards and skills to their project.

The mural project was a great way to community build while immersing students into the Design Cycle, but the Tree Project lasted too long. I would spend the first semester differently by using one quarter on Design Cycle introduction and the other to guide students through Personal Project introduction. This will help the fifth graders build from their Exhibition experience to designing a Project Based Learning experience for themselves. I have learned to listen to my students and change instruction to meet their needs. The most important thing the Personal Project did was to help me build better personal relationships with my students. I can list all of

their projects and the progress they are making. We created a safe classroom environment where we could share our feelings, attitudes and work with each other. Students were allowed to work at their own pace on their own project and encouraged to share their progress along the way.

It might be important to note how the girls from the study changed. Ali was a self-directed student from the beginning of the year to the end of the year. This type of student thrives in independent work. I would find her in the library at lunchtime working on her project. She was one of the students who teamed up with a partner. They were both able to collaborate to complete tasks and actually present/perform their play for the student body.

Elisabeth seemed to have lost her way or didn't ever pick up traction. Her experience seems to be one of self-discovery and asserting independence. She was one of the few students who never really actualized her project. She did continue to investigate topics, products and skills throughout the year without producing any final product. She also did not complete most of the check-in sheets. She continued to rebel against any work, direction or help over the course of this year. I am not sure how students like this will fare in this independent situation.

Vanessa typifies a good student who will jump through teacher's hoops. She couches her 'rebellion' with firm politeness, but would comply with anything teacher directs. She often offered up her own opinions and quietly pursued her own interests. Vanessa is an exemplar student from this study, as she actually transformed. Vanessa went from being a shy, compliant student to an outspoken advocate for her own independence. She wants to be noticed, has become assertive and actually shared her work with peers, younger students, and posted her projects on Pinterest.

Next Steps

Going forward, I would use the Personal Project introduction time to establish work habits and project expectations. This work should be done collaboratively during the first five weeks of school. The students can define the criteria with guidance from online research about Personal Projects and create performance rubrics to guide the process. I would share the protocols and templates I designed this year during the second five weeks of school and give students the choice to create their own reflection and planning templates. I would let the students organize their time and introduce them to Action Planning resources, Advertising and Marketing Strategies and online resources before the second quarter or the third five weeks of school. I have discovered it is best if they find the tools and share with each other. There must be at least bi-weekly sharing sessions to allow for mini-lessons, conferencing and goal setting to help students monitor and evaluate progress and process. The teacher must truly step aside and let the student own his/her own learning. I was able to support the students by helping with goal setting, action planning, finding resources, providing background and resources. What I realized was that students still needed a 'go-to' reference and resource person when they were stuck. When I stepped aside, I found the students actually owned their learning process, progress and products. This learning was visible as they wanted to work on their project, were able to confidently discuss their findings with anyone and were a little resentful that I developed and implemented paperwork for them to complete. I was pleased at the number of successfully products, there were fifteen out of nineteen completed and shared. The students were able to choose a presentation platform and share their work through social media. During an end of year reflection peer interview a huge majority of students firmly state that they would definitely do a Personal Project in the future. I can confidently state that student attitudes were positively changed through this year long independent investigation. I can also claim to have learned to

challenge myself to adapt my instructional strategy repertoire into ways to support independent student inquiry.

Policy Recommendations:

The policy recommendations that emerge from my research are:

- All teachers must receive Professional Development in: Independent Inquiry Project Based Learning, Design Thinking and Social Media to help establish protocols that support a shift from teacher led to student based projects.
- Districts must establish online safety and usage guidelines which allow students to bring their own devices to school.
- All Wildwood Sixth, Seventh and Eighth Graders must engage in a Personal Project culminating in Final Project Summit and Digital Evidence of Project.

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Attachments:

Appendix A: 10-08-13 Brainstorming – Ali, Elisabeth and Vanessa

Appendix B: Graphic Organizers: Internet Note-taking sheet, Claim/Evidence/Interpretation template

Appendix C: 12-03-13 Tree Study Reflection Web – Ali, Elisabeth, Vanessa

Appendix D – 1-14-14 Tree Study Culminating Survey

Appendix E – 1-22-14 Personal Project Progress Report

Appendix F – 2-05-14 Personal Project Update

Appendix G - 2-18-14 Time Management and Skills Survey

Appendix H – 3-17-14 Personal Project Update

Appendix I – 4-2-14 1st Semester Reflections

Appendix A: 10-08-13 Brainstorming – Ali, Elisabeth and Vanessa

Ali Murr

lo-813

Wildwood Trees

- How many types of trees are in WW Park?
- How many leaves are on our oak tree?
- What are the different types of trees in WW Park
- What was the first tree planted at WW Park?
- How old is old Rusty
- what type of tree is "
- How many leaves does old rusty have?
- what birds live in WW Park?
- who discovered the oak tree?
- who planted the first acorn?

Buster

Rose

Willow Tree

This is Stupid >:(

This is stuid --

This is stupid Help!

Stupid stupid stupid

~~stupid stupid~~ stupid

WHY can't I do PP? ☆ => best question

Elisabeth

10-8-13

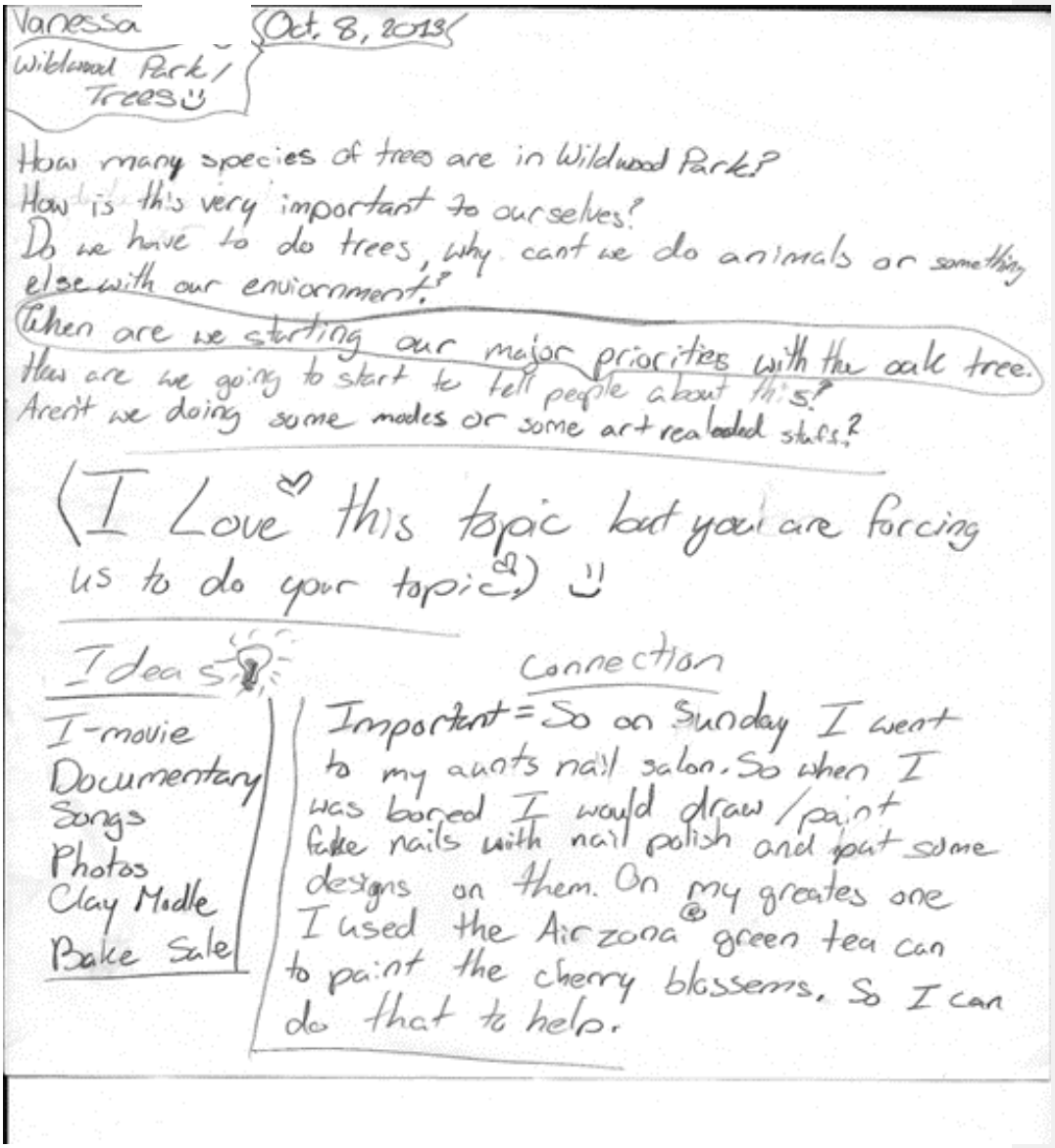
This is stupid why is she making us do this?
This is stupid why is she making us do this?
This is stupid why is she making us do this?
This is stupid why is she making us do this?
This is stupid why is she making us do this?
This is stupid why is she making us do this?
This is stupid why is she making us do this?
This is stupid why is she making us do this?

Why can't we do personal project? ⭐ → best question

Why can't we do personal project?

I can think of questions but I do not want to study them.

What would happen without trees?
Why do trees change colors?
What causes trees to change colors?
What animals need trees to survive?
Why do trees have leaves
Why is bark brown?



Vanessa
Wildwood Park / Trees ☺

Oct. 8, 2013

How many species of trees are in Wildwood Park?
How is this very important to ourselves?
Do we have to do trees, why cant we do animals or something else with our enviornment?
When are we starting our major priorities with the oak tree.
How are we going to start to tell people about this?
Arent we doing some models or some art realated stuff?

(I Love this topic but you are forcing us to do your topic) ☺

Ideas

- I-movie
- Documentary
- Songs
- Photos
- Clay Model
- Bake Sale

Connection

Important = So on Sunday I went to my aunts nail salon. So when I was bored I would draw / paint fake nails with nail polish and put some designs on them. On my greates one I used the Arizona® green tea can to paint the cherry blossems. So I can do that to help.

Appendix B: Graphic Organizers: Internet Note-taking sheet, Claim/Evidence/Interpretation template **Catherine Tanner, 2014

Claim/Evidence/Interpretation Template Name: Date:	
What is the question you want to answer?	
What is the source for the evidence you will use to support your explanation?	
Claim that you think answers the question	Evidence that supports your claim
Reasoning: I think (insert your claim) answer the question because (links evidence to the claim)	
What do you consider the strongest evidence and why?	
What do you consider weaker evidence and why?	

*Catherine Tanner, 2014

Appendix B: Graphic Organizers: Internet Note-taking sheet, Claim/Evidence/Interpretation template **Catherine Tanner, 2014

Note-Taking Sheet: *Internet source*

_____

Web Site title:
Author(s):
Date of publication or last update:
Title of document:
Date you accessed this site: Internet Address: **.net or .org or .edu or .gov or .com**

Information from Source:

_____
_____
_____
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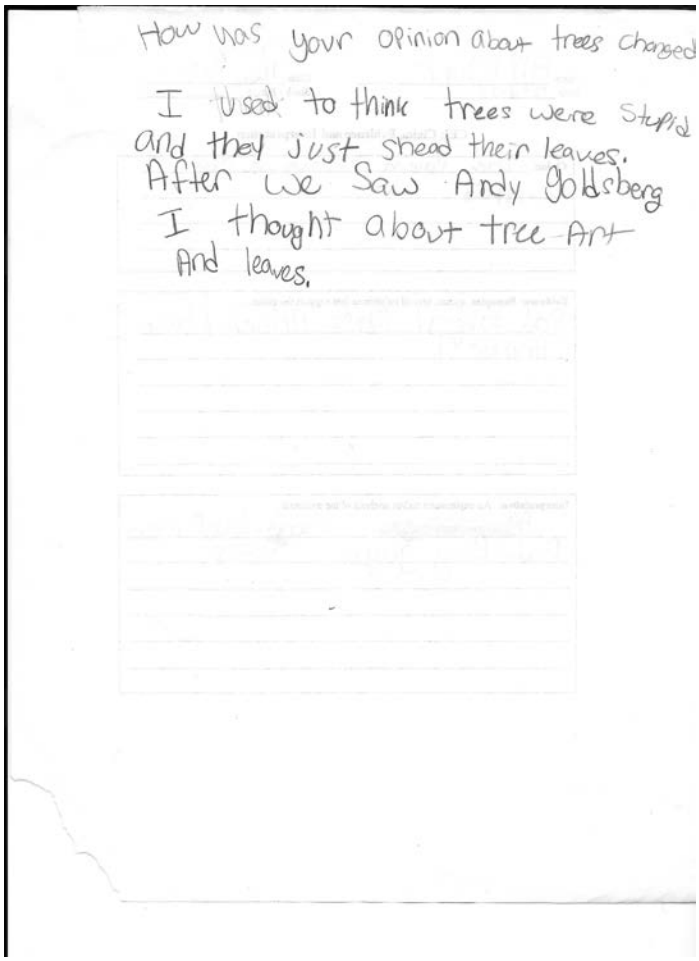
**Catherine Tanner, 2014

Appendix C: 12-03-13 Tree Study Reflection Web – Ali, Elisabeth, Vanessa

Ali

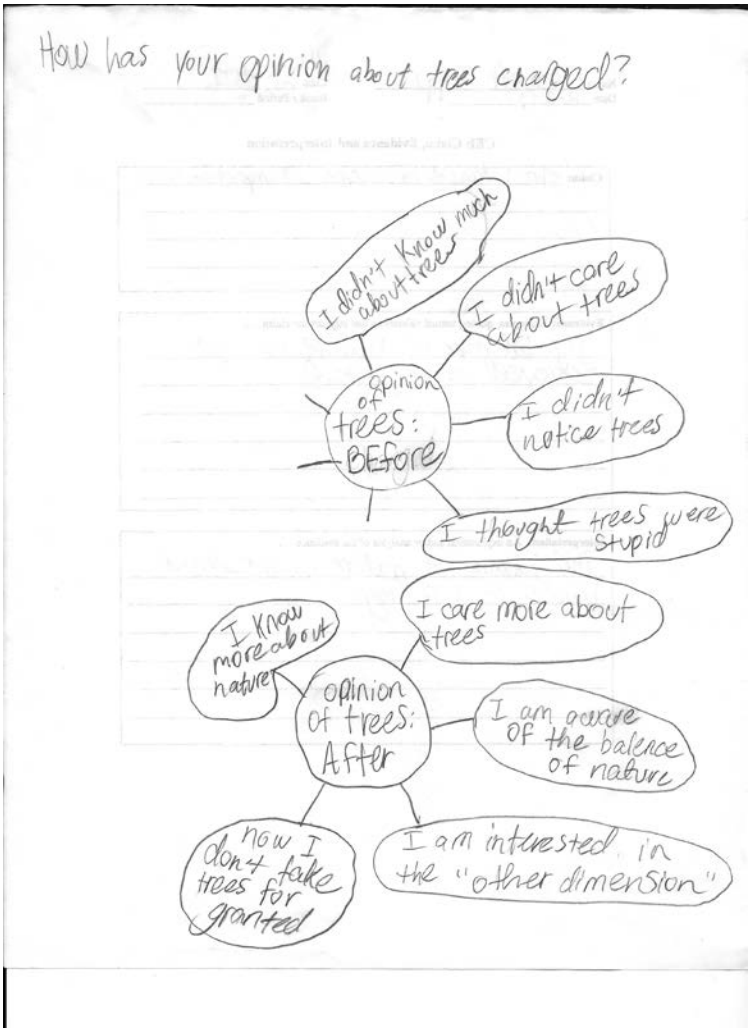


How was your opinion about trees changed

I used to think trees were stupid and they just shead their leaves. After we saw Andy Goldsberg I thought about tree Art And leaves.

Elisabeth

How has your opinion about trees changed?



Vanessa

How has your opision about trees, changed?

My opision about trees changed by letting me enjoy the trees and nature. The nature has inspire me with my learning and lifestyle. My opion change alot by having a feeling about how the trees and nature feel.

P.S. Mrs. Tanner can I continue the tree studie I am very interested in the project.

—Vanessa

Appendix D –Tree Study Culminating Survey

**Catherine Tanner, 2014

Question 1: Spending so much time on this Nature study was useful		
Not Useful	Somewhat Useful	Very Useful
Question 2: Using computers and technology would help increase interest of this study?		
Not Useful	Somewhat Useful	Very Useful
Question 3: I want to spend more class time to learn more about the local trees and environment		
Not Useful	Somewhat Useful	Very Useful
Question 4: I want to move on to an unrelated topic of my own choosing		
Yes	No	
Question 5: I want to continue with Environmental Studies as my Personal Project.		
Yes	No	

**Catherine Tanner, 2014

Appendix E –Personal Project Progress Report

**Catherine Tanner, 2014

Personal Project Progress Report/Reflections Name: Date:
Please fully describe your project, process and or product.
_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

**Catherine Tanner, 2014

Appendix F–Personal Project Progress Report

Personal Project Progress Report/Reflection Name: Date:
Please write a brief summary of your progress.
Goal:
Product:
What has research shown you? Please provide evidence and cite sources.
What have you accomplished so far? Please describe your progress.
Please describe your next steps:

**Catherine Tanner, 2014

Appendix G- Time Management and Skills Survey

**Catherine Tanner, 2014

Time Management Survey				
How much time do you spend on your Personal Project?				
Daily	Weekly	At School	At Home	Both
Hours_____ Minutes_____	Everyday –			
	Every other day –			
	Once a week -			
What kind of outcomes are you learning?				
Tangible (things)		Intangible (ideas)		
What Kind of skills are you using: Check all that apply				
Communicator Writing Listening	Risk-Taker	Inquirer	Thinker	Open-minded
Creativity Ingenuity	Researcher	Leader	Brainstorming	Technology
Planning	Problem-Solving	Designing	Creating	Resourcefulness
Observation	Organization	Time Management	Other:	Other:
What kind of concepts are you learning? Check all that apply				
Environment	Community	Human Ingenuity	Health	Areas of Learning
What support do you need? Please describe type of support you need:				
o Time o Talent o Technology				

**Catherine Tanner, 2014

Comment [CT2]:

Appendix H – Personal Project Attitudes Survey

**Catherine Tanner, 2014

QUESTION 1- How have your attitudes about research changed from the beginning of the year?	
Please Choose One and Provide Examples/Reflection	
Have Changed	Evidence
Have not changed	Evidence
Question 14- Define the role of the teacher in the Personal Project.	
Question 15- Define the role of the student in the Personal Project.	

**Catherine Tanner, 2014

Appendix I - Semester Reflections

**Catherine Tanner, 2014

Project Reflection/Check-in Name:			Date:	
Skills: Please check all that apply				
Self-management	Initiative/enterprise	Learning	Communication	Cross-cultural understanding
Teamwork	Planning/organizing	Problem-solving	Technology	Researcher
Thinker	Inquirer	Knowledgeable	Principled	Risk taker
Collaboration	Time management	Reflection	Creativity	Other:

Reflection on Learning Experience: Please provide evidence for each of these categories:			
Areas of success	Ares for improvement	Further research	
		Yes	No

Please check which Design Cycle Phase you are currently in:				
o Investigation	o Design	o Plan	o Create	o Evaluate

**Catherine Tanner, 2014