

A Case Study in Sustainability Experiential Education

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Abstract: This article presents a case study of a middle school project based on the experience of two teachers and an administrator. The project gives 8th grade students an opportunity to make a difference in the world through a Sustainability Action Project. In this article you will read the rationale behind this project. You will get an overview of and a timeline for its implementation over the course of a complete academic year. We will provide you with some examples of projects as well as refer you to our school webpage where you can view these projects in more detail. Finally, we have included appendices of several of the materials we provide to our students. We hope that you will clearly see what sets this learning experience apart from other sustainability projects, and that you will be able to adopt a similar project in your school.

Key Words: action plan for change; sustainability; project; middle school; collaboration

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The Sustainability Action Project

This SAP project has really shown me that I can make a difference in the world even though I am only an 8th grader at Greenhills. Choosing three things I learned about was hard because I learned so much. The things I learned will forever be with me. (Excerpt of Eighth Grade Student's Reflection on SAP)

I. Rationale and Introduction

In our rapidly changing world, there has been a resurgence of skills being optimized by 21st century schools committed to preparing students to become agents of change in our global landscape. Collaboration, real world problem solving, creativity, critical thinking, digital literacy, and service learning are among some of the broad competencies, which schools are fostering within their students in the new millennium. Schools committed to a student-centered mission must be willing to put these skills on the forefront as they consider creating a dynamic learning environment for today's students to thrive. There is no better time period for students to explore these skills and wear these hats than during the middle school years (grades 6 to 8).

It is understood that middle school is a wonderfully ripe time for young adolescents to take intellectual risks in an effort to discover new interests which, in turn, inform their identity. The middle school child is best defined as a work-in-progress. He or she is still in the midst of much rapid and complex development – academic, social, emotional, and physical. The skillful middle school teacher innately understands that good instruction, which ultimately reaches all learners, must involve a differentiated approach that considers individual learning styles and interests. Beyond this essential component, in developing a 21st century curriculum aimed at middle school, teachers know the role that relevance and student ownership must play in the classroom experience itself. For some teachers, it is as simple as giving students an opportunity to make a choice in how they pursue a given task. For others, it can be a complex and multi-layered assessment which bridges different content areas such as science, civics, public speaking, and technology.

In 2010, these understandings of middle school learners and 21st century skills were closely considered when conceiving of a dynamic and relevant project-based learning experience for our school's eighth grade students. What began as a brainstorm session between a middle school principal and a science teacher quickly turned into a proposal for a student-centered action project which would involve researching and collaborating in an effort to develop a learning experience to promote sustainability. It was important to think about the project in a backwards manner, by first keeping focused on the skill outcomes. We knew we had a strong desire for our students to gain specific competencies in critical thinking, communication, information literacy, problem-solving, and, importantly, collaboration. Stretching beyond these measurable skills, we desired to create an experience for our students that would challenge them to choose a topic that mattered to them in which they could genuinely invest time and attention. In the end, we hoped to strengthen our students' sense of social responsibility by enabling them to learn that by taking an issue of interest through a long-term process, they would ultimately come to view themselves as change-makers. By November of that same year, the Sustainability Action Project (SAP) was unveiled to students as a year-long project conducted within the 8th grade science curriculum. This project is best seen as an evolving journey that builds students' confidence and

understanding about the increasingly essential topic of sustainability and how decisions made now will impact the future world. There was a goal in sight for both teachers and students: by May 2011, all 75 eighth graders would be ready to take the stage to present their research, their action project, and their process of discovery in front of an audience of parents and peers. Our 8th Grade Capstone Showcase would become the grand finale and celebration of this project and the students' middle school years.

II. Overview

Interest in global social causes around the world is surging. While many schools today are responding through community service and grade-wide projects, this project gives individuals the power to influence change and solve problems. In the SAP students think about solutions to real local and global issues that threaten sustainability. Students individually or in small groups develop a plan around an issue they care about. Students engage in a process that expects them to research facts, develop a plan, execute their plan and then present their SAP to the greater community.

Near the beginning of the year, students are asked a question: "How will the world and the human race survive into the future?" This is a broad question, which needs to be broken down to become more manageable and less overwhelming. We seek to help our students answer this question with our Sustainability Action Project (SAP). We ask students to consider what actions or practices they can do to promote sustainability in our world. What do we mean by "sustainability"? We answer this with the most widely referenced definition of sustainability, which says that sustainability is "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (World Commission on Environment and Development, the Brundtland Report, 1987)

As we commence the year's SAP, we ask them, "*On what issue, concerning sustainability, will you take action?*" As the students consider topics to confront a specific current issue, they learn that their project must address the three tenets or pillars of sustainability: ecology (or environment), social justice, and economy. In light of recent global developments, students must also be called to consider a vision articulated by the Earth Charter proposing "a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace."

Sustainability is a difficult concept to translate to 8th grade students since their abstract thinking is still developing. Initially, the "Social Pillar" is the one that most students have difficulty addressing in their projects. However, over the course of the project they begin to see how all the pillars of sustainability are interrelated. As students consider the recent conflicts around the world that are focused on equity and justice, they begin to understand how important it is that each decision we make must take into consideration all the pillars of sustainability.

The major goals and outcomes for the SAP are:

- to be able to explain how sustainability relates to their lives and their values.
- to understand how their actions impact issues of sustainability.
- to apply their understanding of sustainability by acting on an issue about which they are passionate.

- to explain how the pillars of sustainability are interrelated and are addressed in their project.
- to reflect on their capacity to advocate for and contribute to improvement locally, regionally, or globally.

Equally important, throughout the project students will develop their 21st century skills:

- to investigate the world beyond their immediate environment;
- to blog about discoveries;
- to collaborate with a team of classmates;
- to recognize their own and others' perspectives;
- to communicate their ideas effectively to a diverse audience;
- to translate their ideas and findings into appropriate actions to improve the world by creating and executing an action project aimed at making a change.

III. Implementing the Sustainability Action Project

In this project students are given significant freedom in choosing their topic and action project. Students are given timelines and periodic deadlines throughout the year to help them complete their project and prepare for the presentation evening in May. The following is the timeline and the deadlines along with a brief explanation of what must be accomplished at each stage.

Timeline:

Part I – Considering a Topic for SAP (October)

In October, students choose topics and form small groups of like interest. Students may choose to work alone. Students are given orientation in how to search for a topic. They are also instructed in basic research methods and directed to some preliminary web-based resources to use in their research and topic inquiry. They summarize their topic choice and preliminary research in a one-page proposal.

Part II – Research and Writing Blogs (November - March) (See Appendix C)

From November through mid-January students refine their topic of interest. They conduct research on the web seeking primary sources for their information. They keep track of these sources in their bibliography. They are also required to subscribe to at least three feeds from reliable sources. The students record much of the learning gained through research in blog posts. In early November the teacher guides students through the process of generating a blog. Students are instructed in how to use tags, insert a picture, web links, documents, and how to publish the blog within our school's internal, privacy-protected platform. Students are then given class time (one Science 8 class period per week) in which to research their topic and write their blogs. From November through March, students are required to write a total of 10 blog entries and comment on peer's blogs. Through these blogs, students share what they have learned about the topic from their research. They address various issues within their topic. They summarize and share internet articles, website links, information from the feeds they follow and primary sources that they find. Their published blogs are read by their classmates and particularly by their group mates, who are required to make substantive comments on their peers' blogs. These blogs, the comments and responses serve as a way to communicate with

each other about their topic. This is one way in which the groups collaborate on the project.

December: First Formal Progress Check (See Appendix B)

In December students complete a written status report in which they articulate their topic in detail. They identify their resources and summarize how their project is addressing the three pillars of sustainability. This written information has been critical in guiding the students toward the expected project goals.

Part III – Conducting the Action Project (January – April)

The students are given great liberty in terms of the form that their project takes. By late January, the groups must finalize their plan to conduct their action project. An early start on the project is especially important if the project requires interaction with individuals or organizations outside of the school.

February/March: Second Progress Check (See Appendix D)

Students write out their timetable for completion of all aspects of their project. They divide up responsibility for each component of their action plan, including the presentation for the Capstone Evening.

Part IV – Developing the Presentation (March – May)

During this period the groups work on the actual presentation of their research and project. Some project presentations take the form of an “infomercial” for some educating their audience on the issues surrounding their topic. Others develop videos of their project including interviews and a record of a community service activity. Some presentations are simple PowerPoint reports of what they did. Students receive instruction and guidance about how to organize and deliver their presentations from a teacher of Introductory Public Speaking.

Part V – Presentation (May)

At the 8th grade Academic Capstone Showcase evening in May each group presents its final action project to an audience. There is an evening program where most presentations take place simultaneously in various classrooms to voluntary audiences. A program informs the attendees about which presentation is occurring when and where. A few select presentations are made before the entire class and guests in the school theater. The audience consists of classmates, students of other grades, parents, invited special guests and possibly local, state or government officials.

Part VI: Final Reflection (June)

Reflection is a pivotal action in learning. Therefore, the final reflection essay is one of the most important parts of the SAP experience. Specifically, students are asked to write one final report, a reflection on their experience and what they learned. Practically, we incorporated this reflection as part of the final exam for the year. The students were asked to prepare an outline to respond to the following essay prompt in advance of class:

Identify three specific things that you learned through your SAP. Be thorough and clear in your description of the three things. Then, discuss one lifestyle

change that you can/will make in response to one of the things you learned through your or someone else's SAP. In your discussion of this lifestyle change, address the three tenets/pillars of sustainability (economic, environmental, equity and justice).

IV. Examples of SAP

Each year our students create 24 plus SAP projects. Topics address, alternative energy, plastic bottles, illiteracy, eco communities, gender equality, fracking and so much more. Below are samples of 6 projects that represent a variety of local to global impact from last year. To view the PowerPoint presentations, click [here](#) and scroll to the bottom of the page.

SAP Topic	Why?	Action Plan
Local Hunger	Hunger is usually thought of as issue in 2nd and 3rd world countries, but it affects America as well.	Originally: Global plan to help 2nd and 3rd world countries. Actually: Contact local organizations and build awareness of how hunger is addressed in our own town.
Overpopulation	Find if there is a solution that could help decrease the current rate of births. Focus is on the influence women could have to change the direction of overpopulation if given equal rights to receive an education.	Participate in a sustainability trip to Costa Rica in the summer of 2012, by raising money for 72 students in a rural school on the Maleku Reserve. The students range in age from 7-14. The money would help buy supplies needed to educate the children especially, girls. A series of four bake sales and root beer floats held during MS lunch, raised \$350.00 that was delivered personally by the Middle School Students on the trip.
Sustainable Eating	America is the fattest country in the world with an obesity rate of 30.6% and this is growing.	Interview a child nutritionist and present to all of the middle school health classes the importance of healthy eating. The goal was to have the school's Health Class dedicate a unit specifically to sustainable eating.

<p>Growing Hope: Urban Farming without chemicals</p>	<p>Chemicals used in agriculture are harmful to us and to the environment. By going to the Ypsilanti Food Co-op and Growing Hope, we can show that we can make a difference one step at a time.</p>	<p>Introduce the school community to a local organization, Growing Hope. The students planned a field trip for the class to gain first-hand experience about Urban Farms by working for several hours on the gardens that will provide food at a local farmers market that is affordable chemical free.</p>
<p>The Power of Solar Energy</p>	<p>Solar Energy is an alternative energy that can help to reduce our dependency on fossil fuels to meet our energy needs.</p>	<p>Develop a Prezi to teach all the 5th grade science classes at the local elementary school. Demonstrate the power of the sun by teaching the students how to make their own solar cookers to make s'mores. (See Prezi here.) Use the link above to view movie of the class visits.</p>
<p>From Garbage to Garden....It's Composting Time!</p>	<p>More people would compost if they understand how easy it is to do. By composting they can contribute to reducing the trash that ends up in the landfill and promote growth in their own backyards.</p>	<p>Raise awareness of composting by creating a schedule where each 8th grade advisory manages our school's compost pile for a week at a time throughout the school year.</p>

V. Assessing the SAP

Student work and progress is assessed and monitored throughout the year. The assessment is both formal and informal and includes two written progress checks and the final reflection. There are four separate assessment rubrics, one for the blogging and comments on peers' blogs, one for the resources used in writing the blogs, one for developing the action project and one for the actual project and presentation. See the appendix for these.

VI. Conclusion

The final written student reflections these past two years offered us significant insight into how effective and successful the projects were for the students. They allowed the students to articulate what they learned at a personal level, the life changes that they take away from their experience. Personally, the reading of these reflections was a powerful and rewarding

experience for us. Not only did they concretely show how our students were taking steps toward embodying part of our mission statement: “preparing responsible and thoughtful citizens of the world,” but they confirmed for us as teachers that engaging the students in a project at this level was a life transforming experience for them. **(See Appendix F for sample student reflections)**

We teachers annually reflect on the SAP. Through careful observations, questions and comments throughout the year, we make adjustments to make this project one of the most meaningful experiences students take away from their middle school years. We also acknowledge the wonderful work of our colleagues in the 6th and 7th grade years that provide our students with learning experiences that allow us to challenge our students at this level of engagement.

APPENDICES:

Appendix A: Student Handout - General Assignment Description:

Sustainability Action Project (SAP)

On what issue, dealing with sustainability, will you take action?

Welcome to the 8th grade Sustainability Action Project (SAP). In this project you will be given an opportunity to understand the issues surrounding sustainability and sustainable development on a local, national, or global issue of your choice. You will use your findings to determine whether the current way your issue is handled is sustainable. You will then develop and conduct a real action project, which makes a change in this issue for sustainability in the world.

We will begin this journey by first seeking to define “Sustainability” and “Sustainable Development”. To date, the most widely quoted definition of “sustainable development” was first published in 1987.

"Sustainable Development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

- from the World Commission on Environment and Development's (the Brundtland Commission) report Our Common Future (Oxford: Oxford University Press, 1987).

Sustainability has three major aspects, called tenets/pillars known the three “E”s, Ecology, Economy and Equity. The projects must address these three aspects: Economic stability, Environmental sustainability and Social sustainability. As we consider the current conflicts around the world, the need for social sustainability that supports Equity and Justice, becomes even more urgent. The Earth Charter proposes this vision of our world: “a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace.” (The Earth Charter Initiative (2000). ["The Earth Charter."](#) Retrieved on: 2009-04-05.)

What are the needs of the present? What will be the needs of the future? If you were to list 5-10 needs that are important to you, would there be conflict among those needs? How will you determine if your needs are more important than the needs of others and which needs are met?

Throughout this year as you conduct your project you will:

- learn about your topic through research,
- understand the issue from a sustainability perspective,
- **ACT** on it through your Sustainability Action Project!

The Sustainability Action Project will give each of you a chance to...

- explain how sustainability relates to their lives and their values.
- understand how your actions impact issues of sustainability.
- apply your understanding of sustainability by taking a stand on an issue about which you are passionate.
- explain how the pillars of sustainability are interrelated and are addressed in your project.

- reflect on your capacity to advocate for and contribute to improvement locally, regionally, or globally.

What skills will you develop as you work on your Sustainability Action Project?

You will:

- learn to investigate the world beyond your immediate environment
- write about discoveries through a blog
- collaborate with a team of classmates in brainstorming solutions
- Recognize your own and others perspectives
- Communicate your ideas effectively to a diverse audience
- Translate your ideas and findings into appropriate actions to improve the world
"Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has."
- Margaret Mead

General Overview of the Sustainability Action Project (SAP)

Part I – Understanding Sustainable Development (October)

- Each of you will choose an issue about which you are interested. You will do some preliminary research on it, and you will submit a 1-page summary of the issue you wish to pursue.

Selecting a topic

- There are so many topics! Which one should you choose? One way to get an overview about just what's out there is to go to a subject directory. These collections of topics are on WebPages or in Databases. Some good places to start on the web are:
 - Google Topics
 - Yahoo topics
 - New York Times Topics
 - Greenhills Databases:
 - CQ Researcher
 - InfoTrac Subject Guide

Part II – Class Time (November)

- Certain days during the month will be set aside for your work on the SAP. You will research your topic and set the stage for the remainder of your SAP journey. You will be introduced to blogging. You will brainstorm ideas to develop an essential question that you want to answer about your issue.

Research:

- Identify the social, economic and scientific factors surrounding this issue
- Identify realistic steps that can be taken to create positive change regarding the issue.
- Identify how our governor Rick Snyder of Michigan and our government leaders in Washington D.C. could work to improve the status of your issue.

Websites:

- Procon.org is a nonpartisan, nonprofit whose mission is "Promoting education, critical thinking, and informed citizenship by presenting controversial issues in a straightforward, nonpartisan primarily pro-con format."
- [Public Agenda.Com](http://PublicAgenda.Com) - For over a quarter of a century, Public Agenda has been providing unbiased that bridges the gap between American leaders and what the public really thinks about issues ranging from education to foreign policy to immigration to religion and civility in American life. Nonpartisan and nonprofit, Public Agenda was founded by social scientist and author Daniel Yankelovich and former Secretary of State Cyrus Vance in 1975. Public Agenda's two-fold mission is to help: American leaders better understand the public's point of view.
- [Roll Call](http://RollCall.com) - Roll Call newspaper is widely regarded as the leading publication for Congressional news and information. . In addition to breaking news, readers get keen insight from such respected Washington analysts plus political coverage of Congressional elections in every state in the Union.
- [FirstGov](http://FirstGov.gov) - Search portal to navigate federal resources. Enables users to put in a term (e.g. 'environment') and access all departments in the government with publications about this issue.
- [The Note](http://TheNote.com) - This blog is used by ABC reporters as a mechanism to share their observations on issue as they arise. Much more candid than the 'reported' new, it's a unique insight into issues and conflicts reporters are watching.

Database:

- [CQ Researcher](http://CQResearcher.com) - is the choice of researchers seeking original, comprehensive reporting and analysis on issues in the news. Published in print and online 44 times a year, the single-themed CQ Researcher report offers in-depth, non-biased coverage of political and social issues, with regular reports on topics in health, international affairs, education, the environment, technology and the U.S. economy.

Part III – Learning and Blogging (November –Mid February)

- Independent work: You will be working at home as well as at school, doing research and writing about it. Most of your writing will take place on a blog that you will write from November until March (see Blog Schedule). Your entries will be visible to your classmates and your Science teacher. One blog entry every other week about your SAP experience will be expected.
- Following the professional discussion: while conducting your research, you will identify and subscribe to at least three feeds from viable sources regarding your topic. Throughout the duration of the project, you will write about what you learn from these sources in the form of 8-10 blog posts to your personal blog. As part of your exploration you will be accessing more information and resources about your issue, creating links to websites and images. Two of these posts should analyze the topic through an environmental lens, and two posts should examine the topic with an economic and sociological eye.
- Collaboration with your group: You will also be responsible for commenting on the blog postings of other members of your class as well as group members.

Part IV – Action Project (Mid February – May)

- From your research, through your blogging and continued learning, you will create an “action project” that will be shared and presented to an audience. There will be many

choices of action project types. First, you must decide which type of project your group wants to conduct. You will need to think about the best way to present your issue and your solution. Below is a list of some ideas for an action project. You may come up with others.

- defining a process for a proposal for change or consideration on legislative agenda
 - formal proposal and address to Congress, or State legislators
 - multimedia news investigative broadcast (or commercial) which explains the issue and your action (4-5 minutes)
 - action-oriented service project with picture or video (and not a bake sale)
 - interactive web page with links to images, video, and other resources
 - short film aimed at educating a student and adult audience (4-5 minutes)
 - visual art display or a mural design to be done at Greenhills
 - contact experts on your SAP topic and interview them, or invite them in to speak
 - a crafted model/artifact that represents an aspect of your issue with written explanation
 - designing a lesson to be taught at a local elementary school
 - presentation an either an all school or a middle school assembly
- It is important that the project your group chooses is something that everyone feels like they can “own” and play a role in designing. Once a project approach is selected, the group must stick to its plan of acting upon it. The more you seek to engage off campus contacts and people the more time you need to allow for the coordination with these people. **Note: Every Friday time is built into our science schedule for you and your group to work on your action project here at school. You are also invited to gather on your own at one another’s home to work on your project, but this is not a requirement.**

Part VI – Presentation (May)

- Each group will present its final action project to an audience. The audience will contain your classmates, other middle school students, parents, invited special guests and possibly local, state or government officials. Groups will present their projects at the 8th grade Academic Capstone Festival in May.

Assessment of Sustainability Action Project (SAP)

Throughout the SAP process you will be given verbal and written feedback. Feedback may come in the form of a brief check-in with your Science teacher to see how you are moving along through the process. Another form of feedback may include a short comment on your blogs from your Science teacher. Either way, you will be given various forms of feedback.

There will be four formal SAP assessments:

- 1 Individual work (blog entries) meeting required blog guidelines
- 2 Small group work (action project, collaboration, presentation)
- 3 Presentation at the Capstone Celebration in May
- 4 Final Reflection Statement

Appendix B: Progress Checks and Rubrics:

First Formal Progress Check Handout

TOPIC _____

GROUP MEMBERS:

What specific research motivated you to choose your specific topic? Include specific input from each member in your group.

How does your topic address the three tenets/pillars of sustainability?

Economic	
Equity and Justice	
Environmental	

QUESTIONS	IDEAS	NEXT STEPS
Explore the issues. What do we already know and believe about this topic and how can we share that information with others?		
Define the problem. What do we think is the one problem (pertaining to this topic) we want to focus on, and how can my team agree on a problem statement?		
Investigate solutions. What do we have to know and do to solve this problem?		

Appendix C: Blog schedule

SAP Work Schedule

<u>Class Date</u>	<u>Work Plan</u>	<u>Work Completed</u>	<u>Blog Response(s) Completed</u>
1/10-1/11	Write two (2) new blogs as outlined on GH, comment on two (2) other blogs		
1/18			
1/25			
2/1			
2/8			
2/15			
3/1			
3/8			
3/15			
3/22			
3/29			
4/26			
5/3			

Appendix D: Outlining Action Plan Handout

SAP March 9, 2013 A, B, D, E and G Periods

Group Members: _____

Broad Category: _____

WHERE YOU BEGAN:

You have investigated a community issue that recognizes global importance. Your issues address Sustainable Development on a local, national, or global issue. You are now at a point where you will channel your findings into a real action project aimed at you taking a stand and proposing a change in the world.

NEXT STEPS:

1. **Identify:** What information in researching topics motivated you to choose your specific topic? State what the specific input from each member in your group will be.

2. **Action Plan:** Overall – State your idea in as much detail as possible.

3. **Detail:** This should include a time line for specific steps. For example: Deadlines for interviews, presentations to others (school – identify what school, grade level, classes, etc.), completion of writing and presenting a proposal, etc. Include dates if possible.

*****If you are part of a group identify the specific roles and responsibilities of each member.

4. **Presentation method/type:** We will work on this in class on Fridays. You will be expected to include information (facts, data) that you have researched through your blogs.

Group Grading Rubric Components

- Content
- Significance
- Clearly addressed the three aspects of sustainability (economic, environmental, equity and justice)
- Presentation Quality
- Collaboration
- Clear articulation of the problem and your group's action project
- Degree of local, national and global levels of application

Appendix E: Presentation Requirements Handout

SAP Power Point Requirements

General Presentation Suggestions:

- A.** We recommend 10-15 slides. If you have more it is ok, but not too many more.
- B. REMEMBER:** Bullet points serve as prompts so you can provide detail. You do not want people to get lost in reading your slides. You want them to listen to you.
- C.** Make your slides bold, colorful, readable, but at the same time, NOT too distracting. Colors should allow text to be readable.
- D.** Animations should not be distracting. For example: the transitions can be interesting but not time consuming, like dropping individual letters to spell out names, titles, etc.
- E.** Include pictures, etc.

Presentation Content Requirements:

1. Title Slide
 - Topic/ Project Name
 - Members Names
2. Why this topic?
 - Talk about the process that enabled you to choose this topic as your passion.
3. Information that you have researched.
4. How do the three tenet/pillars of sustainability: Environmental, Social (Equity and Justice) and Economic relate to your topic. Discuss each one using:
 - Facts

- Statistics
 - Graphs, etc.
 - short videos
- Based on your research on your topic, why and what is the issue that needs to be addressed as you see it?
 - Be sure to present PROS and CONS – both sides of the issue need to be presented even though you state your stance on the topic.
4. Based on your topic research, what ACTION PLAN did you develop as it relates to your topic?
- Is it to raise awareness or to inform people about this topic?
 - To teach younger folks? Why? Where did you go?
 - Raise money? How?
 - What were the results?
- Why or how will your plan help to make the issue you are addressing more sustainable for all people?
5. What did you do to gain information about your plan? Did you meet with people of importance, experts in the field on your topic?
6. What was your take away? What impact, impression did this project have on you?
7. **BIBLIOGRAPHY** – correctly formatted according to Noodle tools.

Appendix F: Sample excerpts of student reflections on the Sustainability Action Project

Below are a few examples of the SAP final reflections. Each reflection was 2-3 pages in length. Here are a few excerpts from the 75 reflections. They all confirmed that this project was a very powerful experience for the students. These segments are transcribed in their own words.

The Sustainability project has given me the opportunity to explore my academic potential. I was able to dive deep into a topic that I am passionate about. This project has allowed me to grow not only as a student but as a person because of all of the global issues that I have been exposed to.

During the SAP project, I learned many things. Through my work in the Solar Energy Group, I learned just how much a few people can do when they put their mind to it. By working with all of the 5th grader in science classes at King Elementary, I realized how hard the job of a teacher is. Kids can be crazy with energy, and by sitting in that classroom and teaching those kids, I gained respect for my teachers who do this every single day. In addition, I learned much more about the energy crisis than I had known before. Before SAP, I knew we were in an energy crisis but I didn't know how severe and how quickly it will occur. The fact that oil runs out in about 2050 is something that we need to be aware of. If the next generation (my generation) can't find better

ways to power the world, it could be the end of everything.....After I learned about the looming crisis, I began trying to save as much energy as possible. I use less water, I turn off lights I don't need and expect my family does the same.

In the past month we put in a great amount of work on our Sustainability Action Project. There were so many different kinds of projects, but they all transmitted the same message. How to do activities that address issues surrounding equity, the economy and the environment. What I found astounding through this whole process was how a few, or even one person can make an impact, no matter how big or small, on the world. In the following I will examine a few SAP projects, I really liked and how they changed my perspective on the world.

The sustainability action project was very enriching for me and I took a lot out of it. I had no idea how many issues affected people in Washtenaw County. Students did a very good job of educating us not only about the issue but also about what we can do to help.

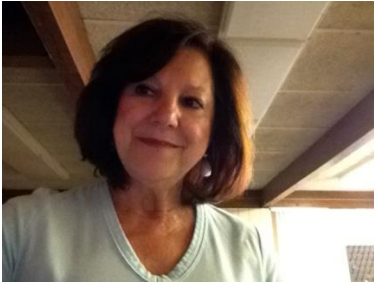
This brings me to the first thing I learned. When Chloe presented on hunger, I was struck by, how many children in Ann Arbor and the surrounding cities are affected by hunger. Many homes in Washtenaw County struggle to put food on the table. I have an interest in volunteering at the St. Andrew's breakfast program because I want to keep people from being hungry.

Another thing I learned as a result of my own research is the ease of getting local food through CSA, Community Supported Agriculture. As a result of my SAP on local food, I am going to eat more food grown around Ann Arbor. I am currently trying to convince my family to purchase a share of CSA. By eating locally, I am being sustainable because by buying locally, I will increase demand and eventually more people will be able to get local food, because there will be increased demand. By producing more food because of the demand, it will lower the price so more people can afford to buy fresh food.

When beginning this project, I wasn't sure what topic I should choose. There were so many options! I chose solar energy as my SAP, because I did not know much about it.

Another topic I learned about was composting. This was Kelly's SAP. One point that stuck with me was how easy it is to do...as a result my family has begun composting. I am happy because I am helping the earth. Composting is economical and environmentally sustainable and everyone can take part in this effort. It saves building landfills that no one wants to live by.

As for my lifestyle change, this experience made me think about helping my community and giving back to my community. I have become a volunteer and go monthly to help out when they need help maintaining the gardens and planting the gardens at Growing Hope.



Christine Gleason



Robert Ause



Jamey Hein



Article Picture