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Supplement to
National Council for the
Social Studies Publications
Number 34
January/February 2009
www.socialstudies.org

Researching Our School's History

Amy Trenkle

At the beginning of the school year, I cast my best “hook” for grabbing my students’ attention: I challenge my eighth graders to investigate a bit of history that they interact with every day—the history of their own school.



Our “school history” unit of study usually takes place over the course of seven to nine days. In addition to building enthusiasm for social studies, this unit achieves several academic objectives. I want my students

1. To learn how to investigate and analyze primary historical sources,
2. To learn about the school's history,

3. To begin to see how this local history fits with the recent history of our nation, and
4. To plan and write a quality paper of several parts.

There are also social skills that students learn or practice in this unit of study on school history:

1. How to cooperate with peers (while examining historical evidence),
2. How to work with an “archivist” (the teacher), and
3. How to handle valuable papers (a historical collection) with respect.

In the beginning, I did not sit down and write out a seven-day unit of study. The project developed gradually over several years through trial and error and personal research.

A Discovery

A few years ago, while doing research for a graduate class, I visited the main branch of the District of Columbia Public Library in Washington, D.C.—the Martin Luther King, Jr. Memorial Library—and was thrilled to find a whole room dedicated to local D.C. history called the Washingtoniana Room. I was so intrigued that I returned to investigate the history of the public school where I teach, Stuart-Hobson Middle School in Washington, D.C. The librarian brought out vertical files on the school and several boxes. I was dumbfounded. There was a 1924 obituary for Alexander Tait Stuart (whose last name appears in the name of our school). There were articles from the 1960s about a local civil rights activist named Julius Hobson (Aha! There was the second part of our school's name. See the biographies in **SIDEBAR 1**). There were articles about two separate schools, Stuart Junior High and Hobson Middle School, joining together to form the “Capitol Hill Cluster Schools.” There was so much material—and I had only begun to look in these files filled with old newspaper clippings. I began thinking about how to introduce my students to this interesting collection.

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Sidebar 1. Student Writings: Biographies

The Stuart-Hobson Middle School was named after Alexander Tait Stuart and Julius Hobson. Note the different features emphasized by two students in their original biographies of Julius Hobson, about whom there was a variety of newspaper articles in our classroom collection. (This page is not a handout for students, but an example of students' work.)

Biography of Alexander Tait Stuart by Christopher

Alexander Tait Stuart was born in 1848. He was a former Superintendent and Director of primary and intermediate instruction in the DCPS school system. Alexander Tait Stuart died in 1924 at the age of 76. At his funeral, Dr. Frank W. Ballou, the Superintendent at that time said that Stuart was an educator in its true sense. Also, James T. Lloyd praised the quality of loyalty that marked Stuart's service to the schools. He was involved with DCPS for 50 plus years. Stuart had a wife, two daughters, and a granddaughter. After he died a junior high school was named after him. To me, I think that he was a gentleman, and an outgoing and ambitious person.

Biography of Julius Hobson by Taitana

Julius Hobson was born in 1919 and died of bone cancer in 1977. Stuart and Hobson couldn't have had any relationship because for one, they lived in separate areas and two, Stuart died when Hobson was only seven. Two of his many jobs include being the Director of Washington for Quality Education and being a statistical analyst for the Social Security Administration. He also ran for different political offices in which his main slogan was "He gets things done."

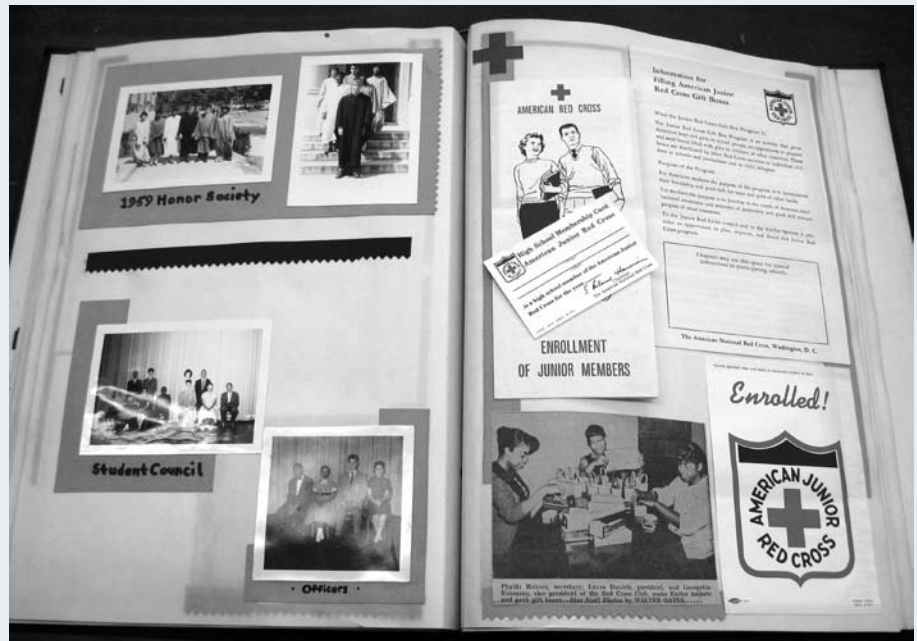
Julius Hobson fought for many social issues including human rights and fighting against racial discrimination. He tried to get his point across by using flyers, leading campaigns for the hiring of black workers, and leading "sit ins." Important politicians have seen Hobson as a very impressive person. Jimmy Carter found him courageous and Edward Kennedy saw him as "a man of vigor." He married twice, first to Carol Andrews to which he had two children with and Tina Lower who had two sons in her previous relationship. Hobson worked with many organizations including WIQE and the Congress of Racial Equality. If I had three words to describe Julius Hobson I would say he was determined, fair, and strong.

Biography of Julius Hobson by Madison

Julius Hobson SR was born on May 17, 1919. He was a WWII veteran, an anti-war leader, a member of the DC Board of Education, and a civil rights activist. Hobson fought for equal health care and sanitation, equal hiring rights, and

especially, an equal education for all children. He worked for many organizations, including the ECTC and CORE. One of his campaign slogans was "He Gets Things Done."

In March 1977, Julius Hobson died from cancer of the spine. He was 59 years old. Hobson married twice, once to a white



woman, and had two children and two step-children. He never knew Alexander Stuart. Jimmy Carter described him as "unique and remarkable" and, Ted Kennedy said that he was "courageous and dedicated." I think that he is amazing and committed.

Concluding paragraph by Katie

Our school may not be named after a common national hero such as Abraham Lincoln or John Adams, but in their own way Stuart and Hobson defined their own parts of DC History. From being a segregated Junior High School of 900 pupils to being a racially diverse middle school of 400, Stuart-Hobson has become what it is over the years. Studying Stuart-Hobson has opened my eyes to the possibilities of who can define history and who is worth being remembered. Even though these assignments piled right up on my desk every night, it was a small price to pay to access the knowledge I did, and to understand the full importance of the seemingly unimportant details in history that make all the difference in the world.

An Early Attempt

Originally, I wanted my students to have the experience of going to a library and digging out historical sources as I had done. So I gave my students some basic questions and two weeks to go the library, examine the materials, and create a final, typed report. But my instructions were too ambiguous, and I sent students off without teaching them how to investigate primary sources or handle historical papers. They were frustrated, and their reports were filled with misinformation. To my horror, a librarian called me to say that some items from the vertical files were missing.

So I changed my approach the following year: I brought the materials into the classroom. I made photocopies of primary source materials and created seven sets of documents that students could examine in small groups, under the teacher's supervision, over several class periods.

I also brought the detailed work of research and writing into the classroom. I explained to students step-by-step how a researcher goes to work in a library or archive. I told students how archives work, how to take notes from evidence, and how to work with a librarian to preserve the collection. I created lists of questions to guide students in their research and subsequent writing.

Finally, I monitored students as they explored the collections of (copied) documents, discussed the evidence with their peers, took notes about the form and content of historical sources, and gradually constructed a report about what they had discovered.

As described below, today some students have an opportunity to handle actual historical documents (old yearbooks and some unique scrapbooks). After working intimately with the classroom archive, they have a good appreciation for the value of such objects.¹

A Classroom Collection

Here is an outline of how I teach this unit of study today. Let's start with the materials. Primary sources are gathered in seven folders, each with a different topical heading. The headings are

1. *Building Reports*: This folder has official building status reports as published by the city. Documents in it reveal when the building was constructed, what type of heating system it has, how many students can occupy the building, and other physical data. It also has some limited information about people and academics, such as the school's namesake and some school-wide test scores from the past.
2. *Biography of Alexander Tait Stuart*: This folder tells about the former superintendent of D.C. Public Schools, Alexander Tait Stuart (who lived 1848-1924), and it contains a funeral program and obituaries from several sources.
3. *Biography of Julius Hobson*: The city library has lots of information on civil rights activist and community leader Julius Hobson (1919-1977), so I was in the happy position of having to whittle down what to put in this folder. I included covers of booklets he wrote, campaign flyers, family photos, newspaper articles, and pamphlets.
4. *Life at Stuart Junior High*: This file is mainly composed of copies from PTA scrapbooks from 1930s through the 1960s (as described below). Included in this folder are school lunch menus, class photographs, flyers for various activities, scripts from plays, programs from assemblies, newspaper articles about scandals and triumphs at the school. Students love this folder.
5. *Before Desegregation*: This is one of the more difficult folders for my students, emotionally and academically. Just prior to desegregation of the public schools, white enrollment at schools in D.C. was declining, while African-American enrollment was increasing. Pressures were rising to provide more resources for the black

student population, as revealed by newspaper articles. A school might "shift" from being all white to all black if the ratio of African Americans in a neighborhood was rising. In the early 1950s, Stuart Junior High was being considered for a "shift."

6. *Brown vs. Board of Education*: The Supreme Court ruling of 1954 brought many changes in D.C. public schools, which obviously made the question of any "shift" moot. This folder includes a short background piece for students to read in addition to copies of primary sources, which are mostly newspaper articles.²
7. *Combining Schools*. Stuart Junior High and Hobson Middle School combine to become Stuart-Hobson Middle School. Newspaper articles mainly comprise this folder, which tells about the combining of schools in 1986. The change made our school what it is today.

Key Questions to Investigate

I wrote sets of questions to help students fully explore the contents of these seven primary source folders. There are five to ten questions on each "Questions to Investigate" sheet, and a different sheet for each of the seven folders. The purpose of these question sheets is (a) to ensure that students look carefully at all of the sources in any given folder, and (b) to guide students in building their own notes, which will provide the substance of their final reports. Some of the questions are seeking specific information, while others encourage students to think more broadly about what might be in the folder, or what would be worth searching for in a collection of historical documents.³

Each student receives a Questions to Investigate sheet, which guides his or her individual work. Students may write their answers on that sheet or on a separate sheet of paper. I invite students to work with other members of their small group

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Sidebar 2. Questions to Investigate

Below are some samples of “questions to investigate” that I use to guide students in their research. Before you, as the teacher, create such questions, decide how you want your students to explore the primary sources that are available to you. “How should I organize these materials: Thematically? Chronologically?” Perhaps there is another way that would best work for your set of documents. I have chosen to organize our collection chronologically (for the most part).

Directions:

1. Skim over the primary sources in this folder. Do not make any marks on them.
2. Then examine the historical papers more carefully as you answer the questions below with your tablemates. Write notes on your question sheet or on a separate sheet of paper.
3. Cite the primary source when you take notes. (Example, newspaper name and date of an article).
4. When all answers have been found, begin to write a paragraph summarizing the information in your notes. Be sure that you cover all of the questions below.
5. Finish this paragraph for homework. You will turn in your paragraph tomorrow, so write it on a separate sheet of paper (or type it and print it).
6. BE SURE TO SAVE THIS PARAGRAPH ON YOUR COMPUTER SO YOU WON'T HAVE TO TYPE IT LATER!
7. Return all historical materials to the folder. Leave your primary sources folder neatly in the center of the table at the end of class.

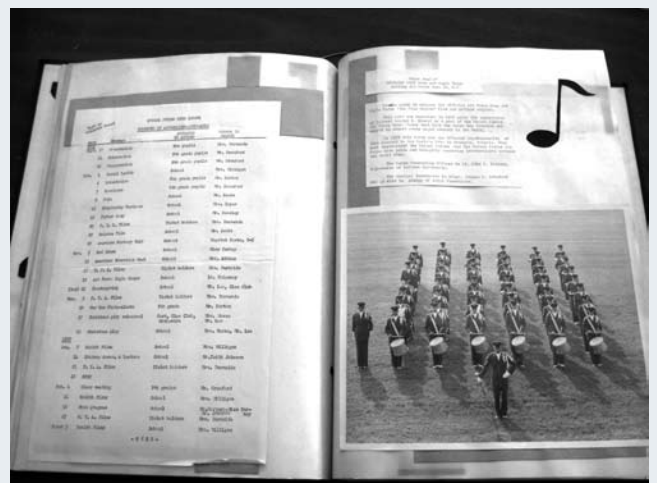
Questions to Investigate (from Folder 4: Life at Stuart Junior High)

1. What are five clubs/activities that students at Stuart used to have or participate in the 1930s and 1940s?
2. How did Stuart support the war effort during World War II? Give two examples.
3. What were some classes that were taught in those years that are no longer taught? Name three.
4. How many students were attending Stuart in the 1930s, 1940s, and 1950s? Give evidence to support your statement.
5. How has the school remained the same over the years? Give three examples.
6. How has the school changed over the years? Give three examples.

7. What is one scandal that you read about? Describe it. How did it turn out?

Questions to Investigate (from Folder 5: Before Desegregation)

1. What is meant by “the shift”?
2. What other schools (junior highs) were being considered for the shift?
3. What high school shift had caused much upheaval in the District of Columbia Public Schools? And what is the name of that high school today?
4. What was one reason given for shifting SJH? Who argued this point?
5. What was one reason against shifting SJH? Who argued this point?
6. What did students at SJH threaten to do if it were shifted?
7. If SJH shifted, where would the white students go? Where would the new black student population come from?
8. What year did the proposed shift occur for Stuart Junior High (SJH)? And what was the outcome of the controversy?



to explore the primary sources to seek for answers to the questions on the sheet, but then they must write on their individual sheets. (SIDEBAR 2 is an example of Questions to Investigate.) I collect and check these working papers, which are useful later to students as they work on a summative assessment project.

Day One: Introduction

Students organize themselves into six or seven research groups, each with three or four members who sit at a table together. I give each group the first of the seven folders (the first day it is the stats folder, the second day it is the Stuart biography, etc.) In other words, I have seven kits (one for each topic), and each kit contains ten identical folders (one for each student group). Each research group receives the same folder of material on the same day. And each day, the class explores a different folder of primary sources.

Students have about a half hour in class to work together as a whole table, as pairs, or individually to find answers to the questions. I circulate around the room providing advice and encouragement. With about 10 minutes remaining, all groups stop their work, and we all go over the correct answers for each item on the Questions to Investigate sheet. This insures that everyone has the same information, allows students to ask questions that I didn't address in small groups, and permits me to summarize the day's progress.

For homework, students must write or type one paragraph (and only one) about that day's topic. Once I have graded their work, students should make sure they save it because they will want to use it later in this unit of study. Their paragraph is due first thing the next day when students enter the room.

Day Two through Six: Read and Research

Over the next six days, student groups explore the six remaining folders, taking individual notes, and then writing paragraphs for homework. There are slight variations in how student

paragraphs are evaluated. For example, after the second day, I write detailed comments (if needed) to individual students about their paragraphs. On the fourth day, students exchange the previous night's writing within their group and critique each other's work.

Day Seven: A Final Assignment

On the last day of the unit, I discuss how to write introductory and concluding paragraphs and share my expectations for a completed history report. We talk about the chronological order of the report, my formatting guidelines, and how to compose a proper cover page. I emphasize that it is quite possible for every student to receive an A on this final assignment and that the report makes a fine portfolio piece as they move into high school!

Because not all of my students have computers at home, some will have to use the computer in my room, visit the library during lunch, or visit the public library on their own time. They have a week to put the whole paper together. I encourage students to have at least one adult read the paper in its near-finished form. Any student who wants me to proofread the paper it is welcome to bring it to me during that time. Additionally, any student who is interested in turning in their report early is encouraged to do so.

Extension: Creating Time Lines

If I have time, I'll teach my students about time lines as part of this unit. I ask the class to list important dates in our school's history. These dates often include but are not limited to the year that Mr. Hobson died, the year our school became part of a cluster, the year that *Brown v. Board of Education* was decided, and the year district schools were integrated. Sometimes the students want to add the year they entered the school or the year that they will be graduating from the school.

When the students are satisfied with their list, I have them arrange the dates chronologically. Next, each child receives an 8.5x11-inch paper, a ruler, and a pencil. I require that students measure and accurately place events on their time lines.

For example, if the line is marked off by tics representing decades (1 inch = ten years), then an event occurring in 1965 should correspond to a point marked evenly between two major tics, 1960 and 1970. By the end of class, each student has completed a time line, which is placed at the end of the finished report.

Evaluation and Display

On the day that the reports are due, I meet with each child and ask them about the process of exploring the sources, writing the report, and assembling their report. (The rest of the class works on a quiet reading and writing assignment.) Most children have found this entire process to be rewarding. My expectations are clear, their content knowledge is solid, and they have a fabulous report early in the year, which boosts self-esteem. After grading their work, I hang sample reports from each of my classes in the hallway for teachers, students, and parents to read during Back-to-School Night or during parent-teacher conferences. Many parents have remarked that they are alumni and never knew so much about the school until their children had this assignment.

And while this project has been rewarding for the students, it also allows me to review and teach many skills early in the year! My expectations for quality work have been set, and the students have an excellent working knowledge of how to exploit primary sources.

Student Remarks

At the end of the school year I ask my students to share what they believe have been the most memorable and meaningful assignments in social studies. Here are some typical responses:

The Stuart-Hobson History report was my #1 ranked favorite assignment because I learned something new about my school. And I got a really good grade on my report.

It was really easy to find information because we were doing them in class

Sidebar 3. Possible Sources for Historical Materials About a Typical Public School

School Library; School Storeroom; School Office; Public Library; Local Historical Society; Parents' Yearbooks; Local Newspaper; School Board Office; Local Zoning Board or Planning Commission, and Oral Histories from Alumni and Teachers



(questions) and I was learning with my friends.

This assignment was easy and fundamental.

Last, one student who was particularly hard to motivate said, “It was interesting and fun. It also was a fun thing to do in the beginning of the year.”

An Idea Flourishes

The school history project took a dramatic turn three years ago when my colleague Doug Creef discovered stacks of scrapbooks at the back of the bookroom. The PTA composed these books from the 1930s through the 1960s. Doug asked if I was interested in them, and was I ever! It was a gold mine! Now we had primary sources about student life in the past and how it has changed over time.

You might think that I am extraordinarily lucky to have such a historical resource to use, but remember that I did not start with these scrapbooks. They might never have gotten into the hands of students if I had not begun to investigate the possibility of creating a classroom activity about our school's own history.

The school history unit of study is still evolving. I keep revising the assignments as I learn more about my students, the school, and the history of the city. Parents have become involved in various ways. Students have found other articles from new sources. The activity has provided material for some students' National History Day projects.⁴ The whole idea really has taken on a life of its own.

In 2005, Suzanne Wells, a parent of one of my students, wrote a grant, which has

been renewed, for archivists Satu Haas and Elizabeth Behrendt to come to the school and work with our librarian, Jan McKinnon, and selected students to archive the scrapbooks and other memorabilia we have found or collected. As you can imagine, scrapbooks that have sat on steam radiators for years are not in a very user-friendly condition. In addition to cataloging what is in the books and preserving them, this team of young historians is digitizing some of the documents, hoping that future students will be able to do online research. Another element of the grant is to record oral histories of the many alumni who are in the area and attended the school over a number of years.


Even my mom has even become involved! She found out that one of the women in her church in the neighboring state of Maryland used to attend Stuart Junior High. Linda (the former SJH student) gave my mom a newspaper article she had saved about herself and her twin sister. I already knew about these twins from an item in the school paper (a classroom favorite) about twin valedictorians graduating in 1953! Linda was able to visit our school, more than 50 years after graduating, and talk with current students. She is just one of many adults who have shared new clippings and provided a recorded interview for our school's growing history archive.

Adaptations for Your School

Perhaps after reading all of this, you like the idea, but worry that you don't have similar historical material at your school. I have two suggestions (and see **SIDEBAR 3** for other ideas).

First, ask community members to come in and share oral histories of their student years or teaching careers. Have students video record their presentations.⁵ Begin to build a collection of these recordings and related memorabilia. Many alumni may have photos, trinkets, flyers, yearbooks and other items that can be copied or photographed for your collection. Be sure to ask your guest speakers to bring anything that might be relevant to your research.

Second, have your current class make a scrapbook of current school experiences for future classes to use. What a powerful thing it is for students to understand that they too are a part of history, that they have an opportunity right now to share their experiences with children of the future.

Have fun researching your local primary sources and finding the power of your school's history! 

Notes

1. A booklet “Basic Guidelines for the Preservation of Historic Artifacts” is available from the Texas Historical Commission at www.thc.state.tx.us. Search the title on Google to find it.
2. A good online source about Brown v. Board of Education is www.americanhistory.si.edu/brown/history/index.html. See also the January/February 2004 issue of *Social Education*.
3. Edward O'Connor, *Teaching and Using Documents Based Questions for Middle School* (Portsmouth, NH: Teacher Ideas Press, 1999).
4. Learn more about National History Day at www.nhd.org/.
5. Kathryn Walbert, “How To Do It: Oral History Project,” *Social Studies and the Young Learner* 16, no. 4 (March/April 2004): P1-P4.
6. I would like to thank parent Suzanne Wells for her work securing this grant, which was a Library Services and Technology Act (LSTA) grant to support the Stuart Hobson Archives. This grant is funded by the Institute of Museum and Library Services and was awarded by the DC Public Library. I would also like to thank Principal Brandon Eatman for his support and encouragement.

AMY TRENKLE teaches eighth grade U.S. history at Stuart-Hobson Middle School in Washington, DC. She is a Nationally Board Certified Teacher in social studies-history for early adolescence (www.nbpts.org).



Photography by Joan Mandel

Our School as Living History

Candyce Sweda

Students from the Detroit Waldorf School recently participated in an oral history project involving the 85-year-old founder of the school, Amelia Wilhelm. Now in its 42nd year, the school recently celebrated its 40th anniversary by creating a Founders Circle, a group of elders who were instrumental in establishing the school in 1966 during the pinnacle of social and economic upheaval in Detroit. As part of the celebration of its founding, the school and its faculty have continued to find ways to weave into the curriculum the historical and cultural circumstances that shaped the founding of the school.

Experiential Learning

In a Waldorf school, experiential learning is the cornerstone of making curriculum come alive in an age-appropriate way.¹ Laying the groundwork for the study of history and geography in the middle grades, our fourth grade students study local geography as an introduction to the immediate surroundings of the school, its neighborhood and the city within which it has grown. We give each student the assignment to discuss with their parents and grandparents the way in which their own family came to live in Detroit. The discussion is prompted by a list of questions developed by the teacher,

which helps to structure the conversations. The result of this inquiry is a series of year-long presentations by the students and their parents, usually on the student's own birthday, describing the background of the family's path to living in Detroit. Through these living histories, students weave a cultural and historical tapestry of their own family (and peer's families) within the history of the school and the city.

A Wider View

By the time the students enter middle school, the documentation of the cultural history and geography of the school take on

a quite different approach. The curriculum in these grades examines the world much farther away from the students: cultural and physical geography of all of the continents and the history of the modern world. The challenge, however, is to integrate the knowledge of these faraway times and places with the students' own inner experience of time and place. The oral history project, which featured a video-taped question-answer session with the school's founder, provided the perfect opportunity to synthesize these subjects.

Oral History

In the session with Ms. Wilhelm, students were invited to ask any question related to the history of the founding of the school. The students' inquiry led in many diverse areas: what the city was like in the 1960s; why the school was located in a particular neighborhood; and what sorts of families first came to the school. There were

Opposite: Detroit Waldorf School middle school students learn about school history from founder Amelia Wilhelm. The interview is videotaped for the school's archives and future documentary work.

Below: Sixth grader and faculty participant in oral history workshop.



biographical questions: how Ms. Wilhelm, an Iraqi-American, came to Detroit; what her life was like in Iraq; how Dr. Wilhelm, her German-American husband, came to Detroit and how they met; and why they decided to establish a private school.

For days after the session, students continued to ask questions in class that related the founding of the school to modern history and particularly to the approaching

national election of November 2008.

A Permanent Resource

The videotaped interview is now part of the archives of the Detroit Waldorf School. Our middle school students themselves are now embedded in the ever-evolving history of our school, which has come alive for them in a whole new way. 🌐

Notes

1. Detroit Waldorf School, www.detroitwaldorf.com/

CANDYCE SWEDA teaches sixth grade social studies at the Detroit Waldorf School.

On the Cover: *Detroit Waldorf School students get a first-person history lesson from school founder Amelia Wilhelm. Photo by Joan Mandell.*

A Trash-Free Lunch Experiment: Measuring “Before” and “After”

Alison Davis-Holland, Sue Annis, and Steven S. Lapham

Introduction

Global warming. Energy crisis. Deforestation. If you only watch television news, you might believe that Earth’s environmental problems are so huge that they cannot be solved. But we don’t believe that at all. Humans, through their ingenuity and industry, have invented technologies and engaged in behaviors that pollute, and now we are challenged to create new technologies and new ways of behaving that conserve resources while at the same time meeting our basic needs.

Last year, students at Taylor Elementary School in Arlington, Virginia, participated in an experiment to see whether they had the power to change their behavior—individually and collectively—and thus have a measurable, positive effect toward solving an environmental problem. The project was inspired by the “Pack a Waste-Free Lunch” poster by the U.S. Environmental Protection Agency (EPA) and the “Trash Audits” activity by Waste Free Lunches.org.¹ When planning the project, we referred to content standards for social studies, science, health, and math.

Overview

The experiment takes place over the course of three weeks. To kick off the project, parent volunteers secretly weigh the trash produced by each grade during lunch period. The following week, teachers describe the project and provide a chart showing the weight measurements of the lunch trash produced by each grade. Students discuss problems associated with solid waste and work with the numerical data to better understand the scale of what is happening. They discuss possible solutions to the problems.

Then students immediately set to work on implementing a real-world solution:

reducing their own school lunch waste. They learn how to pack a waste-free lunch by using reusable containers and utensils, recycling any eligible material, and composting raw fruit and veggie leftovers from lunch. Students who buy the school lunch are encouraged to take only the food that they actually intend to eat and to compost their raw fruits and vegetables as well. Students are encouraged to stock up at home on the reusable items (like sandwich containers) needed to pack a waste-free lunch.

During the final week, students do their best to apply what they have learned during their “Waste-Free Lunch Week.” The Thursday of that week, parents weigh each grade’s waste again after lunch but this time students know what is going on, and they have tried to reduce their trash flow.

On Friday, the students are given the “after waste-reduction” data for comparison with the “before” data. Students in older grades calculate the annual per student lunch waste. Students in each grade discuss the results and can celebrate their efforts to change their behavior and help the planet.

In sum, students can then see for themselves that individual behaviors, added together, can create a big problem. But it

is also true that small changes in personal behavior, like packing a waste-free lunch, can make a big difference in solving a community problem. In this case, we can reduce the community’s waste stream and improve our environment.

Learning Objectives

During the Waste Free Lunch Experiment, students will

- learn about their individual and collective impact on the environment,
- study numerical data (collected on a single day) and perform some basic calculations to predict long-term results,
- deliberate over possible sustainable solutions to the problem at hand, and finally
- implement solutions, compare the resulting numerical data, and reflect on the whole activity.

This project aligns with content standards for social studies as well as for health, science, and math.²

Materials

A bulletin board should be devoted to displaying the first three items listed here as well as the data chart with measurements of lunch waste.

- EPA poster and classroom activity booklet (see note 1)
- handout (information flier)
- samples of waste-free lunch equipment (and disposable items for contrast)

Figure 1. Lunch Trash Measured Before Waste Reduction

On Friday, parents weighed the amount of material each grade threw away as lunch waste. The second column shows the measurements (the raw data) from that day, November 30, 2007.

Grade	Amount of Waste (LBS)	Number of Students	LBS per student per Year
K -	24	105	41
1st -	28	94	54
2nd -	29	89	59
3rd -	22	91	44
4th -	35	114	55
5th -	38	94	73
Total	176	587	

What is the total lunch waste for this day? (Adding the amounts gives us 176 LBS)

What is the projected total waste for the whole school year? $176 \text{ LBS/day} \times 180 \text{ days/year} = 31,680 \text{ LBS/year}$

Which grade is projected to produce the most waste per student for the whole year? (The 5th grade = 73 LBS/student/year)

How do you calculate the projected pounds per year of waste for each grade? Here is an example for the first row: $(24 \text{ LBS/day} \times 180 \text{ days/year})$ divided by 105 students = 41.14 LBS/student/year

- weigh scale
- waste from lunch in heavy plastic bags, as collected in the cafeteria
- recycling bins for metal and plastic
- lunchroom compost receptacle and outdoor compost bin (optional)

The Whole School

This experiment involves just about everybody in the school—so good communication is key to its success. We discuss the project with the principal. The week before the project, we discuss it with cafeteria staff, lunch aides, and custodians, informing them that parent volunteers will do the weighing of trash. We make any adjustments so that we won't interrupt the staff's work. We also make sure that recycle bins have been placed in the cafeteria and (if possible) a bin for compostable materials (raw fruit and vegetable matter).

Early in our planning, we secure two parents to weigh the trash. These adults will also remind students in the lunchroom about what items on their trays can be recycled and composted.

We work closely with teachers to make sure that the lessons for this project are not just appropriate for particular grade levels, but are integrated with the curriculum at that point in the year if at all possible. If this project happens in September, then students will start off the year with good habits.

Finally, we inform parents of the project in the weekly e-mail message from the PTA and with a handout (see below) that students take home at the start. This allows families time to purchase needed supplies to make it easy to go waste-free.

A Secret Setup

Here are the details of how the project worked at Taylor Elementary School in 2007. At Taylor, each grade K-5 has its own lunch period. Before the lessons begin, parents secretly weighed each grade's trash after each lunch period. These measurements served as our "before trash-reduction" data, which we tallied on a handout sheet and then duplicated, one for every classroom in the school (FIGURE 1).

Over the weekend, we set up a bulletin board in the lunchroom featuring the EPA poster "Pack a Waste-Free Lunch." Parent volunteers assembled model lunch kits (wasteful and waste-free) that they would use to teach the 15-minute lesson in every classroom.

The Challenge of Solid Waste

The classroom lessons began one to two weeks before Waste-Free Lunch Week with a short presentation by the teacher about where our trash goes. (In our community, trash is incinerated in Alexandria, Virginia, and then the ash is transported

to a landfill in Lorton, Virginia, where it is buried. Arlington Public Schools provides recycling for bottles, cans, and paper.)

The teacher then revealed the fact that a couple of parents weighed the lunch trash from each grade. Up on the board, the teacher wrote the data showing how much trash each lunch period generated (FIGURE 1). The teacher performed some calculations with students, as was appropriate for their particular grade. For example, some classes might estimate future waste (How much trash will the school generate in one year?) while others might calculate "equivalents" (Example: A year's worth of lunch trash weighs as much as elephants.). See FIGURE 2 for examples of these calculations.

Discussing Possible Solutions

Then the teacher asked if students knew how making less trash might improve the environment. In the ensuing discussion, the teacher made sure that these general points were covered: If less trash is generated, then less energy is needed for transportation, incineration, and burial. With less trash, there is less pollution of all sorts, less greenhouse gas emissions, and more resources and land are available for the future. Also, single-use packaging consumes a lot of resources and energy to manufacture. If students are packing their lunches with re-usable contain-

Figure 2. Estimating Trash Produced in a Year

There are 180 school days per year. Multiply one day's yield by the number of days to get the estimated total waste for the year.

$$176 \text{ LBS/day} \times 180 \text{ days/school year} = 31,680 \text{ LBS/school year.}$$

This amount, just shy of 16 tons of lunch waste per school year, is equivalent to:

8 US cars of average size (1 car weighs about 4,000 LBS)

4 elephants (1 elephant weighs about 8,000 LBS)

When we calculate how much trash the typical student produces, the result is 54 pounds of waste per student per year.

$$(176 \text{ LBS/day} \times 180 \text{ days/year}) \text{ divided by } 589 \text{ total students} = 54 \text{ LBS/student/year}$$

The teacher could lead upper grade classes in calculating the numbers above, especially pounds of waste per student per year.

ers and lunchboxes, then materials and energy are saved.

The teacher asked how students might make a difference given the situation of their own school. Packing waste-free lunches can reduce the waste stream a lot. (Students who buy their lunch in the cafeteria can help by taking only what they plan to eat and by composting fruits and vegetables.) Teacher and students discussed the elements of a waste-free lunch, and it became clear that parent participation in our efforts would be needed; in fact, it would be a key to the long-term success of the program. The **HANDOUT** (see page 14), showing how students and their parents can contribute to making waste-free lunches, served as a lesson summary and take-home reminder for kids and parents.

Then the class broke into small groups to practice assembling the parts of a waste-free lunch. The equipment each group has consists of a reusable plastic sandwich container, a cloth napkin, a refillable plastic or stainless steel bottle of water, and a lunch box.

Students had to pack a lunch by choosing wasteful or waste-free options. Examples include apple sauce in a disposable cup versus an apple, single serving snacks versus one in a reusable plastic container, and juice boxes versus a drink in a reusable plastic or stainless steel bottle. Each kit also has a disposable napkin, utensils, and paper bag as opposed to a cloth napkin, reusable utensils, and a reusable lunch box. If a student were to eat all of the food in the reusable containers and take the cloth napkin and water bottle home, then that lunch would result in no trash.³

Finally, the teacher explained that last week's measurements were the first part of an experiment. (These measurements can be called the "before-trash-reduction" data.) A second set of measurements can be taken on the Thursday of Waste-Free Lunch Week, and the "after-trash reduction" data can then be revealed in class on Friday. The differences between the two sets of data will show how successful students (and their parents) have been in reducing their lunchtime solid waste.



Figure 3. Lunch Trash Comparison (Before and After Waste Reduction)

Parents weighed the amount of material each grade threw away as lunch waste on two different days. Here are the measurements (the raw data) from November 30 and December 7, 2007, in pounds.

Grade	Waste (LBS) on 11/30/07	Waste on 12/7/07	Reduction.
K -	24	16	8
1st -	28	10	18
2nd -	29	10	19
3rd -	22	12	10
4th -	35	20	15
5th -	38	17	11
Totals (LBS)	176	85	91

What is the total lunch waste for December 7, 2007, after families practiced waste reduction? (85 LBS)

How big was the reduction of waste between the two samplings, as measured in pounds? (91 LBS)

How big was the reduction of waste measured as a percentage? ($91/176 = 0.517$ or 52%)

Do you think that students and their parents made a good effort to reduce the amount of lunch waste generated at school? (Reducing waste by 52% on the first try, which is more than half, seems pretty successful!)

Note: Measurements taken on 12/7/07 for the third and fifth grade lunches have been estimated for the purpose of this article because many students were absent due to field trips on that day, in those grades.

Making Progress

On the Monday of Waste-Free Lunch Week, the teacher devoted from 5 to 10 minutes for discussion of the project. Did parents receive and read the flier? Are students discussing the project with their parents? Are any problems or limitations arising in conversations with adults or other kids? Can students suggest ways to overcome any problems? Do they have novel ideas for reducing the lunchtime waste stream?


On Thursday, the trash was again measured. In our school, an interesting problem arose during the lunch period. Two parents monitored the lunchroom, reminding students to place eligible items in the appropriate bins for recycling and compost. These parents noticed that some students wanted to pack their trash in their lunch containers so that it would not be weighed. The parents pointed out to students that this would not be a “true and fair measurement” of the trash generated on that day. Students then emptied their lunch boxes of trash before closing them, and thus avoided biasing the results in a favorable direction.

Measurable Results

The next day, Friday, the teacher presented the “after reduction” measurements to the students (FIGURE 3) and discussed the

meaning of the results. Students had cut their lunch waste in half as compared with the earlier measurements! This meant that students at Taylor could reduce the school’s lunch waste by eight tons per year if students and parents worked as hard as they had this week to pack a waste-free lunch.

The teacher invited the class to reflect on all aspects of the project, including the effort required to pack a waste-free lunch, the involvement of adults, and the significance of the measurements. What would students do differently if it were announced that trash would be weighed again next week? Students were invited to suggest other actions (in various aspects of their daily lives) that could be taken to “build a bright and sustainable future.”⁴

There is, naturally, an interesting question that can be posed to students, if they don’t think of it first themselves: “What would it take for our school’s lunchtime waste to be reduced to *zero*?” 

Notes

1. Teachers can download free items as well as request a free package of posters and booklets (one per school) at www.epa.gov/epaoswer/education/lunch.htm. A pdf of the Waste-Free Lunch poster is at www.epa.gov/waste/education/pdfs/lunch.pdf. A “Trash Audits” activity is at www.wastefreelunches.org/audit.html.
2. Social studies strands **VII** PRODUCTION, DISTRIBUTION, AND CONSUMPTION; **VIII** SCIENCE, TECHNOLOGY AND SOCIETY; **IX** GLOBAL CONNECTIONS; **X** CIVIC IDEALS AND PRACTICES. See National Council for the Social Studies, *Expectations of Excellence: Curriculum Standards for Social Studies* (Washington, DC: NCSS, 1994). We aimed as well to meet several Virginia Department of Education curriculum standards for health, science, and math.
3. At this point in the lesson, students could also fill out a chart in which each child lists whether each item in his or her lunch that day is “Reusable, Recyclable, Compostable, or Waste.” A sample chart is on the back of the EPA poster. Repeat this activity on the last day of the project for comparison.
4. Facing the Future, *Global Issues and Sustainable Solutions: Population Poverty, Consumption, Conflict, and the Environment* (Seattle, WA: Facing the Future, 2004): 40-43.
5. At Taylor Elementary School, parents serve on the school’s science and health curriculum committee and are invited to work with teachers in presenting lessons and activities to classes. The initial presentations in the lesson “The Challenge of Solid Waste” were run by parent volunteers. Teachers and parents would like to thank Principal Robert Hindman for the opportunity to run the Taylor Waste-Free Lunch experiment.

ALISON DAVIS-HOLLAND and SUE ANNIS are parents and volunteer science teachers at Taylor Elementary School, which is a public school in Arlington, Virginia.⁵ Alison participates in the parent-teacher Science Curriculum Committee. Having worked as an environmental consultant who dealt with pollution and cleanup, she strives to help the next generation think about the full life cycle of materials and how not to pollute in the first place. Sue, who has worked as an economist, enjoys studying the cost-benefit tradeoffs and incentives that can drive environmentally responsible behavior. STEVEN S. LAPHAM is the editor of Middle Level Learning.

Handout for Students *and Parents!*

How to Make a Trash-Free Lunch!

Our whole school is running a waste-reduction experiment that takes place over the course of one week. Students can take the lead, and parents can help. Here is how it works:

On a recent day, parent volunteers secretly weighed the trash produced by each lunch period. Now, in their classes, students are discussing problems associated with solid waste and are working with the numerical data to better understand the scale of what is happening. We are discussing possible solutions to the problems raised by solid waste in our community.

We are working on implementing a real-world solution: reducing our own school lunch waste! Students are learning how to pack a **waste-free lunch** by using reusable containers and utensils, recycling any eligible material, and composting fresh fruits and veggie leftovers from lunch.

Soon parent volunteers will again weigh the trash that each group generated during lunch. Then students will compare the data from the two days (before and after waste reduction) and discuss the results of their efforts to pack waste-free lunches. Will we be able to reduce our lunchtime waste? What will the numbers show?

Here are things students and parents can do:

1. Bring (or purchase in the cafeteria) only what you will eat, and no more.
2. Buy unpackaged food (an apple), rather than packaged food (a sealed cup of applesauce) when you are able to.
3. Pack your lunch in re-usable containers, rather than disposable items (like plastic bags)
4. Recycle and compost as much of your waste as you can.

Parent's participation is important:

1. Help your parents pick food that tastes good and healthy for you.
2. Tell your parents if you do not like something, rather than just throwing it out.
3. Take leftovers home so your parents see what and how much you eat.
4. Share all this information with your parents, and tell them about our waste-free lunch project.

Let's pack waste-free lunches every day, all year round!

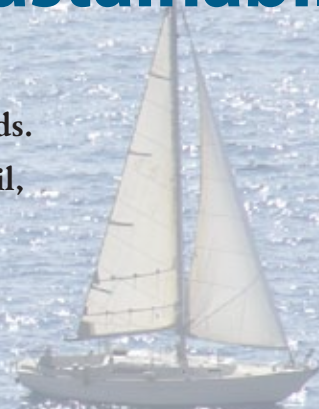


This handout is based on ideas from the EPA poster "Pack a Waste-Free Lunch," at www.epa.gov/waste/education/pdfs/lunch.pdf. These activities involve students in learning math, health, science, and social studies.

Internet Resources on Sustainability

Perhaps we cannot raise the winds.
But each of us can put up the sail,
so that when the wind comes
we can catch it.

—E. F. Schumacher,
*Small Is Beautiful:
Economics As If People Mattered*



The U.S. Partnership for Education for Sustainable Development, www.uspartnership.org

The U.S. Partnership consists of individuals and more than 300 organizations and institutions in the United States dedicated to education for sustainable development (ESD). Formed in response to the Decade of Education for Sustainable Development declared by the UN in 2003, the U.S. Partnership acts as a convener, catalyst, and communicator working across all sectors of American society. Click on the link “K-12 and Teacher Education” to get access to a collection of K-12 teaching resources, most of them free; testimonials and working examples; and opportunities for networking with teachers and supporting organizations. Link your efforts to the Partnership; there’s no cost, and as a partner, you receive various benefits.

Facing the Future, www.facingthefuture.org

Facing the Future offers curriculum resources on sustainability and related issues such as poverty and pollution. FTF offers free online resources, as well as student textbooks, lesson plans, and thematic units for sale. For example, *It’s All Connected: A Comprehensive Guide to Global Issues and Sustainable Solutions* can be used as a stand-alone text for a global issues course or as a supplemental text for other classes (\$24.95, 144 pages, 2005). Each unit includes essential questions, stories from the world, youth in action, and curricular connections, and extensive references.

Place-based Education, www.promiseofplace.org

Place-based education is a holistic approach to education, conservation, and community development that uses the local community as an integrating context for learning at all ages. The Place-based Education Evaluation Collaborative (PEEC) recently published a report, “The Benefits of Place-based Education” (www.peecworks.org/index), which summarizes five years of study, based on nearly 2,000 surveys and interviews with educators and students from 100 rural, urban, and suburban schools. It concludes that place-based education energizes teachers, helps students learn, and connects schools and communities. It encourages students to become environmental stewards and active citizens.

Vital Climate Change Graphics (UNEP), www.grida.no/publications/theme/climatechange

These neat, colorful images pop up onscreen quickly. First published in 2000 by the United Nations Environment Programme (UNEP), these informative graphics are based on the findings of the Intergovernmental Panel on Climate Change (IPCC). Hundreds of scientists all over the world contribute to the work of the IPCC as authors, contributors and reviewers. The website presents a collection of graphics focusing on the environmental and socio-economic impacts of climate change; updated in February 2005. While you are within the UN family of websites, visit the youth page on climate change (www.teri.res.in/test/paccify/index.htm) and the UN Cyber Schoolbus’s brief lesson on saving the environment, (www.un.org/cyberschoolbus/bookstor/kits/english/index.asp).

Free The Children, www.freethechildren.com/aboutus/index.php

Among human populations, the world’s poor are suffering the most from the effects of global warming. Free The Children is a large network of children helping children through education, with more than one million youth involved in our innovative education and development programs in 45 countries. Founded in 1995 by international child rights activist Craig Kielburger (who was 12 years old at the time), Free The Children has received the World’s Children’s Prize for the Rights of the Child (also known as the Children’s Nobel Prize) and the Human Rights Award from the World Association of Non-Governmental Organizations, and it has formed successful partnerships with leading school boards and Oprah’s Angel Network. Visit www.oambassadors.org/global.

Heifer International, HeiferEducation.org

Heifer International provides sustainable development education resources and opportunities for all ages, including lesson plans, action ideas, activities, multimedia supplements and information about service learning programs. The simple idea of giving families (in poor, rural environments) a source of food rather than short-term relief was the founding idea for this organization more than 60 years ago.

Bears in the Air

An Activity from *Facing the Future*¹



In this lively activity, students experience the limits of success, redesign a system to improve efficiency, and begin to identify assumptions that drive human behavior.²

Required materials include a stuffed bear or other soft object suitable for tossing, a watch or stopwatch, an open space, and at least 30 minutes.

ACTIVITY:

1. Arrange your students so that they stand shoulder-to-shoulder in a circle. Stand in the circle with them and show them the stuffed bear or other object.
2. Tell students they are going to play a game in which they toss the bear around the circle. There are only two rules: (1) Everyone must touch the bear, and (2) Students must touch it in the same sequence each time they play.
3. Have everyone hold their hands out, ready to catch the bear.
4. Gently toss the bear to someone across the circle.
5. Ask that student to toss the bear to someone else and then drop his or her hands. (The last person tosses the bear back to you.)
6. Practice once so that students are comfortable repeating the sequence.
7. Now tell the group that you will time the activity to see how fast they can do it.³
8. Run the activity and time it. After this first round, tell students that you are sure they could do it faster. Run and time the activity a few more rounds. Once students reach a certain level of success, they will not get any faster without a system redesign. In fact, they may get sloppy and drop the bear or toss it too far in their attempt to go faster. This part of the activity models the concept of "limits to success."
9. Students may ask, or you may suggest, whether the arrangement (standing in a circle) may be changed. The answer is yes. Repeat the two rules (there were indeed only two) and invite students to suggest different designs and to test them one at a time. This part of the activity models the concept of "redesign."

10. Continue until students have improved their time and arrived at a favorite solution. (Student inventions might include standing next to each other and passing the bear along the line, or creating a cascade of hands in the correct sequence, then letting the bear slide down the slope). This part of the activity models the concept of "testing alternative designs."⁴

DISCUSSION:

- What happened the first few times through? Did you succeed in doing it faster? Why?
- Did anyone think about other ways of doing it, but did not speak up? What kept that person from offering a solution?
- Did anyone offer a solution that was ignored? Why was their solution ignored?
- More advanced questions: What assumptions did the class have about the game? How did these limit your ability to achieve your goal? (Students might assume that there were unstated rules about how to play the game.)
- Can you think of some real-world examples (past or present) in which people experience the limits to success by doing something harder or faster? For any example, what are the assumptions people hold about how that system functions? How might that system be redesigned to achieve a common goal? 🧠

Notes

1. Facing the Future, *Engaging Students Through Global Issues: Activity-Based Lessons and Action Projects* (Seattle, WA: Facing the Future, 2006), 52-53. Excerpted by permission. View additional K-12 teaching resources at www.facingthefuture.org.
2. See strands **V** INDIVIDUALS, GROUPS, AND INSTITUTIONS and **X** CIVIC IDEALS AND PRACTICES in National Council for the Social Studies, *Expectations of Excellence: Curriculum Standards for Social Studies* (Washington, DC: NCSS, 1994).
3. You could assign a student to use the stopwatch and record the times.
4. For a mathematics extension, have students create a line graph of the timed trials.