“Tasting Our Way Through Geography:”

Incorporating Cooking into the Classroom to Enhance Geography Knowledge

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4th Grade

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Table of Contents:

Description of Teaching Context
  Classroom context..................................Page 4

Wonderings and Questions
  Main Wondering....................................Page 5
  Sub-questions......................................Page 5

Data Collection
  Description of the Data Process.................Page 6-9
  Analysis Process..................................Page 6-9

Explanation of Findings
  Claim#1.............................................Page 10
  Claim#2.............................................Page 12

Reflections and Implications for Future Practice.....Page 14-15

Appendixes............................................Page 16

Annotated Bibliography..................................Page 31
Background Information:
Description of the Classroom Context

This inquiry took place in a fourth grade classroom at Radio Park Elementary School. This elementary school is located in State College, Pennsylvania only minutes away from the Pennsylvania State University. Radio Park Elementary School provides services to students in kindergarten through fifth grade. My participation as an intern in the Professional Development School at Penn State University has given me the chance to experience working in kindergarten and fourth grade.

The fourth grade classroom that I teach in is composed of twenty-one students. Out of twenty-one students, there are six female students and fifteen male students in the class. The class is primarily comprised of Caucasian students. There are two African-American students and two Indian students. In my fourth grade classroom, there are five students with Individualized Education Programs and there are two students that attend enrichment.

In terms of academics, there are several students that are above their grade level for reading and math. Several students (the five students with Individualized Education Programs), read on a third grade level or lower. The majority of the students work at grade level for most subjects. Overall, the classroom is comprised of varying academic and motivation levels.

This class of fourth graders has experienced cooking in the classroom. During our American Indian unit, the children had the opportunity to help make and taste several authentic dishes. The students seemed to enjoy these experiences.
**Wonderings and Questions**

**Main Wondering:**

When I began my inquiry, I was surprised that many students did not know the location of countries that are commonly talked about in our daily news. After the tragedy in Haiti occurred, our class had a small discussion about the location of Haiti on the map. Many students had no idea where the country was located, let alone the general vicinity of its location. I also wondered how I could incorporate my own personal passion for cooking into the classroom. This led to my main wondering:

**How can incorporating cooking in our classroom curriculum increase student learning and motivation?**

**Sub Questions:**

- How well will students learn the location of countries on the map after cooking and tasting dishes from those countries?

- How can cooking change student’s opinions about learning social studies and geography?

- How can cooking in the classroom better connect students to their food?
Data Collection:

Description of the Data

Throughout the data collection, I was looking for several specific outcomes. First, I hoped to find out if incorporating cooking into the classroom curriculum would help the students learn geography. Secondly, I hoped to see if student motivation for learning social studies would be increased by using hands-on learning methods, such as cooking. These are the methods I used to collect my data.

Before:

In order to begin my inquiry, I created and implemented a pre-test for the students. This pre-test consisted of sixteen fill in the blank questions. On the first page of this pre-test, the students had to list the country/area of origin for numerous foods. The foods students needed to name were: potatoes, corn, sugar, tomatoes and bananas. These specific foods were chosen because they were a part of the social studies unit that we had just completed. In this unit, students were learning about Columbus and how his trade routes affected the way we live today, including the types of foods we eat. Since many of the foods came from countries that we would be learning about during my inquiry, I felt that it was important to assess the students understanding of these foods.

Throughout the rest of the pre-test, students were asked to name the location of the country that I had already numbered. The second page of the pre-test contains a blank map of Africa. The African map had the countries of Morocco, Algeria, Libya and Egypt numbered for the students to name. On the third page, students were asked to name the countries of Portugal, Spain, France and Germany. The fourth page of the pre-test
asked the students to name India and the fifth and final page asked the students to name China and Japan.

These countries were chosen because I felt that many of the countries are important in society. I wanted the students to be able to name countries that are often mentioned in the daily news. I also felt that it was important to include a range of countries from different areas of the world. This would lead to a well-rounded geography study.

The pre-test was administered for morning work in the classroom. Then, I graded the tests using a key I had created. The question counted as one point if the students gave the correct answer. Students were not given credit if the answer was incorrect or if the students left an answer blank (APPENDIX A).

Before I began my inquiry, I also conducted student interviews. The student interviews gave me the opportunity to see student views on geography, cooking and learning. To begin my interviews, I randomly selected ten students. Then, the interviews were given. Some questions were: “What are some things you like to cook/eat?” “What are your favorite foods?” “Have you ever cooked foods from different countries/cultures?” There were a total of nine questions on the student interview sheet. (APPENDIX B)

**During:**

While completing my inquiry, I gathered data by collecting anecdotal notes. During each mini-geography lesson that I implemented (four lessons), I recorded anecdotal notes. By taking these notes, I was able to gather data on student engagement
and student interest. Finally, anecdotal notes allowed me to record several student quotations.

For each geography lesson, the students were given a “Passport.” This passport was a recording sheet that I created for the students to use during our lessons. Each passport was properly titled, “Passport to Africa,” “Passport to Europe,” “Passport to India” and “Passport to Asia.” Each sheet had several lines to record the population/size of the countries discussed, the main food crops and favorite foods of the country and a fun fact for each country. As each lesson was completed, the students used a different sheet (APPENDIX C).

Each “passport” lesson focused on the foods that are important to the different countries we learned about. I felt that the typical geography lesson of the past had focused on teaching the basics to students, such as climate, size, types of jobs and many other items. I chose to focus on the food aspects of a country, specifically food crops and favorite foods, to try and help students remember countries in a more personal way. By learning about the way other people eat and use food, students can not only learn geography, but can also learn to relate to others around the world.

After:

After all the geography lessons/cooking sessions were complete, I administered the post-test. The post-test contained the exact same questions as the pre-test. After the students completed this post-test for morning work, I graded them the same way as I had done with the pre-tests. Each student was given one point for each correct answer (APPENDIX A).
Finally, student interviews were done at the end of my inquiry. These student interviews were much more brief than the student interviews that I had done before my inquiry. In this interview, I randomly selected eight students. Then, I asked each student, “Did you enjoy our geography/passport lesson?” “Why or why not?” Then, I followed this question by asking, “What was your favorite dish to cook?” By asking these specific questions, I was able to record several different student opinions.
Explanations and Findings

After analyzing the data that I had collected, I was able to form several claims about cooking in the classroom. By using several data collection methods, I was able to use this data to support two distinct claims.

**Claim #1:** Student engagement and motivation in the social studies curriculum is increased by incorporating hands-on learning experiences, such as cooking, into the classroom.

In any social studies curriculum, having interactive, hands-on activities to complete often increases student engagement. Geography is often an area of social studies that lacks these hands-on experiences. Through cooking and tasting in the classroom, it was possible for students to “touch and taste” a part of a different country. Before beginning our geography lessons, I interviewed ten students. One question that I asked was, “Would cooking make you more interested in what you are learning and why?” Out of my ten student interviews, seven students said that cooking in the classroom would interest them in what they were learning. Many of those students that said cooking in the classroom would interest them had said that they did not cook at home (four students). (Appendix B)

Before our first geography lesson, I noticed some student grumbles. I overheard one student ask, “What are we doing geography for?”(Appendix D). After completing our first geography lesson, I noticed that students were eager to learn about what dish we would be making. I intentionally had waited to tell the students what we would cook for each region until after we had completed our passport lesson. One student said during our first geography lesson, “Are we making couscous? I really hope so.” This was said after
learning about how important couscous is in the Northern African countries (Appendix D).

Throughout the following weeks, I noticed the leap in student engagement and excitement for our geography PowerPoint lessons. Students were eager to learn about what countries were on the passport for the week. They also seemed eager to learn about the new dish that we would create. For our second geography lesson on the countries of Europe, I noticed that students were “walking quickly to the back carpet” to gather in front of our Smart Board. For many activities, students will sometimes take three to four minutes to simply walk to the back of the rug. After beginning our lesson, I noticed that many students were back to the carpet in less time. This change indicated that students were ready to view the passport lesson.

By the third passport lesson, the students eagerly participated. Many of the “students raised their hands to read the PowerPoint slides.” I also noticed a shift in participation for cooking in the classroom. In order to cook many of our foods, students needed to stay in during their recess or free time. For my first cooking lesson (couscous), only about five students raised their hand to help. By the third cooking lesson (yellow rice), I noticed that twelve to thirteen students had raised their hands to help make our potato pancakes. Out of those thirteen that had raised their hands to help, eight stayed in to help me cook. The students were eager to “shred potatoes, flip the pancakes and mix.”

As we completed each lesson, I noticed that many more students were not only eager to participate in our mini-geography lessons, but more students were eager to stay in to help cook. By the last cooking lesson (Chinese won-tons), twelve to thirteen students had volunteered to stay in. Out of those twelve, five were students that had not
participated in the cooking at all. As a final wrap up question, I asked eight students, “Did you enjoy our geography/passport lesson?” From those eight students, all eight said they enjoyed those lessons.

Claim #2: By incorporating cooking and tasting into the classroom curriculum, students are better able to name and learn the locations of countries on the globe.

When I began my inquiry, I was surprised that many students did not know the location of many countries that are commonly talked about in our daily news. After the tragedy in Haiti occurred, our class had a small discussion about the location of Haiti on the map. Many students had no idea where the country was located, let alone the general vicinity of its location. After administering the pre-test, I realized that many of my fourth grade students had demonstrated a limited knowledge of world geography. For example, one student had labeled India as Maine. This led me to wonder how I could utilize my passion for cooking to help my students improve their geography knowledge.

Through administering the same test for my pre-test and post-test, I was able to find some conclusive data. On the pre-test, the average score was three out of sixteen with scores ranging from ten out of sixteen to one out of sixteen. The post-test average score was ten out of sixteen, with scores ranging from one out of sixteen to fourteen out of sixteen. This increase in total score shows that although the students have not yet mastered all the countries locations, they have improved on their ability to name and locate countries on a map.

On the test (both pre and post), the students were asked to name four countries in Africa. I had noticed that on the pre-test, some of the students (three out of eighteen) had
correctly labeled the country, Morocco. After our lessons, however, eight out of eighteen students were able to correctly locate and find Morocco. On the European map section, one out of eighteen students were able to correctly find and label Portugal on the pre-test. Then, on the post-test, thirteen out of eighteen students were able to correctly find and label the country. The students made similar gains with the other European countries of France, Spain and Germany. When asked to label India, seven out of eighteen students were able to correctly label the country. The last section of countries to label on the test was Asia. Many of the students had learned about Japan the year before, which may have helped them name and locate that country. On the pre-test sixteen out of eighteen students labeled Japan correctly, while on the post-test seventeen out of eighteen students labeled it correctly.
Implications for Future Practice

Through this inquiry process, I have found many benefits of incorporating cooking into the classroom. I have found that cooking not only piques student interest, it also allows students to try new foods that they may not otherwise get to try at home. By weaving together geography lessons with cooking, I feel that I was able to bring some new life to an old subject. Students didn’t view our lessons as plain old geography, but rather “Passports” to learning about a new country. By focusing on the food aspects of a country, such as food crops and favorite foods, I was able to twist geography into a more “social” subject. Through these lessons, I feel that I was able to connect students to the people of another country.

Although cooking is a great motivator and tool to teach students, it can be a challenging experience. Cooking can take time, depending on the recipes you choose. It can also be difficult to cook with a few children while the others are engaged in something else. Cooking in the classroom also requires some money to buy the supplies. From my inquiry experience, I have found that many of these things can be worked out. Although I was working in a room with lots of help, I feel that cooking could be done in almost any kind of setting. As the teacher, it would be important to modify the recipes to meet the budget and time of any room. It simply requires a little more planning.

Through this experience, I have also learned that as a teacher, you must be willing to incorporate your own passions into the classroom. Cooking and learning about food and cultures are a passion in my life. By incorporating my passion into the lessons and daily classroom experience, I found that it made my workload seem easier. Although it
may require lots of time and effort, it is worth it if you are also enjoying what you are incorporating. I really enjoyed seeing the kids learn the locations of different countries. It was also fulfilling to see the students enjoy the food and connect to my own passion for cooking.

In my future classroom, I would hope to include cooking in the curriculum. I feel that cooking can engage almost every kind of student, in every age range. Cooking can allow students to relate to a subject in a new way. It makes them excited to learn. In my classroom, I would like to use cooking to teach geography, along with many other subjects. I feel that cooking could be utilized not only for a social studies curriculum, but also in math and science. Almost everyone loves to eat, and using food as a motivator works well for kids.

During my inquiry experience, it was easy to see that students enjoy lessons were they can taste, touch, see, hear and smell. In my future classroom, I hope to remember this when planning my lessons. I hope to never forget to try new things to engage the students. At first, I was weary of cooking in the classroom with twenty-one students. After completing this inquiry, I have realized that many things are possible in the classroom. In my future classroom, I want to allow students to try new things, such as food, to help them connect to what they are learning. Through these hands-on connections, I feel that students can learn more. In the end, this is the ultimate goal of an education.
Appendix A: Student Pre and Post Test

Name: ________________________________

1) List the country where these foods first came from:

Potatoes: ________________________________

Corn: ________________________________

Sugar: ________________________________

Tomatoes: ________________________________
Bananas:

What is the name of the country?

1) 

2) 

3)
Appendix B: Student Interview Questions

1) Do you enjoy cooking?

2) What types of things/foods do you like to cook?

3) Who do you cook with at home?

4) What are your favorite foods?

5) Have you ever had foods from different countries/cultures?
   6) If so, what kinds of food have you had?

7) Do you enjoy cooking in the classroom?

8) What types of food would you like to cook in the classroom?

9) Would cooking make you more interested in what you are learning? Why?
Appendix C: Sample Passport Worksheet

Name: __________________________

Passport to: _______________________

India:

Population/Size: ____________________

______________________________
Main Food Crops:
Appendix D: Anecdotal Notes

First Geography Lesson: Passport to Africa (Couscous with dried fruit)

- Before starting the lesson, I overhear one student say, “What do we have to do geography for?” Some students take almost 4 minutes to make it to the back carpet.

- During the lesson, several students (about 8-10) raise their hand to participate through reading prompts on the screen or answering my questions.

- One student asked, “Did you make this all by yourself?” in reference to the Power Point that I had created.

- A small discussion about food is started. We discuss the fact that Africa has many types of couscous served in different ways throughout the country. One student (who does not always participate) raises his hand and says, “Isn’t that sort of like our variations of cheeseburgers? Like McDonalds, Wendy’s and Burger King?”

- During the Power Point, one student says, “Are we making couscous? I really hope so.”
-5 students volunteer to stay in and help cook our dish

**Second Geography Lesson: Passport to Europe (Potato Pancakes)**

- After I give the students directions to get a clipboard and bring their pencil to the back carpet, I notice that many of the students walk quickly to the back carpet to take a seat. I also notice that many students are sitting close to the Smart Board.

- Several students ask, “What country are we doing today?”

- I also answer several, “What are we going to cook?” questions

**Appendix D: Anecdotal Notes**

**Third Geography Lesson: Passport to India (Yellow rice with potatoes)**

- Students walk quickly to the back carpet and gather materials (2-3 minutes total time to get from their desks to the carpet)

- Many students (13-15) raise their hands to participate in our discussion or to read the PowerPoint slides

- About 13 students raise their hands to stay in and cook our rice

- During our lesson, the students were willing to shred potatoes, flip the pancakes and mix

**Fourth Geography Lesson: Passport to Asia (Chinese Won-tones)**

- Students gather their passports, clipboards and pencils and walk to the back rug (2-3 minutes)

- Some students sit very close to the Smart Board and I need to tell them to move back a little bit
-Many students raise their hand to bring up foods that they have had from Asia (China and Japan). A long discussion about sushi (about 5 minutes) follows my first question of, “What types of Asian foods have you had before?” One student who has had sushi is able to describe the texture of sushi as “wet and chewy.”

-13 students raise their hand to help stay in and cook (5 are students who had not previously raised their hands to help)

-Students are eager to wrap won tons and cook the chicken.

**Appendix E: Inquiry Brief**

Lauren Shutika
Inquiry Brief
February 24, 2010

**Teaching Context:**

The classroom that I will be doing my inquiry in is a 4th grade classroom at Radio Park Elementary School. This elementary school is located in State College, Pennsylvania only minutes away from the Pennsylvania State University. Radio Park Elementary is provides service to students in kindergarten through fifth grade. My participation as an intern in the Professional Development School has given me the chance to experience working in kindergarten and fourth grade.

The fourth grade classroom that I teach in is composed of 21 students. Out of 21 students, there are 6 female students and 15 male students in the class. The class is primarily comprised of Caucasian students. There are 2 African-American students and 2 Indian students. In my fourth grade classroom, there are 5 students with individualized Education Programs and there are 3 students that attend
enrichment. In terms of academics, there are several students that are above their
grade level for reading and math. Several students (the 5 students with IEPs) read
on a third grade level or lower. The majority of the students work at grade level for
most subjects. Overall, the classroom is comprised of varying academic and
motivation levels.

Rationale:
Cooking has always been a passion of mine. I enjoy tasting and trying new
foods and I also enjoy learning about the culture and history that surrounds my
favorite foods. As a student and learner, I feel that social studies and geography have
always been a few of my favorite subjects. However, I understand that many
students of all ages often find social studies learning to be dry and uninteresting. As
a teacher, I feel that I can use my own personal passions to promote my students
social studies learning.

By incorporating food and cooking into our social studies/geography lessons,
I feel that students may be motivated to learn and remember more about different
cultures. I also feel that if students are able to learn about the cultural aspects of a
country, such as food, then they may be able to better remember the location of this
country on the map. Also, by teaching students about food history and the origins of
their favorite foods I feel that they will have a better understanding and appreciation of the transmissions of ideas and goods in the past and present.

In my own classroom, I have noticed that most of the students have some difficulty locating some countries on the map. In a recent class discussion of Haiti, several of my students asked if Haiti was located near Asia. I was surprised by this comment, and I realized that in the hustle and bustle of schooling, geography might be overlooked.

Wonderings and Questions:

Main Wondering:

How can cooking in the classroom motivate students to learn about geography and social studies?

Sub Questions:

- How well will students learn the location of countries on the map after cooking dishes from those countries?
- Will cooking motivate some students to create individual projects?
- How can cooking change student’s opinions about learning social studies and geography?

Data Collection Ideas:

Before:
- A pre-test will be given to the students before any intervention/teaching is implemented. The pre-test will include many questions on geography. Students will be asked to name a given country and also name some of the countries that surround the given country. Students will also be asked to name the country of origin of many popular foods such as tomatoes, potatoes, sugar and corn.

- Student interviews will be conducted to determine student interests

During:

- Student surveys to gather student ideas and interests
- Student interviews to compare individual student learning
- Tests to assess what they learn about each country/geography location as we prepare food
- Studio-code video during several cooking sessions to assess student participation
  OR take observational notes (PDA or Mentor could help with this)
- Possible student projects

After:

- More student surveys to assess student interest levels after cooking
- Post-test that is the same as/slightly different than the pre-test
- Several more student interviews

**Timeline:**
February

Week 1, February 7-13:

- Finish Inquiry Brief (Due: February 10, 2010)
- Finish Annotated Bibliography (Due: February 10, 2010)
- Finalize geography/food origin pre-test

Week 2, February 14-20:

- Give students the pre-test
- Finalize student interview questions
- Chose 3-4 students to interview
- Possibly begin student interviews

Week 3, February 21-27:

- Begin/finish student interest interviews
- Finalize Inquiry Brief/Annotated Bibliography (Due: February 24, 2010)

Week 4, February 28-6

- First cooking session/geography, country?
- Video children cooking/take observational notes

Week 5, March 7-13

- Spring Break!
- Continue planning/creating cooking and geography lessons

Week 6, March 14-20

- Second cooking/geography lesson, country?
- Interview more students?
- Mid-lesson assessment?
Week 7, March 21-27

- Third cooking/geography lesson, country?

Week 8, March 28-April 3

- Fourth cooking/geography lesson, country?
- Interview more students
- Begin to compile data
- Look at student interviews/compare beginning and ending interviews
- Start rough draft of inquiry paper

Week 9, April 4-10

- Any final cooking lessons/geography lessons
- Begin to make claims for paper?

Week 10, April 11-17

- Rough draft for Inquiry paper (Due: Friday, April 16, 2010)

Week 11, April 18-24

- Work on finalizing Inquiry paper
- Start Inquiry presentation

Week 12, April 25-May 1

- Work on Inquiry presentation

Week 13, May 2-8

- Final Inquiry paper (Due: Sunday, May 2, 2010)
- Inquiry Conference (Saturday, May 8, 2010)
- Submit final paper to webmaster (Sunday, May 16, 2010)
Appendix F: Annotated Bibliography

Bibliography


This website is provided through distance education at Penn State. It is a great resource because it provides a lesson plan on cooking with children using multicultural foods. It provides many reasons why cooking is important with kids of all ages. This great resource provides many examples of why cooking and teaching about multicultural recipes is a valuable lesson for children of all ages. This website also provides a
lesson plan and simple recipes to use with kids, such as egg fried rice from China.

2)

In this cookbook, there are many recipes for countries that are not usually included in other multicultural cookbooks for children. This includes countries that I may use for cooking within my inquiry such as Libya, Israel, Greece, Belgium and China. I found this resource especially useful because it contains a dictionary of terms for different ingredients and food related terms. The book also contains lots of information on each country and what foods they like to serve and cook within that country. I found this book especially useful because it shows a map and the highlighted location for each country. Overall, this is a great resource to use because of the mass amounts of information it contains.

3)
Chakraborty, Basanti, & Stone, Sandra J. (2009). Motivating students is easy when the topic is food. Classroom idea-sparkers.

This small journal on classroom ideas focuses on ways to increase participation in social studies within the classroom. I found this article to be particularly relevant to my inquiry because it shows how food can be
used as motivation to learn social studies topics, such as geography. This article is useful because it also talks about teaching about different cultures through food. Finally, the journal gives ideas for using food such as using maps to locate food origins, having guest speakers come into the classroom and having students work in groups to create presentations on foods.


This website about cooking with kids is run by a non-profit agency. The website focuses on teaching kids how to cook so that they can enjoy healthy, fresh foods. It provides information for teachers to conduct cooking lessons and tastings of food. I found the tasting lessons useful because with some new food we try it would be a great technique to have the kids “mindfully” taste new foods and write about them. I found this to be a useful resource because it provides free downloads for simple activities to use with kids that relate to food.

“What the World Eats” is an excellent resource for teaching children about food. It contains tons of factual information on what people eat in very different parts of the world. The book contains information on food prices, recipes, how people get their food and basic facts about each country that is contained in the book. This resource is particularly useful for me because it contains lots of pictures. The book has a picture of each family from the different countries and the groceries they buy to use for one week. I think that it will provide an effective teaching tool to show to my students.

6)

Food and culture: Exploring the flavors of your community. (2003).
Retrieved from
http://www.kidsgardening.com/growingideas/projects/oct03/pg1.html

Although this webpage was created by a gardening organization, it is full of ideas on cooking with kids and teaching them about the “roots” of their food. I found this source helpful because it provides many ideas for helping kids do food interviews, learn about food and cultures and also learn about the background of food. It is a really easy to use site and provides lots of information and resources for teachers and other adults who work with kids.

This book is a resource that is provided for the Columbus unit at Radio Park Elementary School. It provides a great deal of information about foods and where they were found before the days of Columbus and trading began. This book provides information about foods that are fairly important in our lives today such as sugar, potatoes, tomato and corn. This resource will also be useful to me because it provides information about the explorers that I can incorporate into my lessons with these foods. This book would make an excellent read aloud if I were to use certain pages.


This interactive website allows its users to click on a food and read a paragraph or two about where the food originated. The paragraph about each food also provides information about what other foods are related to it and any interesting facts about that food. I found this website very useful because I can use it to show the kids some of their favorite foods
and quiz them on where they originated. This website would also be a great resource to use with our classroom Smartboard.


“Edible Geography” is an article that was published in the Journal of Geography. This article is useful because it talks about the importance of motivating students to learn about geography. One way to do this is to use international foods to teach students about different countries. This resource is useful to me because it talks about showing students the importance and relevance of learning about food origins and geography. This article shows that food can be one way to teach our students the importance of culture and geography.


This cookbook is an excellent resource to use when cooking with children. It has recipes from many places in the world that I may use in my inquiry project to cook with, such as recipes from Japan, Italy, India, China and the Middle East. The recipes do not contain too many ingredients and have simple directions to follow. The book is especially
useful because it contains a page or two about each country’s food history. It also talks about what types of plants or food are found and grown in the different countries. This would also be helpful for me because I want to incorporate food history into my inquiry project.