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# Cooking up a Course: Food Education at Pomona College

Christina A. Cyr  
*Pomona College*

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**Cooking up a Course: Food Education at  
Pomona College**

**Christina Alene Cyr**

**In partial fulfillment of a Bachelor of Arts Degree in Environmental Analysis  
2012-2013 academic year  
Pomona College, Claremont, California**

**Readers:**

**Professor Rick Hazlett  
Professor Hans Rindisbacher**



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## Acknowledgements

A HUGE thanks to my readers Rick Hazlett and Hans Rindisbacher, who spend their Thanksgivings reading my thesis about cooking instead of actually cooking. Their input, support, and excitement kept me going.

That you to Char, whose reminder emails, yummy snacks, and boundless enthusiasm kept me on track.

And to the librarians, who taught me how to use the internet to my advantage.

I must thank the friends who returned to me after I abandoned them for the second half of the semester.

And the friends who never felt guilty about distracting me and convinced me to look up from my computer now and then.

And Vanessa for giving me pieces of fruit when it was late and I needed writing-fuel.

I have to thank Julia, Na'ama, and Charlotte, who always effused positive energy in the thesis room.

And the other EA majors, whose true passions for their projects was inspiring.

And of course a big thank you to my parents, Kiwi, and Clark, who put up with my whining and helped me edit in the final hours.

I could not have done this without you all. Thank you.



## Introduction: My Story of Food

*"Everyone needs to learn how to cook, not just a bunch of recipes from books, but understanding about being in a kitchen and enjoying that process."*

*- Laura Dewell, Seattle Chef<sup>1</sup>*

We live in a country whose economic base is farming, yet very few of us are farmers.<sup>2</sup> Our academic schedules were devised so that school children could help their families with harvest, yet children do not even know where their food comes from.<sup>3</sup> Food knowledge has disappeared from our culture. We have convinced ourselves that this knowledge is not important. In fact, education is the key to moving away from manual labor, from farming and dirt, from chopping vegetables and cooking. In Barbara Kingsolver's words: "It's good enough for us that someone, somewhere, knows food production well enough to serve the rest of us with all we need to eat, each day for the rest of our lives."<sup>4</sup>

Is knowing where our food comes from, how it affects our bodies, our communities, and the environment, really less important than anything else we learn in school today? No, it is not.

By signing away this knowledge and these skills, we are sacrificing more than we think. We all eat. All the time. And because we eat so often and so much, what we

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<sup>1</sup> Denn, R. 1 Aug 2012, *Four beloved Seattle chefs: Where are they now?* Seattle Times, Seattle.

<sup>2</sup> Kingsolver, B., Camille Kingsolver & Hopp, S.L. *Animal, vegetable, miracle: a year of food life*. New York; Harper Perennial, c2008.

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.



eat is intrinsically connected to every other aspect of our personal, social, political, economic, and spiritual lives. “Our bodies are the cumulative manifestation of our personal, societal, and policy choices with respect to food, agriculture, and land.”<sup>5</sup>

I propose that Pomona College offer a course in which students learn about food intimately. Not only will they *talk* about food, but they will *create* it. It makes sense to start paying a little more attention to what we eat. A class that applies critical theory to the act of cooking and eating will allow for the deconstruction and a deeper understanding of our food and why it matters. The father of food philosophy, Jean Anthelme Brillat-Savarin, believed that any gathering centered on food should combine both food theory and practice.<sup>6</sup> While students at Pomona College are certainly grounded in food theory, they lack practice.

Therefore, I will go forward with the goal of explaining the importance of cooking education and then present my design of a cooking course for Pomona College.

In the first chapter of this thesis, I present the case for a cooking class in a liberal arts curriculum. This section includes a brief history of food education and explains the general decline in cooking skills up to the present. I then describe the implications of this for human health, society and culture, politics and economics, and the environment. The chapter ends with a discussion of the importance of cooking in education, specifically higher education, describing the components of a successful education and including descriptions of similar projects. In the second

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<sup>5</sup> Allhoff, F. & Monroe, D. 2007, *Food and Philosophy: Eat, Think, and Be Merry*, Blackwell Publishing Ltd, Malden.

<sup>6</sup> Brillat-Savarin, J.A. (1<sup>st</sup> ed: 1825) 2009, *The Physiology of Taste*, Alfred A. Knopf, New York.

chapter, I present a course syllabus. My third chapter consists of a discussion of the implementation of this course at Pomona specifically; I describe the process of creating a course, including the challenges I face, the resources I have available to me, and my recommendations for future action.

## **Course Justification**

My argument for the inclusion of a cooking education in higher education is based on three premises:

1. Cooking skills are important but declining.
2. Declining cooking skills have serious health, social, cultural, political, economic, and environmental implications.
3. A cooking education can change eating-related attitudes and behaviors in a way that positively affects human health, society, economics, culture, and the environment.

Therefore, cooking theory and skills-based courses should be included in higher education.

# The Decline in Cooking Skills

## A History of Cooking Education

Cooking education comes in many forms, but the primary modes of learning are skill transfer from parents, and food and cooking education within the education system.<sup>7</sup> Both forms of education are on the decline,<sup>8</sup> causing an overall drop in cooking skills among the American public. I will discuss the decline in cooking skills later on; here I will explain the shifts in cooking education.

Though parents have always been considered the primary sources of cooking knowledge and skill,<sup>9</sup> a decrease in skill among parents and an increased reliance on prepared foods has left children with no one to teach them how to cook. The secondary source of cooking knowledge and skills, the education system,<sup>10</sup> is failing in its duties as well. Though schools provide students with information and guidance about tobacco, alcohol, drugs, sexually transmitted diseases, and pregnancy, they do not help students with “one of the most fundamental of human activities: eating.”<sup>11</sup>

Cooking education, generally in the form of home economics or domestic education classes, was once a standard component of primary and secondary education. Through the 1960s, most girls (and some boys) were required to take

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<sup>7</sup> Lichtenstein, A.H. & Ludwig, D.S. 2010, "Bring Back Home Economics Education", *The Journal of the American Medical Association*, vol. 303, no. 18

<sup>8</sup> Ibid.

<sup>9</sup> Ibid.

<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

these home economics classes. But what was once ubiquitous in education is now nearly unheard of.

John Dewey, the father of the American philosophical tradition of pragmatism (a philosophy linking theory with practice), founded a school based on the idea that students would learn best if they were engaged in the processes of food production and consumption. At the University of Chicago Laboratory School, founded by Dewey in 1896, students grew food in a garden, prepared it in the kitchen, and together ate the meals they had prepared. Dewey incorporated lessons in math, chemistry, physics, biology, geography, etc. into the food production process. His rationale behind centering his curriculum on food production was that preparing a meal is a goal-directed, social activity, that is “continuous with life outside of school.”<sup>12</sup>

In the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, home economics was considered a serious and worthy academic pursuit.<sup>13</sup> The home economics movement was so successful that it quickly popularized and educated the public on nutrition knowledge, basic germ theory, and hygiene. Following the passage of the 1917 Smith-Hughes Act, which provided support for teacher training in home economics, primary, secondary, and even university-level education included the subject in their curricula.<sup>14</sup>

Washington State University established the department of Domestic Economy in 1903. This program, which emphasized the sciences as well as sewing

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<sup>12</sup> Duster, T. & Waters, A. 2006, "Engaged Learning across the Curriculum: The Vertical Integration of Food for Thought", *Liberal Education*, vol. 92, no. 2, pp. 42-43-47.

<sup>13</sup> Conan, N. 2011, *Op-Ed: For Healthy Kids, Bring Back Home Ec*, NPR.

<sup>14</sup> Veit, H.Z. 2011, *Time to Revive Home Ec*, The New York Times, New York.

and millinery (hat making), cooking, and household economy and management, provided a home economics degree and required students to study fine arts, chemistry, human nutrition, accounting, and bacteriology, among other requirements.<sup>15</sup> Programs such as those at Washington State were created at a time when domestic labor was highly valued by society. During the depression, students, especially woman, worked hard to make up for lost income by increasing their productivity at home by doing their own sewing and cooking. A home economics education also provided women with professional opportunities beyond their currently limited options (usually teaching in schools). With degrees in home economics, women began pursuing careers in design and nutrition.<sup>16</sup>

A major shift occurred during World War II, when many women left their homes to work in male-dominated fields while their husbands were away at war. When the men returned, there was an effort to push women back into their homes to refocus on domestic life. This marked the time when home economics education became focused on making women good homemakers and keeping them out of other fields of study. As a result, home economics was more closely linked with keeping women in the home than with teaching students the science and technology that applied to their social environments.<sup>17</sup> Learning how to cook in school became something to avoid, as it served as a reminder of “prior servitude.”<sup>18</sup>

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<sup>15</sup> Sudermann, H. 2009, *Whatever Happened to Home Economics?* Summer 2009 edn, Washington State University, Pullman.

<sup>16</sup> Ibid.

<sup>17</sup> Ibid.

<sup>18</sup> Bourdain, A. 2010, *Medium Raw: A Bloody Valentine to the World of Food and the People Who Cook*, Harper Collins, New York.

Since home economics was cast in such an unflattering light, it was easy for the women's liberation movement of the 1960s and 1970s to reject it on the basis of the barriers and limitations it imposed on women, ignoring the opportunities it created during its early years. In addition to the pressure from the feminist movement, the movement's basic teachings of health, nutrition, and hygiene became so popularized that they were considered common knowledge and therefore of little value to higher education. Washington State's College of Home Economics was broken up in the early 1980s, around the time that home economics disappeared from curricula nationwide.<sup>19</sup>

Today, home ec is very rarely included in school curricula. Home ec has left us with a nasty reminder of gender stereotypes, but not the crucial lessons on healthy eating and cooking that it once provided. When home economics does exist in school curriculums, it usually comes in the form of an elective class called "family and consumer sciences."<sup>20</sup>

### **The "Eating Out Revolution"**

A multitude of factors, including the commodification of food, the industrialization of food systems, and the feminist movement, have caused home cooking and family meals to be the exception, instead of the norm. We are living in the time of an "eating out revolution,"<sup>21</sup> as half of America's meals are now prepared

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<sup>19</sup> Sudermann, H. 2009, *Whatever Happened to Home Economics?* Summer 2009 edn, Washington State University, Pullman.

<sup>20</sup> Ibid.

<sup>21</sup> Erway, C. 2010, *The Art of Eating In: How I Learned to Stop Spending and Love the Stove*, Gotham, New York.

away from home and more money is spent in restaurants each year than grocery stores.<sup>22</sup> As a country we spend the smallest proportion of our income on food of any country.<sup>23</sup> The people who grow, prepare, and serve our food are paid among the lowest wages in the nation.<sup>24</sup> Not only do we spend much less relative to other high-income countries,<sup>25</sup> but we also spend much less than we did historically. In 1901, 43% of a household budget was allocated to food and alcohol.<sup>26</sup> These trends point to an interesting phenomenon: as a nation, we are spending less time in the kitchen and as a result, we are losing our cooking skills.

### **The Decline in Cooking Skills**

Practical cooking knowledge (cooking skills) is rare, and becoming rarer as time passes. In her essay *Carving Values with a Spoon*, Lydia Zepeda writes of the “industrialized deskilling” that took place in the kitchen as a result of the rise of commercially canned, packaged, frozen, and instant foods in the 1950s and 1960s. Because they were no longer necessary, due to the availability of premade meals, cooking skills and food knowledge declined.<sup>27</sup> The increase in the number of women in the labor force as a result of the feminist movement reduced the time available to

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<sup>22</sup> Erway, C. 2010, *The Art of Eating In: How I Learned to Stop Spending and Love the Stove*, Gotham, New York.

<sup>23</sup> Ibid.

<sup>24</sup> While Americans spend an average of 6% of their total income on Food, the French spend 14% (Battistoni, A. 2012, 1 Feb 2012-last update, *America Spends Less on Food Than Any Other Country* [Homepage of Mother Jones], [Online]. Available: <http://www.motherjones.com/blue-marble/2012/01/america-food-spending-less> [2012, 21 Nov 2012]).

<sup>25</sup> Allhoff, F. & Monroe, D. 2007, *Food and Philosophy: Eat, Think, and Be Merry*, Blackwell Publishing Ltd, Malden.

<sup>26</sup> Ibid.

<sup>27</sup> Ibid.

prepare meals, and so food preparation was further diminished and deskilled.<sup>28</sup> As of 2005, Americans spent a total of 75 minutes a day eating, but only 30 minutes of food preparation and cleanup.<sup>29</sup>

The shift in cooking skills is a well-documented and accepted phenomenon. A large and increasing body of research supports the relationship between cooking skills and food choices, making the recent change in cooking skills all the more significant<sup>30</sup>. This shift is important considering the effects that our food choices have on the health of our bodies, our communities, and the environment. For example, as a nation, our poor food choices are leading to high levels of obesity and other diet-related diseases.<sup>31</sup> Before we delve into an explanation of this shift, it is important that we define cooking skills. The definition of cooking skills has shifted significantly in the past few years, as researchers have moved away from definitions based on the “Golden Age of cooking,” (post World War II when basic commodities and technology were limited, requiring increased knowledge and skill of “from-scratch” cooking techniques) and toward a definition that is more inclusive of prepared food and convenience items and reflects our current food context.<sup>32</sup> Thus a new definition has arisen. Today, food skills are believed to include:

- Knowledge (i.e. about food, nutrition, label reading, food safety, ingredient substitution);

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<sup>28</sup> Allhoff, F. & Monroe, D. 2007, *Food and Philosophy: Eat, Think, and Be Merry*, Blackwell Publishing Ltd, Malden.

<sup>29</sup> Ibid.

<sup>30</sup> Contento, I.R. 2008, "Nutrition education: linking research, theory, and practice", *Asia Pacific Journal of Clinical Nutrition*, vol. 17, no. 1, pp. 176-177-179.

<sup>31</sup> Ibid.

<sup>32</sup> Chenhall, C. 2010, *Improving Cooking and Food Preparation Skills: A Synthesis of the Evidence to Inform Program and Policy Development*, Government of Canada, Canada.



- Planning (i.e. organizing meals, food preparation on a budget, teaching food skills to children);
- Conceptualizing food (i.e. creative use of leftover, adjusting recipes);
- Mechanical techniques (i.e. preparing meals, chopping/mixing, cooking, following recipes);
- Food perception (i.e. using your senses- texture, taste, when foods are cooked).<sup>33</sup>

Based on this definition, there have been observed shifts in cooking and food preparation skills in the past several decades. This shift has been characterized by an increase in the use of prepared, packaged, and convenience foods, which require different skills than “traditional cooking.”<sup>34</sup> This shift has paralleled the “nutrition transition,” which is the name for the shift to a diet with higher energy density, total fat, saturated fat, added sodium and sugar, and simple carbohydrates, and decreased levels of fruit and vegetables, whole grains, and legumes.<sup>35</sup> The nutrition transition can explain in part the shift in cooking and food preparation skills because the fundamental shifts in the kind of food we eat has necessitated changes in the kind of skills required to prepare and consume food.

The nutrition transition and its associated shifts in food production and consumption did not happen spontaneously; production methods changed

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<sup>33</sup> Short, F. 2006, *Kitchen Secrets: The Meaning of Cooking in Everyday Life* Berg Publishers, New York.

<sup>34</sup> Chenhall, C. 2010, *Improving Cooking and Food Preparation Skills: A Synthesis of the Evidence to Inform Program and Policy Development*, Government of Canada, Canada.

<sup>35</sup> Ibid.

drastically as a result of the Green Revolution.<sup>36</sup> From the end of World War II to the present, international agricultural research centers have contributed to the development of modern varieties for crops.<sup>37</sup> Generally among these new varieties, a greater percentage of the plant is edible and they are more responsive to fertilizers, herbicides, and pesticides than their predecessors.<sup>38</sup> These developments have led to large increases in crop yield. The first crop to come out of the Green Revolution was a rice crop, which was bred for small leaves and large rice grains so that the plants devoted more of their energy to producing the grain and less to producing leaf and stem material.<sup>39</sup>

The Green Revolution and the nutrition transition, along with a few additional factors, help explain the shift in cooking skills. Chenhall uses these five factors to explain the shift in cooking skills:

1. increased availability of food commodities (basic/raw and processed);
2. improved and advanced technology for food storage, preparation and cooking; resulting in changes in the level of knowledge and skill required to cook;
3. time and financial demands/ realities related to labor market participation;
4. shifting family priorities and values; and

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<sup>36</sup> Though the Green Revolution *did* increase crop yields in its early years, it is now credited with environmentally destructive practices such as monocropping, excessive chemical pollution, soil degradation, etc. Evenson, R.E. & Gollin, D. 2003, "Assessing the Impact of the Green Revolution, 1960 to 2000," *Science*, vol. 300, no. 5620, pp. 758-759-762.

<sup>37</sup> Evenson, R.E. & Gollin, D. 2003, "Assessing the Impact of the Green Revolution, 1960 to 2000," *Science*, vol. 300, no. 5620, pp. 758-759-762.

<sup>38</sup> Evenson, R.E. & Gollin, D. 2003, "Assessing the Impact of the Green Revolution, 1960 to 2000", *Science*, vol. 300, no. 5620, pp. 758-759-762.

<sup>39</sup> *Ibid.*

5. decreased opportunities for cooking and food preparation skill acquisition both within the home and public education environments.<sup>40</sup>

Number five is of special interest to me because it suggests that decreased food education in the home and school are in part responsible for the shift in cooking skills and knowledge. The decrease in educational opportunities related to food has paralleled the nutrition transition. Due to the increased use of pre-prepared and ready-prepared foods, “cooking is routinized and deskilled” and the ability (and therefore choice) to cook with raw ingredients is removed. Thus, children are not able to observe their parents cook and gain the skills necessary to create meals from scratch. And because children are not able to cook using traditional skills, “routinization” and deskilling are exacerbated.<sup>41</sup> The fact that decreased opportunities for cooking education is a major factor in the shift in cooking skills (number 5 in the above list) suggests the potential for the use of cooking education to increase cooking knowledge and skills.

One comprehensive study of food-related skills conducted in the United Kingdom looked at the cooking-related attitudes of individuals at different skill levels. The skill level and confidence of the participants was characterized by three approaches: confident, basic but fearful, and useless/hopeless.<sup>42</sup> The “confident” cooks expressed confidence in their ability to cook a range of dishes, using a wide

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<sup>40</sup> Chenhall, C. 2010, *Improving Cooking and Food Preparation Skills: A Synthesis of the Evidence to Inform Program and Policy Development*, Government of Canada, Canada.

<sup>41</sup> Chenhall, C. 2010, *Improving Cooking and Food Preparation Skills: A Synthesis of the Evidence to Inform Program and Policy Development*, Government of Canada, Canada.

<sup>42</sup> Stead, M., Caraher, M., Wrieden, W., Longbottom, P., Valentine, K. & Anderson, A. 2004, "Confident, fearful and hopeless cooks: Findings from the development of a food-skills initiative", *British Food Journal*, vol. 106, no. 4, pp. 274-275-287.

range of cooking techniques. Even though they displayed confidence, they generally felt like they needed advice and encouragement to become more adventurous or introduce more variety into their cooking. The “Basic but fearful” cooks generally lacked confidence in their skills and perceived their cooking as basic, in need of improvement, and a “chore.” They also showed concern over the organization and planning of meals and showed reluctance to stray from recipes. The “useless/hopeless” cooks reported a lack of basic cooking skills and generally felt disempowered by the cooking process. Due to their lack of confidence in food-preparation skills, these cooks relied heavily on frozen and pre-prepared foods.<sup>43</sup>

The participants were found to lack skills in three areas specifically: the ability to cook from scratch (or “home cooking”), a perceived inability to cook properly, and difficulties following a recipe. Among the respondents, attempts to cook from scratch that ended in failure, such as overcooking rice, reinforced poor opinions of their own ability as well as encouraging them to buy more convenience and “easy cook” products, such as boil-in-the-bag rice.<sup>44</sup> Even though these convenience items are often more expensive than their unprepared counterparts, many respondents said they relied on them because they knew they would work.<sup>45</sup> Following recipes was a common issue for participants, often because of misunderstanding of measurements and the language used. Words such as “dice”

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<sup>43</sup> Stead, M., Caraher, M., Wrieden, W., Longbottom, P., Valentine, K. & Anderson, A. 2004, "Confident, fearful and hopeless cooks: Findings from the development of a food-skills initiative", *British Food Journal*, vol. 106, no. 4, pp. 274-275-287.

<sup>44</sup> Ibid.

<sup>45</sup> Ibid.

and “sauté” were not commonly understood and prevented participants from effectively following recipes.<sup>46</sup>

This study, which identified the attitudinal barriers that prevent individuals from realizing their full cooking potential and the specific aspects of cooking in which the individuals lack confidence, is significant. Identifying the barriers to cooking and the specific skills that must be improved upon is the first step in developing a program to increase cooking skills in a culture where these skills are not universal and fast food is often the antidote to feelings of hunger.

### **The Complexity of the Food System**

So where has the nutrition transition, cooking skills decline, and deterioration of the food education system left us? It has left us lost and confused, without the knowledge and skills necessary to understand and navigate a new world of food. In the past, people knew about the foods they ate, or could easily learn about them from family or cultural traditions.<sup>47</sup> Now we live in a food environment where we are unable to understand the food that is available to us, and even if we do, we still do not know how to prepare it - and our family and friends do not know much more. With 50,000+ items in our grocery stores and 30 new products full of artificial flavors, sweeteners, fats, and textures added each day, it is no longer possible to understand food by simply looking, nor is it possible to determine its effects on our bodies simply through stories and attitudes passed

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<sup>46</sup> Confident, fearful and hopeless cooks: Findings from the development of a food-skills initiative", *British Food Journal*, vol. 106, no. 4, pp. 274-275-287.

<sup>47</sup> Contento, I.R. 2008, "Nutrition education: linking research, theory, and practice", *Asia Pacific Journal of Clinical Nutrition*, vol. 17, no. 1, pp. 176-177-179.

down through generations.<sup>48</sup> This is a dangerous world indeed. It is time to learn about food through other means.

## **The Implications of the Decline in Cooking Skills**

Several researchers have written about the dangers of “deskilling” or decline in cooking skills<sup>49</sup>. They argue that restructuring of food systems<sup>50</sup> and the agri-food industry has caused a growing gap between consumers and the sites and processes of food production.<sup>51</sup> In other words, people have become less aware of where their food comes from and how it is produced. This gap in awareness, coupled with the decline in food preparation skills and an increase in the availability of “industrially transformed” food, has left consumers without the knowledge necessary to make “informed food decisions from the perspectives of quality, health, environmental sustainability, and local economic development.”<sup>52</sup> So it seems that by better understanding our relationship with food, we can begin to understand how much it shapes our daily lives.

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<sup>48</sup> Contento, I.R. 2008, "Nutrition education: linking research, theory, and practice", *Asia Pacific Journal of Clinical Nutrition*, vol. 17, no. 1, pp. 176-177-179.

<sup>49</sup> Chenhall, C. 2010, *Improving Cooking and Food Preparation Skills: A Synthesis of the Evidence to Inform Program and Policy Development*, Government of Canada, Canada.

<sup>50</sup> The term “food system” refers to all processes and infrastructure involved in feeding a population, including growing, harvesting, processing, packaging, transporting, marketing, consumption, and disposal. The system includes the inputs required (including human labor) and outputs generated at each step in the process. Food systems are shaped by social, political, economic, and environmental contexts. The two dominant food systems are *conventional* and *alternative* (*Discovering the Food System, A Primer on Community Food Systems: Linking Food, Nutrition, and Agriculture*. 2012, 14 Nov 2012-last update [Homepage of Cornell], [Online]. Available:<http://www.discoverfoodsyst.cornell.edu/primer.html> [2012, 14 Nov 2012].).

<sup>51</sup> Contento 2008

<sup>52</sup> Ibid.

I will begin with a discussion of the effects of the shift in cooking skills on human health. Though the majority of current research focuses on the benefits of nutrition and cooking education in terms of human health (to prevent diet-related diseases), I believe that a cooking education has further-reaching benefits that surpass physical health. My belief is supported by the significance of food-related decisions and behaviors. Because food education affects our food-related beliefs and behaviors and these behaviors connect us to things that exist outside of our individual bodies, food education is directly tied to our communities, politics, and the environment. After an explanation of the effects of the cooking skills decline on human health, I will describe the implications it has for culture/society, politics/economics, and the environment.

### **Food and Human Health**

Now that we have outlined the decline in cooking skills, we must discuss why this decline matters. The most obvious place to start is human health, because our health is so closely connected to the food we eat. The shifts in our diets are associated with an increased in obesity and diet-related diseases.<sup>53</sup> However, increased physical health is one of the most obvious and well-published benefits of a successful cooking education.

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<sup>53</sup> Contento, I.R. 2008, "Nutrition education: linking research, theory, and practice", *Asia Pacific Journal of Clinical Nutrition*, vol. 17, no. 1, pp. 176-177-179.

## **Eating Out**

As I mentioned above, our country is in the middle of an “eating out revolution.” As people lose their cooking skills, they become more dependent on both prepared foods and food outside of the home, in restaurants and fast food establishments. Unfortunately, food consumed outside the home is less healthy than meals prepared at home; these foods contain higher levels of fat (including trans fat) and cholesterol, more fried food and sodas, and lower levels of fruits and vegetables. They also contain lower levels of nutrients including fiber, calcium, folate, iron, and vitamins B6, B12, C, and E.<sup>54</sup> This phenomenon can be explained in part by the fact that concern for nutrition among adults is significantly lower when they are eating away from home than when they cook at home.

The research shows a strong correlation between eating out, cooking skills, and physical health.<sup>55</sup> Research has shown that individuals who eat out frequently have the lowest levels of food knowledge and preparation skills.<sup>56</sup> In general, the better an individual is at cooking, the less they eat out. It follows that healthier eating habits are generally observed at home.<sup>57</sup>

## **Obesity and Diet-Related Diseases**

It is obvious that our country is in the midst of an enormous health crisis. We are plagued with extraordinarily high levels of obesity and diet-related chronic

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<sup>54</sup> Soliah, L., Walter, J. & Deeanna, A. 2006, "Quantifying the impact of food preparation skills among college women." *College Student Journal*, vol. 40, no. 4.

<sup>55</sup> Ibid.

<sup>56</sup> Ibid.

<sup>57</sup> Ibid.



diseases, such as heart disease and diabetes. Current eating behaviors are associated with four of the ten leading causes of death in developed countries: coronary heart disease, several types of cancer, stroke, and type 2 diabetes.<sup>58</sup> Diet is also related to osteoporosis, a major cause of bone fractures among the elderly.<sup>59</sup> Obesity is on the rise. Currently, 35.7% of adults and 16.9% of children in the U.S. are obese,<sup>60</sup> up from 13% of adults 50 years ago.<sup>61</sup> In addition, the percentage of Americans who are morbidly obese has jumped from 0.9 to 6%.<sup>62</sup>

The increase in obesity and diet-related diseases has mirrored the nutrition transition in the United States and abroad. Diet-related diseases were once reserved for developed countries, while developing countries were plagued with low food production and malnutrition. However, the nutrition transition has become a worldwide phenomenon. Though developing countries still struggle with malnourishment, obesity and other diet-related diseases have become a real problem as well, as certain populations within these countries have adopted the eating patterns and diseases associated with the dietary shifts that were first observed in developed countries.<sup>63</sup> Within Asian and Latin America countries

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<sup>58</sup> Contento, I.R. 2008, "Nutrition education: linking research, theory, and practice", *Asia Pacific Journal of Clinical Nutrition*, vol. 17, no. 1, pp. 176-177-179.

<sup>59</sup> Ibid.

<sup>60</sup> *Overweight and Obesity*. 2012, 12 Aug 2012-last update [Homepage of Centers for Disease Control and Prevention], [Online].

Available: <http://www.cdc.gov/obesity/data/adult.html> [2012, 13 Nov 2012].

<sup>61</sup> Begly, S. 2012, 1 May 2012-last update, *The Costs of Obesity* [Homepage of Huffington Post], [Online]. Available: [http://www.huffingtonpost.com/2012/04/30/obesity-costs-dollars-cents\\_n\\_1463763.html](http://www.huffingtonpost.com/2012/04/30/obesity-costs-dollars-cents_n_1463763.html) [2012, 13 Nov 2012].

<sup>62</sup> Ibid.

<sup>63</sup> Popkin, B.M. 2001, "The Nutrition Transition and Obesity in the Developing World", *The Journal of Nutrition*, vol. 131, no. 3, pp. 8715-8716-8735.

especially, there are a large percentage of people who are simultaneously overweight and malnourished.<sup>64</sup>

### **Financial Burden on the Healthcare System**

The rising levels of obesity and diet-related diseases are extremely costly for the United States. Recent estimates suggest that the medical costs associated with obesity are currently \$190 billion annually<sup>65</sup> and the personal costs for individuals who are overweight are \$1,850 higher than those of normal weight and \$5,530 higher for those who are morbidly obese.<sup>66</sup> In comparison, smokers' medical costs are only \$1,274 higher than nonsmokers.<sup>67</sup> Spending on obesity and its associated medical issues accounted for 8.5% of Medicare spending, 11.8% of Medicaid spending, and 12.9% of private-care spending in 2006.<sup>68</sup> There are many additional economic costs associated with obesity, such as \$5 billion in additional jet fuel needed to fly heavier Americans (compared to 1960).<sup>69</sup>

### **Cooking up Health**

How can cooking education address diet-related health problems? It has been shown that lifelong healthy eating habits help prevent health problems later in

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<sup>64</sup> Ibid.

<sup>65</sup> Begly, S. 2012, 1 May 2012-last update, *The Costs of Obesity* [Homepage of Huffington Post], [Online]. Available: [http://www.huffingtonpost.com/2012/04/30/obesity-costs-dollars-cents\\_n\\_1463763.html](http://www.huffingtonpost.com/2012/04/30/obesity-costs-dollars-cents_n_1463763.html) [2012, 13 Nov 2012].

<sup>66</sup> Ibid.

<sup>67</sup> Ibid.

<sup>68</sup> *Overweight and Obesity*. 2012, 12 Aug 2012-last update [Homepage of Centers for Disease Control and Prevention], [Online]. Available: <http://www.cdc.gov/obesity/data/adult.html> [2012, 13 Nov 2012].

<sup>69</sup> Begly 2012

life, including the three leading causes of death: heart disease, cancer, and stroke.<sup>70</sup> The earlier unhealthy eating behaviors can be recognized and changed, the better.

Cooking skills intervention programs have become recognized as a successful method for preventing obesity and other diet-related health issues. In a 2009 study, researchers found that the participants who reported frequent food preparation also reported less fast-food consumption and were more likely to consume healthy levels of fat, calcium, fruit, vegetables, and whole grains.<sup>71</sup> The researchers suggest that cooking skills interventions among young adults that teach skills for preparing “quick and healthful meals,” are an effective method of improving the diets of young adults.<sup>72</sup>

A program called LA Sprouts offers a 12-week, afterschool gardening, nutrition, and cooking program for fourth and fifth grade students in Los Angeles. A recent study assessed the success of the program in meeting its goals of obesity reduction<sup>73</sup> and increasing healthy eating behaviors.<sup>74</sup> At the end of 12 consecutive weeks of classes, the students had increased their dietary fiber intake by an average of 22%, decreased diastolic blood pressure, decreased BMI,<sup>75</sup> and gained less weight

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<sup>70</sup> Briggs, S.M., Beall, D.L. & American Dietetic Association, Society for Nutrition Education, America School Food Service Association 2003, "Position of the American Dietetic Association, Society for Nutrition Education, and American School Food Service Association - Nutrition services: an essential component of comprehensive school health programs", *Journal of the American Dietetic Association*, vol. 103, no. 4, pp. 505-506-514.

<sup>71</sup> Larson, N.I. & Perry, C.L. 2006, "Food preparation by young adults is associated with better diet quality", *Journal of the American Dietetic Association*, vol. 106, no. 12, pp. 2001-2002-2007.

<sup>72</sup> Ibid.

<sup>73</sup> 59% of the children were overweight prior to the study.

<sup>74</sup> Davis, J.N., Ventura, E.E., Cook, L.T., Gyllenhammer, L.E. & Gatto, N.M. 2001, "LA Sprouts: a gardening, nutrition, and cooking intervention for Latino youth improves diet and reduces obesity." *Journal of the American Dietetic Association*, vol. 111, no. 8, pp. 1224-1225-1230.

<sup>75</sup> Body Mass Index uses height and weight to provide a reliable indicator for body fatness.

than those in the control group.<sup>76</sup> This program and programs like it support the idea that nutrition intervention programs can improve diet and health in children and adults.

### **Dietary Guidelines**

One of the goals of any successful cooking education should be to improve human health by helping the participants adopt healthy eating habits, which are often defined by national dietary guidelines. This can be a challenge, considering that in many studies, interest in learning more about “healthy eating” is low among participants.<sup>77</sup> Individuals are often motivated by other factors, such as the desire to please their family, cook on a budget, and use everyday ingredients already in their cupboards. The “Cookwell” program,<sup>78</sup> developed by a team of researchers in the United Kingdom, has come up with a strategy to address these issues within a cooking-skills intervention course. National health agencies in the United Kingdom promote increased consumption of pasta, rice, green vegetables, and oily fish.<sup>79</sup> “Cookwell’s” developers believe that the best way to encourage consumption of

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<sup>76</sup> Davis, J.N., Ventura, E.E., Cook, L.T., Gyllenhammer, L.E. & Gatto, N.M. 2001, "LA Sprouts: a gardening, nutrition, and cooking intervention for Latino youth improves diet and reduces obesity." *Journal of the American Dietetic Association*, vol. 111, no. 8, pp. 1224-1225-1230.

<sup>77</sup> Stead, M., Caraher, M., Wrieden, W., Longbottom, P., Valentine, K. & Anderson, A. 2004, "Confident, fearful and hopeless cooks: Findings from the development of a food-skills initiative", *British Food Journal*, vol. 106, no. 4, pp. 274-275-287.

<sup>78</sup> Wrieden, W.L., Anderson, A.S., Longbottom, P.J., Valentine, K., Stead, M., Caraher, M., Lang, T., Gray, B. & Dowler, E. 2007, "The impact of a community-based food skills intervention on cooking confidence, food preparation methods and dietary choices - an exploratory trial", *Public health nutrition*, vol. 10, no. 2, pp. 203-211.

<sup>79</sup> Ibid.

these foods is to teach participants to incorporate them into their everyday lives.<sup>80</sup> Advice on budget and healthy cooking is introduced “naturalistically,”<sup>81</sup> as opposed to a topic in its own right, in classes. For example, in the lesson that focuses on preparing spaghetti bolognese, the participants are encouraged to talk about the different kinds of meat they could buy and how to reduce fat content by using different cuts of meat, draining fat from the cooked meat, and incorporating vegetables into the meat sauce.

### **Food and Society/Culture**

Many socio-cultural factors are determinants of food choice. “Cooking appears to be a microcosm of wider social and cultural relations.”<sup>82</sup> The practice of cooking is reflective and deterministic of contemporary social relations. So, what role does gender and socio-economic status play in determining food-related behavior? How does food affect individuals, families, and communities? How do communities organize around food?

### **Food and Women**

Cooking culture is notably gendered. Cooking for the family is a domestic role traditionally practiced by women. Women and mothers currently play a central role

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<sup>80</sup> Wrieden, W.L., Anderson, A.S., Longbottom, P.J., Valentine, K., Stead, M., Caraher, M., Lang, T., Gray, B. & Dowler, E. 2007, "The impact of a community-based food skills intervention on cooking confidence, food preparation methods and dietary choices - an exploratory trial", *Public health nutrition*, vol. 10, no. 2, pp. 203-211.

<sup>81</sup> Ibid.

<sup>82</sup> Lang, T., Caraher, M., Dixon, P. & Carr-Hill, R. 1999, *Cooking Skills and Health*, Health Education Authority, London.

in determining what food is purchased, cooked, and consumed.<sup>83</sup> In a 1999 study of cooking culture in the United Kingdom, researchers found that 68% of women cooked daily, compared to only 18% of men.<sup>84</sup> Decades of research have suggested that women must navigate the complex process of “juggling” cost, cooking skills, taste, and availability of food daily.<sup>85</sup> Women also show more confidence in their cooking abilities (93% of women compared with 77% of men).<sup>86</sup>

The gender divide becomes even more apparent when specific foods or cooking techniques are considered. For example, when asked about their abilities to cook fresh green vegetables, 95% of women felt confident in their abilities, while only 78% of men felt that way.<sup>87</sup> When asked the same question about pasta, 81% of women displayed confidence, while only 59% of males felt the same way.<sup>88</sup> This gender gap, especially among specific foods, is significant because although these foods are recommended as part of a healthy diet, large sections of the population lack the skills necessary to prepare them. These people “possess the knowledge of ‘what’ but not the knowledge of ‘how’ to” prepare these foods.<sup>89</sup>

Despite contemporary discourses of gender equality, women continue to do the majority of food-related work in the domestic environment. This inequitable distribution of labor is often rationalized through implicit gendered assumptions,

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<sup>83</sup> Cairns, K., Johnston, J. & Baumann, S. 2010, "Caring about Food: Doing Gender in the Foodie Kitchen", *Gender and Society*, vol. 24, no. 5, pp. 591-592-615.

<sup>84</sup> Lang 1999

<sup>85</sup> Ibid.

<sup>86</sup> Ibid.

<sup>87</sup> Lang, T., Caraher, M., Dixon, P. & Carr-Hill, R. 1999, *Cooking Skills and Health*, Health Education Authority, London.

<sup>88</sup> Ibid.

<sup>89</sup> Ibid.

such as a woman's natural inclination to maintain the health of her family.<sup>90</sup> Ideals of femininity still exist that emphasize the maternal practice of "feeding children and socializing them into culinary competence."<sup>91</sup> As it is, women as the primary teachers of food preparation skills and women's memories of their mothers serve as a reference point for their own cooking practices.<sup>92</sup>

### **Food and Men**

Though women control the home kitchen, men rule the *restaurant*. Men's relationship to food and cooking exists as either "helping out" in the kitchen, or in the occupation of a professional chef.<sup>93</sup> Male chefs find their place in the public sphere of high-status professional cooking, a world in which women have a limited presence, despite the inroads they have made into other male-dominated fields. Profession kitchens are "macho" environments, rife with sexual jokes and heavy lifting, and are generally not friendly to women.<sup>94</sup>

Men's cooking practices are not tied to the traditional connection between food, care, and femininity, but are more influenced by masculinity.<sup>95</sup> There is a strong association, for example, between masculinity and meat.<sup>96</sup> A study of ten-year-old American children found that for girls food is a symbol for friendship and

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<sup>90</sup> Cairns, K., Johnston, J. & Baumann, S. 2010, "Caring about Food: Doing Gender in the Foodie Kitchen", *Gender and Society*, vol. 24, no. 5, pp. 591-592-615.

<sup>91</sup> Ibid.

<sup>92</sup> Ibid.

<sup>93</sup> Harris, D. & Giuffre, P. 18 Jul 2011, *Guest Post: A sociological study of why there are so few women chefs in restaurant kitchens*, The Feminist Kitchen.

<sup>94</sup> Ibid.

<sup>95</sup> Ibid.

<sup>96</sup> Ibid.

connection, but for boys food is a means to express dominance and competition.<sup>97</sup> This could help explain the overwhelming numbers of male chefs who are often recognized as “talented and competent craftsman”<sup>98</sup> (while their wives are considered homemakers and caregivers).

A comparison of restaurant reviews and chef profiles in magazines and newspapers highlights the different between the way men and women chefs are portrayed. Men are credited for their intellectual and technical work and are often described as “rule breakers.”<sup>99</sup> Women, on the other hand, are more likely to be credited for being “hard workers” than for their skills and they are praised for following food traditions.<sup>100</sup> It is clear that women and men both struggle with stereotypes that gender their relationships to food and cooking.

### **Cooking and Gender**

Whereas cooking has been historically gendered, with the responsibility of cooking in the home falling on women and the production of restaurant food on men,<sup>101</sup> the current food education movement emphasizes equal opportunities for cooking education among genders. The Nutrition Taskforce in the United Kingdom

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<sup>97</sup> Van Esterik, P. 2000, "Gender and Sustainable Food Systems: A Feminist Critique" in *For Hunger Proof Cities: Sustainable Urban Food Systems*, eds. M. Koc, R. MacRae, J. Welsh & L.J.A. Mougeot, International Development Research Centre, Ottawa, pp. 157.

<sup>98</sup> Cairns, K., Johnston, J. & Baumann, S. 2010, "Caring about Food: Doing Gender in the Foodie Kitchen", *Gender and Society*, vol. 24, no. 5, pp. 591-592-615.

<sup>99</sup> Harris, D. & Giuffre, P. 18 Jul 2011, *Guest Post: A sociological study of why there are so few women chefs in restaurant kitchens*, The Feminist Kitchen.

<sup>100</sup> Ibid.

<sup>101</sup> Van Esterik, P. 2000, "Gender and Sustainable Food Systems: A Feminist Critique" in *For Hunger Proof Cities: Sustainable Urban Food Systems*, eds. M. Koc, R. MacRae, J. Welsh & L.J.A. Mougeot, International Development Research Centre, Ottawa, pp. 157.



has called for more skills opportunities for “all young people, not just females” in school and the community.<sup>102</sup> The gendering of certain food practices and even specific foods that I mentioned earlier will continue in the absence of a gender-neutral and equal education.

### **Food and Socioeconomic Status**

In addition to gender, food skills and behaviors vary greatly depending on socioeconomic status. The different food behaviors observed among different socioeconomic groups has resulted in varying levels of health between different social groups. The lowest earning socioeconomic groups experience the poorest health, which is likely determined greatly by food choice.<sup>103</sup> The dietary practices of low socioeconomic groups are relatively less consistent with dietary recommendations than those of higher socioeconomic groups.<sup>104</sup> The non-adherence to dietary recommendations may explain the higher levels of morbidity and mortality among these groups.

The differences among food behaviors in different socioeconomic groups are in part explained by differences in cooking skills. In several studies, respondents with lower education and household income had lower cooking confidence than those with higher socioeconomic standing<sup>105</sup>. Lower cooking confidence was

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<sup>102</sup> Lang, T., Caraher, M., Dixon, P. & Carr-Hill, R. 1999, *Cooking Skills and Health*, Health Education Authority, London.

<sup>103</sup> Winkler, E.A. 2008, *Food accessibility, affordability, cooking skills and socioeconomic differences in fruit and vegetable purchasing in Brisbane, Australia*, Queensland University.

<sup>104</sup> Ibid.

<sup>105</sup> Ibid.

associated with lower household fruit and vegetable purchases and consumption.<sup>106</sup> Thus, it is clear the socioeconomic status is deterministic in food-related behaviors. The connection implies that removing barriers, for instance, the lack of cooking skills, by improving cooking skill-related education, could help address these diet-related divides.

Helen Zoe Veit, of Michigan State University believes that cooking skills learned in a cooking class, such as cooking balanced and budgeted meals from scratch, could save thousands of dollars over a lifetime.<sup>107</sup> In the past, these skills were passed from mother to daughter, but with mothers no longer at home to teach their children, these skills are being lost. The lack of food preparation skills among the public has provided the food industry with the opportunity to profit off premade meals. Veit believes that our population could benefit economically from relearning these basic life skills.

Along with food preparation skills, another significant barrier to healthy food consumption among lower socioeconomic groups is the price and availability of food itself. There is an observed need for increased consumption of fruits and vegetables, fiber, and whole grains and a decreased consumption of fat among most populations. Individuals of higher socioeconomic status have better economic and spacial access to these food items. Not only can they afford to buy food items containing fresh fruits and vegetables, but also these items are also more readily available in nearby retail locations. Individuals of lower socio-economic status often

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<sup>106</sup> Winkler, E.A. 2008, *Food accessibility, affordability, cooking skills and socioeconomic differences in fruit and vegetable purchasing in Brisbane, Australia*, Queensland University.

<sup>107</sup> Conan, N. 2011, *Op-Ed: For Healthy Kids, Bring Back Home Ec*, NPR.

do not have these luxuries. Even if they had the skills necessary to prepare fresh fruits and vegetables, it is not necessarily the case that they would have the money required to purchase these items, or that these items would even be available at the food retailers they frequent.<sup>108</sup>

While food-skills education may address one barrier to healthy food consumption, these other structural barriers must be targeted by other means. Even though addressing only the education barrier is unlikely to radically alter dietary behavior, food skills interventions are considered a useful starting point for initiating dietary change, as they may lead to the development of other methods of creating change such as enhancing community capacity to set up community co-ops or food delivery programs.<sup>109</sup> Later on, I will address this significant power that food has to transform community.

### **Food and Labor**

Often ignored in discussion about food are the *people* who work to ensure that we are fed. These include everyone involved in food-related labor, from production to processing to distribution. The people working to feed us make up 16% of the U.S. workforce, a much greater percentage than any other workforce

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<sup>108</sup> Stead, M., Caraher, M., Wrieden, W., Longbottom, P., Valentine, K. & Anderson, A. 2004, "Confident, fearful and hopeless cooks: Findings from the development of a food-skills initiative", *British Food Journal*, vol. 106, no. 4, pp. 274-275-287.

<sup>109</sup> Stead, M., Caraher, M., Wrieden, W., Longbottom, P., Valentine, K. & Anderson, A. 2004, "Confident, fearful and hopeless cooks: Findings from the development of a food-skills initiative", *British Food Journal*, vol. 106, no. 4, pp. 274-275-287.

sector.<sup>110</sup> Currently, the U.S. food system accounts for over 13% of the U.S. Gross Domestic Product.<sup>111</sup>

Though food workers make up such a sizeable percentage of the U.S. workforce, they are often overlooked and neglected. With some exceptions, food systems jobs provide low wages, with little access to health benefits or advancement opportunities.<sup>112</sup> Currently, only 13.5% of food workers earn a livable wage.<sup>113</sup> Ironically, higher levels of food insecurity exist among food workers than the rest of the U.S. workforce. Food system workers use food stamps at twice the rate of the rest of the working population.<sup>114</sup>

The terrible working and living conditions of food workers seems to point to huge flaws in our country's food system. The sustainability and prosperity of our food system rests on the health and prosperity of our food workers, yet as a country we appear unaware and unconcerned with the current state of affairs. I see the potential for food education to assign names and faces to the invisible hands that feed us.

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<sup>110</sup> Even healthcare, which represents the second largest portion of the workforce, is only 13%. (Jayaraman, S. 2012, *The Hands that Feed Us: Challenges and Opportunities for Workers Along the Food Chain*, The Food Chain Workers Alliance, Los Angeles.

<sup>111</sup> Ibid.

<sup>112</sup> Ibid.

<sup>113</sup> A livable wage refers to the minimum income necessary for a worker to meet basic living needs including shelter, clothing, and nutrition (Jayaraman 2012).

<sup>114</sup> Jayaraman, S. 2012, *The Hands that Feed Us: Challenges and Opportunities for Workers Along the Food Chain*, The Food Chain Workers Alliance, Los Angeles.

## Loss of Community

Food is often culturally determined and so food choice is generally reflective of culture. Food is used to express tradition, celebration, hospitality, social bonds, etc. Mealtimes are an opportunity for communities to come together and thus play a strong role in strengthening social bonds. Yet as the food system has changed in the United States, so has our organization around food. This cultural shift is made apparent in data that tracks spending on food from the 1950s to 1990s. In the 1950s, 50% of total spending of food ended up in the rural communities where the food originated. Local farmers received 35% of that total.<sup>115</sup> In 1990 local farmers only received 9%.<sup>116</sup>

We would be mistaken if we believed that our food dollars went straight to the hard working, small-scale farmers. The 91% of money spend on food that does not go to the farmer goes into what economists call “marketing.”<sup>117</sup> “Marketing” refers to the money that goes toward transportation from the farm to a processing plant, the money that goes toward storing the food until it is sold, the payment for the people who sell the food to grocery stores or restaurants, the money that pays for the databases that track shipments, and all the workers, equipment, storage, and refrigeration at the grocery store.<sup>118</sup> Also important to note is that farm workers

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<sup>115</sup> *What are community food systems?* 2012, 15 Nov 1012-last update [Homepage of Slow Movement], [Online]. Available: <http://www.slowmovement.com/cfs.php> [2012, 15 Nov 2012].

<sup>116</sup> Ibid.

<sup>117</sup> McMillan, T. 2012, 8 Aug 2012-last update, *Where does your grocery money go? Mostly not to the farmers.* [Homepage of CNN], [Online]. Available: <http://eatocracy.cnn.com/2012/08/08/where-does-your-grocery-money-go-mostly-not-to-the-farmer/> [2012, 21 Nov 2012].

<sup>118</sup> Ibid.

only receive 1 to 2% of total food sales.<sup>119</sup> Because the food system is dominated by several large food conglomerates, money is transferred away from small communities and into the pockets of these powerful companies.

As a result of this decentralization of food communities, local economies, farmers, and communities have suffered. In the past several decades, large grocery companies have realized that combining food distribution with their food sales is much more efficient than purchasing from a distributor. As a result, supermarkets such as Walmart have consolidated their operations by purchasing food straight from large conventional farms and selling to consumers.<sup>120</sup> This is problematic for a number of reasons. First, Walmart buys their products from conventional farms that employ production methods (monocropping, high levels of pesticide and herbicide application, cheap labor) that are harmful to communities and the environment. Additionally, smaller groceries have not been able to compete with the resulting low prices and have gone out of business. And when these small grocers go out of business, the small and mid-size farmers do as well because they do not produce enough food to sell to the large supermarkets. Small and mid-sized farmers' share in food sales dropped 39% between 1997 and 2007.<sup>121</sup> This trend away from local food communities toward centralization undermines local food systems and the livelihoods of local farmers and other food workers.

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<sup>119</sup> McMillan, T. 2012, 8 Aug 2012-last update, *Where does your grocery money go? Mostly not to the farmers.* [Homepage of CNN], [Online].

Available: <http://eatocracy.cnn.com/2012/08/08/where-does-your-grocery-money-go-mostly-not-to-the-farmer/> [2012, 21 Nov 2012].

<sup>120</sup> Ibid.

<sup>121</sup> Ibid.

## **Building Community**

Cooking classes are currently being used as a model for enhancing community cohesion. Since the United Kingdom's government prioritized cooking education in 2008 with the "License to Cook" initiative, specific research has investigated the effectiveness of different forms of cooking education. Past research has found that intergeneration cooking clubs lead to an increase in respect across generations and so a group of researchers at Leeds Trinity University College hoped to find the same results among different cultures.<sup>122</sup> The researchers began a project called "Cooking Communities." The project piloted a series of intergenerational and multicultural after-school cooking classes, with the aim of promoting cooking skills, healthy eating, and multicultural cohesion.<sup>123</sup> Their plan was based on past research that suggests that when communities understand each other's cultural differences, there is greater mutual respect between the cultures.

During the pilot of the "Cooking Communities" project, students from schools with a predominantly white British heritage were paired with school that had more than twice the national average of ethnic minority students, including students for whom English was not their first language. The students each took ten cooking-skills based classes, each focusing on the preparation of a multicultural recipe (Jewish honey cake, spiced vegetable biryani, Greek lamb skewers and tzatziki).<sup>124</sup> At the

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<sup>122</sup> Gatenby, L.A., Donnelly, J. & Connell, R. 2011, "Cooking Communities: using multicultural after-school cooking clubs to enhance community cohesion", *Nutritional Bulletin*, vol. 36, no. 1, pp. 108-109-112.

<sup>123</sup> Gatenby, L.A., Donnelly, J. & Connell, R. 2011, "Cooking Communities: using multicultural after-school cooking clubs to enhance community cohesion", *Nutritional Bulletin*, vol. 36, no. 1, pp. 108-109-112.

<sup>124</sup> Ibid.

end of each class, the students were given the ingredients used in the recipes and encouraged to make them at home with their families. The results of the study were promising. The students reported an increase in the frequency of home cooking, an increase in the preparation of ethnic dishes at home, increased communication skills, and increased knowledge and understanding of different cultures among the students and their families.<sup>125</sup>

### **Food and Politics/Economics**

In this section, I will explore our understanding of the political importance of food by addressing the following questions: What role do government subsidies play in agriculture? How do the efficiencies of certain production methods compare? How can individuals and families make more economical food purchases?

#### **Commodity Crop Subsidies**

The Federal Farm Bill was first introduced after the depression to help poor farmers. Ever since then, agribusiness lobbyists have slowly overtaken the bill and it now serves nearly the opposite purpose: "it is now largely corporate welfare."<sup>126</sup> Subsidies are distributed based on crop type and volume, so the more a farmer grows of a desirable crop, the more subsidy money they receive through the Farm Bill. From 1995 to 2003, 75% of payments went to the top earning 10% of

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<sup>125</sup> Gatenby, L.A., Donnelly, J. & Connell, R. 2011, "Cooking Communities: using multicultural after-school cooking clubs to enhance community cohesion", *Nutritional Bulletin*, vol. 36, no. 1, pp. 108-109-112.

<sup>126</sup> Kingsolver, B., Camille Kingsolver & Hopp, S.L. *Animal, vegetable, miracle: a year of food life*. New York; Harper Perennial, c2008.



growers.<sup>127</sup> In 1999, over 70% went to farmers for just two commodity crops: corn and soybeans.<sup>128</sup> The government is supporting industrial-scale food production, and crowding small-scale farmers out of the market. The fact is, these subsidies, rather than improved efficiency and productiveness, have allowed large corporations to take over our county's food systems.

### **Production and Efficiency**

Acre for acre, small-scale farming is more economically productive than large-scale conventional farming.<sup>129</sup> According to 1990s USDA records, farms that were smaller than four acres took in a net income of \$1,400 per acre.<sup>130</sup> Profit declines as farm size grows. On the other end of the spectrum, the profit-per-acre for farms above a thousand acres is \$40.<sup>131</sup> Small farms are so much more productive because they use their small land parcels more intensively, they grow diverse selections of products "suitable to local food preferences," and they sell more directly to consumers, thus pulling in higher net earnings.<sup>132</sup>

### **Capital and Consumption**

Helen Zoe Veit, of Michigan State University believes that cooking skills learned in a cooking class, such as cooking balanced and budgeted meals from

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<sup>127</sup> Kingsolver, B., Camille Kingsolver & Hopp, S.L. *Animal, vegetable, miracle: a year of food life*. New York; Harper Perennial, c2008.

<sup>128</sup> Ibid.

<sup>129</sup> Ibid.

<sup>130</sup> Ibid.

<sup>131</sup> Ibid.

<sup>132</sup> Ibid.

scratch, could save thousands of dollars over a lifetime.<sup>133</sup> In the past, these skills were passed from mother to daughter, but with mothers no longer at home to teach their children these skills, they are being lost and instead picked up by companies ready to make a profit. “Home-cooked, whole-ingredient cuisine *will* save money.”<sup>134</sup> For families who have access to fresh ingredients and the skills necessary to use them to prepare meals, they will certainly save money that would otherwise be spent purchasing packaged and pre-prepared food items.

### **The True Price of Conventional**

Consumers often avoid organic and locally produced food products because of their high price tags, relative to conventional products. However, conventional prices do not reflect the huge hidden prices of industrial production. For all of us who pay taxes, our dollars subsidize the petroleum that is used to grow, process, and ship conventional food products to our groceries.<sup>135</sup> In addition, we pay subsidies to these large-scale conventional producers (funded by the Federal Farm Bill).<sup>136</sup> And we must not forget the un-quantified environmental, societal, and health costs that result from conventional industrialized food production. To get a better idea of the true costs of conventional production, let us consider how much we are actually paying. In 2007, \$22 billion worth of agricultural fuel was paid for with taxes, Farm Bill subsidies for corn and wheat added up to \$3 billion, treatment

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<sup>133</sup> Conan, N. 2011, *Op-Ed: For Healthy Kids, Bring Back Home Ec*, NPR.

<sup>134</sup> Kingsolver, B., Camille Kingsolver & Hopp, S.L. *Animal, vegetable, miracle: a year of food life*. New York; Harper Perennial, c2008.

<sup>135</sup> Ibid.

<sup>136</sup> Ibid.

of food-related illnesses costs \$10 billion, agricultural chemical cleanup cost \$17 billion, pesticide use related costs were \$8 billion, and the costs of soil nutrients lost to erosion totaled \$20 billion.<sup>137</sup> This totals \$80 billion, or \$725 per household additional costs for conventional food.<sup>138</sup>

## **Food and the Environment**

The relationship between cooking skills and the environment is more tangential than say cooking skills and human health, solely because the environment is further removed from our bodies. That said, there is an inherent connection between our food systems and the natural environment. Further, there is a causal relationship between our knowledge of cooking and our cooking and food-related behaviors, which are inextricably tied to the state of our environment. In this section, I will explore the environmental importance of food by addressing the following question: How do the recent shifts in food production, consumption, and waste affect our land, waters, and the surrounding environment? I will then address the potential for food-based education to make students more aware of the connection between what they eat and the environment.

## **Food Production and Consumption**

To grow our food, we use environmental resources such as water, energy (coal, oil, alternative), and soil, many of which are non-renewable. Thus, food

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<sup>137</sup> Kingsolver, B., Camille Kingsolver & Hopp, S.L. *Animal, vegetable, miracle: a year of food life*. New York; Harper Perennial, c2008.

<sup>138</sup> Ibid.

production is associated with environmental impacts, the extents of which are determined by the scale and form of production. I have spoken of the nutrition transition, which is characterized by a shift to a diet of higher energy density, total fat, saturated fat, added sodium and sugar, and simple carbohydrates, and decreased levels of fruit and vegetables, whole grains, and legumes. As a result of shifting diets, food production practices have changed drastically in the past several decades.

The environmental impact of food production is determined largely by the type of food system in place. As mentioned above, the two dominant food systems are *conventional*, dominant in developed nations, and *alternative*, which includes local and organic systems.<sup>139</sup> The majority of food grown in the United States is produced using conventional production methods. The conventional food system is centered on the principle of economies of scale,<sup>140</sup> meaning this system is focused on maximizing efficiency in order to increase overall production and decrease consumer costs, at the expense of the environment.

At this point in time, human agriculture, primarily conventional, covers 70% of the world's grasslands, 50% of savannas, and 45% of forests.<sup>141</sup> Conventional food production is associated with very high use of water and fossil energy

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<sup>139</sup> *Discovering the Food System, A Primer on Community Food Systems: Linking Food, Nutrition, and Agriculture*. 2012, 14 Nov 2012-last update [Homepage of Cornell], [Online]. Available: <http://www.discoverfoodsys.cornell.edu/primer.html> [2012, 14 Nov 2012].

<sup>140</sup> Economies of scale is the economic principle which states that increased production of a product will lead to increased efficiency in the production of that product. As the scale of production grows, the production-related costs decrease (*Economies of Scale*. 2012, 14 Nov 2012-last update [Homepage of The Free Dictionary], [Online]. Available: <http://financial-dictionary.thefreedictionary.com/Economies+of+Scale> [2012, 14 Nov 2012]).

<sup>141</sup> Biello, D. 2012, 25 April 2012-last update, *Will Organic Food Feed the World?* [Homepage of Scientific American], [Online]. Available: <http://www.scientificamerican.com/article.cfm?id=organic-farming-yields-and-feeding-the-world-under-climate-change> [2012, 16 Nov 2012].

inputs,<sup>142</sup> soil degradation (low moisture and low nitrogen levels),<sup>143</sup> chemical runoff from pesticides and herbicides,<sup>144</sup> greenhouse gas emissions,<sup>145</sup> deforestation,<sup>146</sup> and extinction of species.<sup>147</sup> These inputs and outputs are much higher than those associated with alternative methods of production.<sup>148</sup>

After raw ingredients for food are produced and before food products are consumed, the raw ingredients must be processed, packaged, transported, stored, distributed, and marketed. These processes, which make food consumption possible for the public within the conventional food system, have huge environmental impacts. This system is widely inefficient, as there are excess inputs, outputs, and food waste at every step of the process.

Researchers have begun to look at the relationship between consumption patterns and environmental degradation. The European Environmental Agency has determined that one third of a household's total environmental impact is related to food or drink.<sup>149</sup> One particular study looks at the environmental impact of

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<sup>142</sup> Pimentel, D., Hepperly, P., Hanson, J., Douds, D. & Seidel, R. 2005, "Environmental, Energetic, and Economic Comparisons of Organic and Conventional Farming Systems", *BioScience*, vol. 63, no. 10, pp. 573-574-582.

<sup>143</sup> Ibid.

<sup>144</sup> Ibid.

<sup>145</sup> Casey, J.W. & Holden, N.M. 2006, "Greenhouse Gas Emissions from Conventional, Agri-Environmental Scheme, and Organic Irish Suckler-Beef Units", *Journal of Environmental Quality*, vol. 35, no. 1, pp. 231-232-239.

<sup>146</sup> Biello 2012

<sup>147</sup> We are now in the "sixth extinction," which refers to the high levels of species extinction due to agriculture-related activities (Biello 2012).

<sup>148</sup> Pimentel 2005

<sup>149</sup> *Household Consumption*. 2012, 27 Aug 2012-last update [Homepage of European Environmental Agency], [Online]. Available: <http://www.eea.europa.eu/themes/households/intro> [2012, 16 Nov 2012].

household purchasing decisions.<sup>150</sup> Households cause indirect and direct environmental impact by purchasing goods in which environmental impact is “embodied.”<sup>151</sup> Six “product groups” were analyzed: food; house;<sup>152</sup> clothing and footwear; hygiene and medical care; development, leisure, and traffic; and other. Of these groups, food purchases had the greatest environmental impact in two of four categories (by a factor of 3 in environmental acidification and a factor of 10 in eutrophication),<sup>153</sup> was a close second in climate change,<sup>154</sup> and a close third in smog formation.<sup>155</sup>

While the total food purchases account for 0.87 CO<sub>2</sub> eq./Euro, certain food items are much more environmentally costly than others. The emissions from butter, cheese, and eggs is 1.86 CO<sub>2</sub> eq./Euro, compared to 0.48 CO<sub>2</sub> eq./Euro from fruit.<sup>156</sup> The eutrophication associated with butter, cheese and eggs is 27.05 PO<sub>4</sub><sup>3-</sup> eq./Euro, compared to 5.31 PO<sub>4</sub><sup>3-</sup> eq./Euro from fruit.<sup>157</sup> The environmental impact

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<sup>150</sup> Kerkhof, A.C., Nonhebel, S. & Moll, H.C. 2009, "Relating the environmental impact of consumption to household expenditures: An input-output analysis," *Ecological Economics*, vol. 68, no. 4, pp. 1160-1161-1170.

<sup>151</sup> These are products whose production and use are associated with environmental degradation. The degradation is either “direct” (burning gas to cook a meal) or “indirect” (buying a shirt that was made in a factory run on fossil fuels). In this particular study, CO<sub>2</sub> emissions, acidification, eutrophication, and smog formation were used to quantify environmental degradation.

<sup>152</sup> This category includes goods such as gas and electricity that are used to heat and cool a household, cook food, heat water, etc.

<sup>153</sup> Acidification was measured in g SO<sub>2</sub> eq./Euro and Eutrophication in g PO<sub>4</sub><sup>3-</sup> eq./Euro.

<sup>154</sup> Climate change was measured in kg CO<sub>2</sub> eq./Euro

<sup>155</sup> Smog formation was measured in g C<sub>2</sub>H<sub>4</sub> eq./Euro

<sup>156</sup> Kerkhof 2009

<sup>157</sup> Ibid.

associated with other dairy products and meat is similarly high.<sup>158</sup> In general, non-animal, plant-based food items have the least environmental impact.

As a nation, we put “nearly as much fossil fuel into our refrigerators as our cars.”<sup>159</sup> Americans consume an average of 400 gallons of oil a year per citizen for agriculture, which account for 17% of our total energy use.<sup>160</sup> Though all the equipment used in modern farming (tractors, combines, harvesters, irrigation, sprayers, tillers, balers, etc.) runs on petroleum, farm *inputs* use the largest share of petroleum. The fertilizers, pesticides, and herbicides we use require large amounts of oil and natural gas to manufacture.

But, the high greenhouse gas (GHG) emissions associated with food do not take place on the farm. Food production only takes one fifth of the total oil associated with food production. The rest is consumed in transportation. Food in the U.S. travels an average of 1,500 miles before ending up on a plate.<sup>161</sup> With all the oil used to grow, process, and transport food, we end up burning far more calories producing food than we gain from eating it- 10 to 100 times more, in fact.<sup>162</sup> Transporting one calorie of fresh fruit from California to New York requires 87 calories of fuel.<sup>163</sup> This wildly inefficient food paradigm we are living in makes very little sense economically or environmentally.

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<sup>158</sup> The emissions associated with fish, meat, and milk and dairy products are 1.35 CO<sub>2</sub> eq./Euro, 1.05 CO<sub>2</sub> eq./Euro, and 1.77 CO<sub>2</sub> eq./Euro, respectively. Ibid.

<sup>159</sup> Kingsolver, B., Camille Kingsolver & Hopp, S.L. *Animal, vegetable, miracle: a year of food life*. New York; Harper Perennial, c2008.

<sup>160</sup> Ibid.

<sup>161</sup> Ibid.

<sup>162</sup> Ibid.

<sup>163</sup> Ibid.

Due to the environmental costs of conventional farming, alternative farming methods are gaining in popularity. Farming techniques, such as organic, are meant to minimize environmental and human health impact by abstaining from synthetic fertilizers, chemical pesticides, and hormones or antibiotic treatments for livestock.<sup>164</sup> However, conventional farming is often seen as the only way to feed the world, in light of the growing world population and need for high food production. Ironically, the world population has swelled to its size due to industrial technologies, including synthetic nitrogen fertilizer.<sup>165</sup> We are now at the point where we must determine how to feed all these people with the least possible environmental impact.

Some argue that to feed our ever-growing population, we must intensify conventional methods of farming to increase yields, in a second Green Revolution.<sup>166</sup> This would require increased fertilizer and pesticide application and further development of genetically modified crops. Others argue that world hunger is largely an issue of food *distribution*. Enough food is produced to provide more than 3,000 calories daily to everyone on the planet.<sup>167</sup> Clearly, we should be focusing as much, if not more, on equitable distribution (and food waste) than food production.

Though the solution to environmentally-friendly, yet adequate food production may not be obvious, it is clear that we must change the way we produce

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<sup>164</sup> Biello, D. 2012, 25 April 2012-last update, *Will Organic Food Feed the World?* [Homepage of Scientific American], [Online].

Available: <http://www.scientificamerican.com/article.cfm?id=organic-farming-yields-and-feeding-the-world-under-climate-change> [2012, 16 Nov 2012].

<sup>165</sup> Ibid.

<sup>166</sup> Ibid.

<sup>167</sup> Ibid.



and consume our food because our current agricultural practices threaten the environment and degrade the resources on which they depend.<sup>168</sup>

### **Food Waste**

The issue of food waste is often ignored because within our conventional food system, value is placed on sufficient *production*. In neoclassical economics, on which the economies of scale of conventional food production is based, little attention is paid to waste; waste management becomes an afterthought to the important question of production scale and efficiency. Yet the issue of food waste is important, as food losses represent a waste of resources used in food production such as land, water, energy, and agricultural inputs, as well as unnecessary pollution and emissions that result from excess food production.<sup>169</sup> Food waste also represents economic inefficiencies and monetary loss.

The reality of the matter is that huge amounts of food are wasted during the food production process, whether from food spoilage during harvest or storage after purchase. According to the Grocery Manufacturers Association, 215 meals per person go to waste annually in the United States.<sup>170</sup> These wasted meals make up

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<sup>168</sup> Biello, D. 2012, 25 April 2012-last update, *Will Organic Food Feed the World?* [Homepage of Scientific American], [Online]. Available: <http://www.scientificamerican.com/article.cfm?id=organic-farming-yields-and-feeding-the-world-under-climate-change> [2012, 16 Nov 2012].

<sup>168</sup> Ibid.

<sup>169</sup> Gustavsson, J. 2011, *Global Food Losses and Food Waste*, The Swedish Institute for Food and Biotechnology, Sweden.

<sup>170</sup> Biello 2012

the 40% of food we produce that is wasted each year.<sup>171</sup> Not only does this cost our country \$100 billion a year<sup>172</sup> and points to major issues in our food distribution systems, but it also pollutes our environment.

Food-related waste exists in many forms and at many points in the food cycle. Some of the most environmentally damaging forms of waste come in an unexpected form: greenhouse gas and other chemical emissions from crops and animals that are raised for human consumption. Animal waste from farms is linked to problems such as environmental acidification and eutrophication, caused by the NH<sub>3</sub>, nitrogen, and phosphorus contained in animal fecal matter.<sup>173</sup> Crops such as potatoes release significant levels of nitrogen and phosphorus as well, contributing to eutrophication.

The overall lack of public awareness and concern about food waste can be explained by several factors. A recent study written by the Food and Agriculture Organization of the United Nations describes the sources food waste at each point in the food production/consumption cycle and prescribes solutions. One cause of food waste is that “[food] abundance and consumer attitudes lead to high food waste in industrialized countries.<sup>174</sup> The sheer abundance of food in our country is exemplified by buffet restaurants, retail stores that offer “buy one get one free” bargains, and food manufacturers that produce oversized pre-prepared meals. Such

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<sup>171</sup> Bloom, J. 2011, 2011 Nov 8-last update, *Wasted Food: About*. Available: <http://www.wastedfood.com/about/> [2012, 16 Nov 2012].

<sup>172</sup> Ibid.

<sup>173</sup> Kerkhof, A.C., Nonhebel, S. & Moll, H.C. 2009, "Relating the environmental impact of consumption to household expenditures: An input-output analysis," *Ecological Economics*, vol. 68, no. 4, pp. 1160-1161-1170.

<sup>174</sup> Gustavsson, J. 2011, *Global Food Losses and Food Waste*, The Swedish Institute for Food and Biotechnology, Sweden.

excess has created a generation of consumers who can afford to waste. The researchers propose a solution based on public awareness in the form of school education about food waste and its consequences.<sup>175</sup> Public education about food waste may help change the attitudes that cause it in the first place.

### **Environmental Knowledge and Food Choice**

Environmentally-related food knowledge plays a role in our food-related decisions and behaviors. As discussed earlier, there is a general lack of knowledge about contemporary food production practices among the American public. Presumably, if food knowledge increases, food-related behaviors will change. Recent studies support this notion, suggesting a link between environmental knowledge of food production and eating behaviors<sup>176</sup>.

A 2001 study at Columbia University looked at the relationship between adolescents' perspectives about the environmental impacts of food production and their own food choices.<sup>177</sup> In this study, nearly 700 high school seniors were surveyed in order to identify factors that affected their food consumption and purchasing behaviors. The researchers found that the adolescents did not have consistent knowledge or attitudes about the environmental impact of food production, yet there was a correlation between their food-related beliefs and food choices. For example, students who felt a responsibility to buy organic foods and

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<sup>175</sup> Gustavsson, J. 2011, *Global Food Losses and Food Waste*, The Swedish Institute for Food and Biotechnology, Sweden.

<sup>176</sup> Bissonnette, M.M. & Contento, I.R. 2001, "Adolescents' Perspectives and Food Choice Behaviors in Terms of the Environmental Impacts of Food Production Practices: Application of a Psychosocial Model", *Journal of Nutrition Education*, vol. 33, no. 2, pp. 72-73-82.

<sup>177</sup> Ibid.

self-identified with local food were more likely to purchase and consume local and organic food products.<sup>178</sup> The researchers believe it is likely that a better understanding of the environmental impacts of food production might have affected the students' consumption behaviors to an even greater degree.<sup>179</sup>

Certainly information such as environmental impact data for certain food items<sup>180</sup> could be used to help individuals better understand food production processes. This data, however, is dense and meaningless to anyone without a basic knowledge of biology, chemistry, and food life cycles. That is where a food educator comes in. The role of a food educator is to make food-related information personally applicable and accessible to the public.<sup>181</sup> Food educators can share this data with their students and encourage eating behaviors that are more environmentally friendly. For example, a lesson could include a presentation on the environmental impact of various food items and a cooking component in which the students prepare a dish that traditionally leads to environmental damage with more environmentally friendly food substitutions.<sup>182</sup> Because food production and consumption is so environmentally intensive, simple changes to our eating habits

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<sup>178</sup> Bissonnette, M.M. & Contento, I.R. 2001, "Adolescents' Perspectives and Food Choice Behaviors in Terms of the Environmental Impacts of Food Production Practices: Application of a Psychosocial Model", *Journal of Nutrition Education*, vol. 33, no. 2, pp. 72-73-82.

<sup>179</sup> Ibid.

<sup>180</sup> Kerkhof, A.C., Nonhebel, S. & Moll, H.C. 2009, "Relating the environmental impact of consumption to household expenditures: An input-output analysis," *Ecological Economics*, vol. 68, no. 4, pp. 1160-1161-1170.

<sup>181</sup> Briggs, S.M., Beall, D.L. & American Dietetic Association, Society for Nutrition Education, America School Food Service Association 2003, "Position of the American Dietetic Association, Society for Nutrition Education, and American School Food Service Association - Nutrition services: an essential component of comprehensive school health programs", *Journal of the American Dietetic Association*, vol. 103, no. 4, pp. 505-506-514.

<sup>182</sup> The class could prepare macaroni and cheese with local, organic cheddar cheese instead of the more environmentally damaging industrially produced American cheese.

will make a significant difference toward decreasing food-related pollution, waste, resource use, and other practices that degrade the environment.

## **The Importance of Cooking in Education**

As I noted in the above section on the history of cooking education, skills-based nutrition, food, and cooking-related courses have nearly disappeared from the education system. While cooking education was once considered a serious scholarly pursuit, it was laughed at and shunned by the education system. In the cases where nutrition and food-related courses still exist, they emphasize technology, food production, and marketing from an industry or commercial perspective, rather than the development of an essential, domestic life-skill.<sup>183</sup>

The lack of cooking education in the education system makes little sense, considering its potential to change food-related behaviors. Sean Stitt of John Moore's University in Liverpool believes that teaching cooking skills in schools would be "one of the most effective health promotion strategies."<sup>184</sup> Such an education would allow families and individuals greater autonomy in determining what they eat, "rather than forfeiting this to the mass processed food industries."<sup>185</sup>

The absence of an institutional effort to teach children about cooking and nutrition has become apparent in the past decade.<sup>186</sup> The American Dietetic Association recommends that comprehensive nutrition education be provided to all

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<sup>183</sup> Chenhall, C. 2010, *Improving Cooking and Food Preparation Skills: A Synthesis of the Evidence to Inform Program and Policy Development*, Government of Canada, Canada.

<sup>184</sup> Stitt, Sean 1996, "An international perspective on food and cooking skills in education." *British Food Journal*, vol. 98, no. 10; 98, pp. 27-34.

<sup>185</sup> Ibid.

<sup>186</sup> Veit, H.Z. 2011, *Time to Revive Home Ec*, The New York Times, New York.

students in the United States, from preschool through twelfth grade.<sup>187</sup> A nutrition education can be used to combat increasingly unhealthy eating habits and rising levels of diet-related disease.<sup>188</sup>

Cooking classes among both children and adults are currently being used to increase food knowledge and encourage change in eating behavior. Recent literature strongly supports the value of cooking classes in altering cooking and eating habits. A 2009 study found that a culinary nutrition course is an effective way to introduce nutrition knowledge and cooking principles to encourage healthy eating among college students.<sup>189</sup> This study looked at the effectiveness of a college cooking class (called "Cooking with a Chef") in increasing student cooking knowledge and skills. The experimental groups showed higher scores in cooking confidence and knowledge of cooking terms and techniques, especially skills for cooking with fruits and vegetables.<sup>190</sup> Cooking confidence is important because it is correlated with a subject's ability to cook, which will lead to an overall increase in cooking behaviors and food choice.<sup>191</sup> In addition, the students in the intervention groups exhibited greater knowledge of cooking terms and techniques, which also increases cooking

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<sup>187</sup> Briggs, S.M., Beall, D.L. & American Dietetic Association, Society for Nutrition Education, America School Food Service Association 2003, "Position of the American Dietetic Association, Society for Nutrition Education, and American School Food Service Association Nutrition services: an essential component of comprehensive school health programs", *Journal of the American Dietetic Association*, vol. 103, no. 4, pp. 505-506-514.

<sup>188</sup> Only 2% of school-aged children meet the Food Guide Pyramid serving recommendations for all five major food groups. Only 30% eat the recommended amount from any one of the five groups. Added sugar contributes to 20% of total food energy in children's diets. Between 56%-85% of children consume soda daily. These habits, among others, have led to overweight and obesity in a third of the population aged 6-17 (Briggs 2003).

<sup>189</sup> Warmin, A. 2009, *Cooking with a Chef: A Culinary Nutrition Intervention for College Aged Students*, ProQuest LLC, Ann Arbor.

<sup>190</sup> Ibid.

<sup>191</sup> Ibid.

behaviors because the more the people know about cooking, the more likely they are to cook.<sup>192</sup> This study clearly demonstrates the effectiveness of curricular cooking classes in increasing cooking knowledge and skills and changing behaviors.

Though cooking skills education has been deprioritized in the United State's education system, it is a different story in the United Kingdom. In 2008, the United Kingdom's government introduced the "Healthy Weight Healthy Lives" strategy aimed at improving the health of the nation.<sup>193</sup> One component of the strategy was improving young peoples' cooking abilities through the Department of Children, School, and Families' "License to Cook" initiative. This program entitles every child in secondary school to 16 hours of practical cooking lessons.<sup>194</sup> The program has met with successes in preventing and decreasing obesity, and encouraging healthy exercise and diets.<sup>195</sup>

Home ec must return to education with a new name and structure in order to address current food contexts. For example, while in the past sewing was emphasized in home economics, basic cooking skills should be the focus now.<sup>196</sup> Even though cheap clothing is available in the same way food is, with negative environmental and human-rights implications, food is more important because of its direct effects on human physical health. Government efforts to curtail rising levels of obesity by taxing junk food or banning the purchase of soda with food stamps have

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<sup>192</sup> Warmin, A. 2009, *Cooking with a Chef: A Culinary Nutrition Intervention for College Aged Students*, ProQuest LLC, Ann Arbor.

<sup>193</sup> *Healthy Weight, Healthy Lives: A Cross Government Strategy for England 2008*, Department of Health, London.

<sup>194</sup> Ibid.

<sup>195</sup> Kipping, R.R. 2009, "Obesity in children. Part 2: Prevention and management", *Child: Care, Health and Development*, vol. 35, no. 1, pp. 144-145.

<sup>196</sup> Veit, H.Z. 2011, *Time to Revive Home Ec*, The New York Times, New York.

been unsuccessful and have only created a public fear of a “secret food police.”<sup>197</sup> The answer to obesity prevention lies in providing children with the tools they need to cook their own meals.<sup>198</sup>

### **Components of a Successful Cooking Education**

Now that we have documented a decline in cooking skills and witnessed the negative implications of this shift, the question is how we go about re-learning cooking skills. It is clear that cooking knowledge alone is not enough to significantly change eating habits. Cooking skills are crucial if we wish to catalyze our food theory. There is a growing interest in cooking among the public, as suggested by the increasing presence and popularity of celebrity chefs, cooking blogs and magazines, cooking-related television, and cooking in other forms of popular culture and media.<sup>199</sup> The interest, and in some cases the knowledge, is certainly there, but the cooking skills required to link that interest and knowledge to practice is missing. We may know that eating local, organic produce is better for our bodies and communities than frozen dinners made from South American produce, but without the skill required to prepare meals from raw ingredients, our choices are limited. The skill of cooking grants us some autonomy in the increasingly complex food system.

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<sup>197</sup> Veit, H.Z. 2011, *Time to Revive Home Ec*, The New York Times, New York.

<sup>198</sup> Ibid.

<sup>199</sup> Condrasky, M.D. & Hegler, M. 2010, "How Culinary Nutrition Can Save the Health of a Nation", *Journal of Extension*, vol. 48, no. 2.



## Translating Knowledge to Practice

Though cooking education is recognized as an effective method for affecting eating habits and behaviors, some educational models are more effective than others. Isobel Contento, one of the foremost researchers on nutritional education, completed an analysis of 300+ studies on nutrition education, in which she found that education is the most effective when it “systematically links theory, research, and practice” and focuses on behavior and action, as opposed to only knowledge.<sup>200</sup>

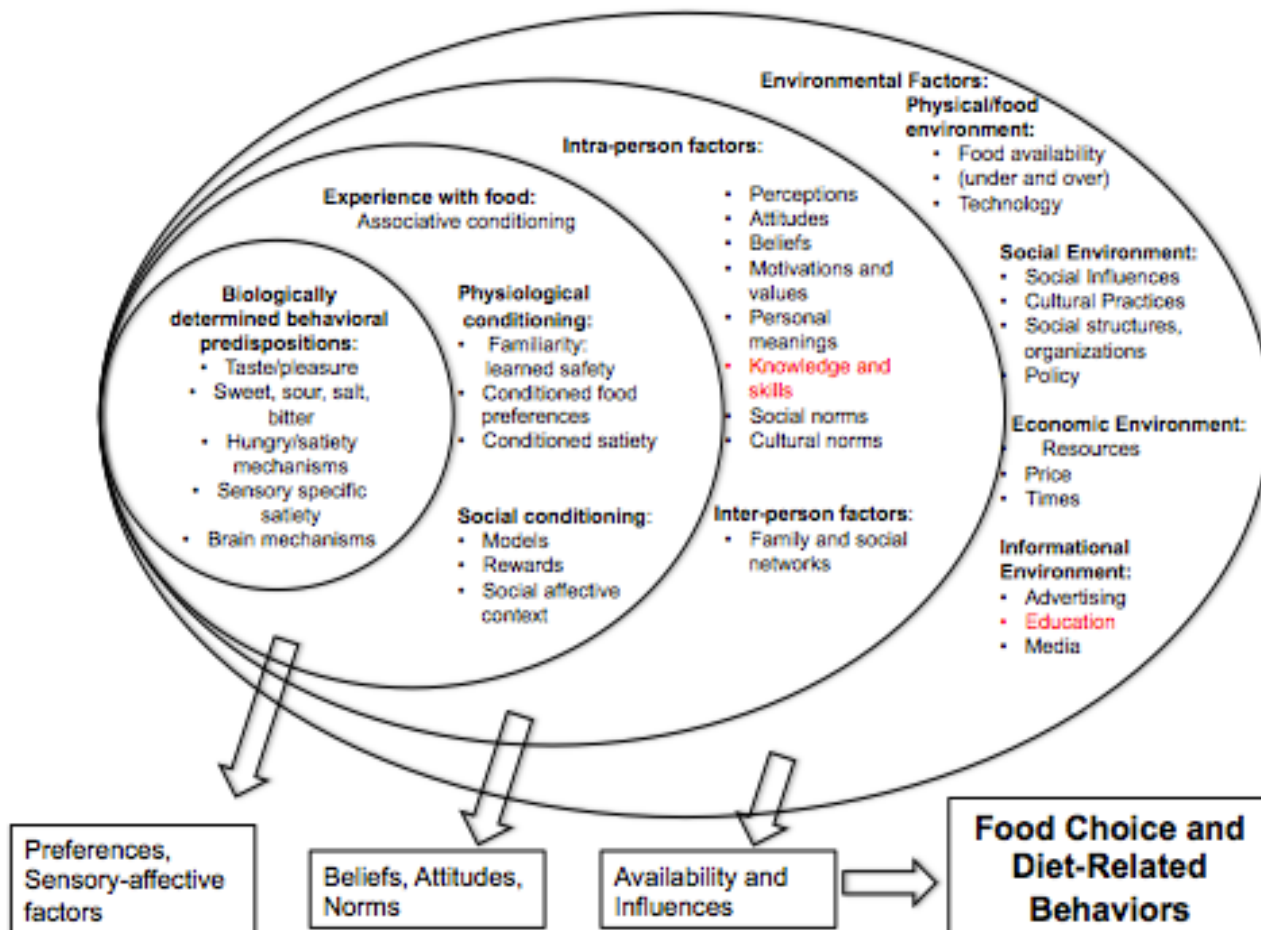
In the past, nutrition educators used the KAB model, which is based on the idea that changes in knowledge (K) lead to changes in attitudes (A) which in turn lead to changes in behavior (B).<sup>201</sup> Research has shown that this model is too simple and does not fully explain the relationship between knowledge and behavioral change. There are a huge number of additional factors that describe eating behaviors, some of which are displayed in this figure I created, modeled from a figure included in a paper by Isobel Contento of Columbia University in 2000:<sup>202</sup>

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<sup>200</sup> Contento, I.R. 2008, "Nutrition education: linking research, theory, and practice", *Asia Pacific Journal of Clinical Nutrition*, vol. 17, no. 1, pp. 176-177-179.

<sup>201</sup> Ibid.

<sup>202</sup> Ibid.



(Cyr 2012)

Because food choice is based on so many factors in addition to food knowledge, a cooking education program should seek to provide students with much more than just food-related *knowledge*. The study identifies three essential components of a successful nutrition education:

1. A motivational component, where the goal is to increase awareness and enhance motivation by addressing beliefs, attitudes through effective communication strategies.
2. An action component, where the goal is to facilitate people's ability to take action through goal setting and cognitive self-regulation skills.

3. An environmental component, where nutrition educators work with policymakers and others to promote environmental support for action.<sup>203</sup>

The first component, motivation, is the educational stage when knowledge is transferred from the instructor to the student. The second component, action, is focused on providing students with the ability and necessary tools (skills) to take action. The purpose of this component is to address the gap between intention and action that has been observed in past nutritional education programs. The third component, environment, focuses on providing students with an environment in which they can behave in ways that reflect their newly-gained attitudes and skills.<sup>204</sup>

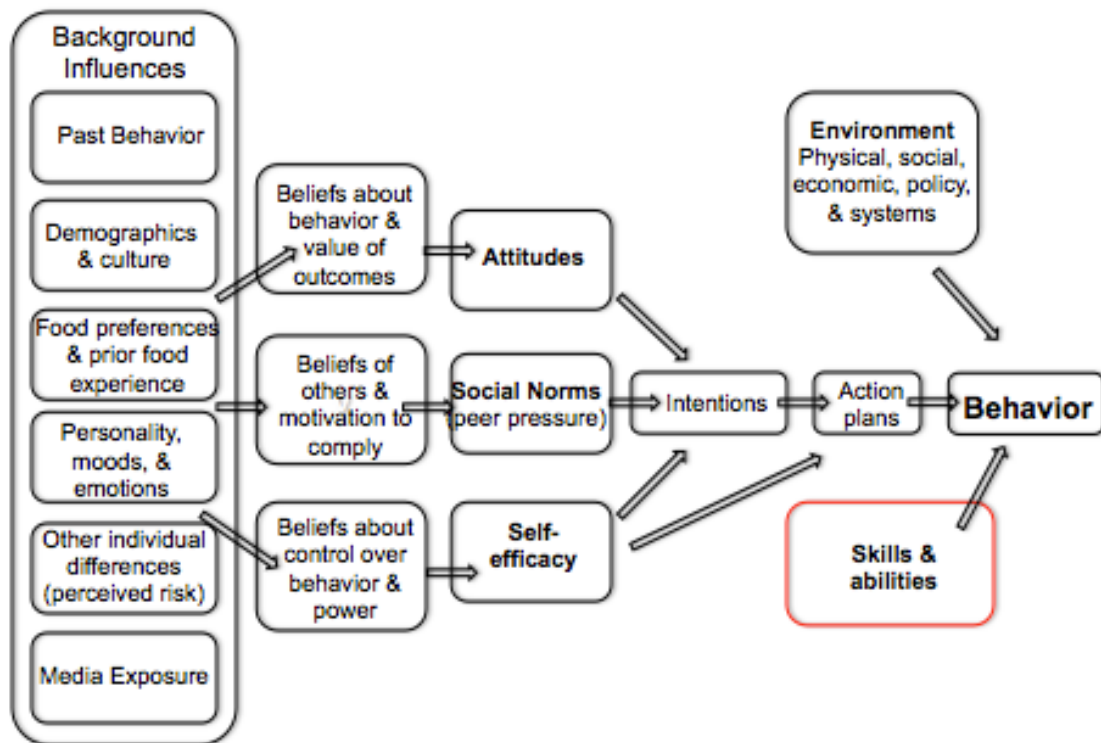
This diagram, also modeled and created from another included in Contento's paper, is useful in understanding the process of behavioral change:

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<sup>203</sup> Contento, I.R. 2008, "Nutrition education: linking research, theory, and practice", *Asia Pacific Journal of Clinical Nutrition*, vol. 17, no. 1, pp. 176-177-179.

<sup>204</sup> Ibid.

**Mediators of Behavioral Change**  
(Cyr 2012)



As you can see above, skills and abilities are a major factor in determining behavior. Behavioral change will not take place without the skills and abilities necessary to make it happen.<sup>205</sup> Even with the appropriate knowledge and environment, significant behavioral changes will not take place unless an individual has the skills necessary to enact these changes. This idea strongly supports the necessity of an experiential skills-based component of any cooking education program.

Based on this shift toward acceptance of a more practice-oriented nutrition education, researchers Margaret Condrasky and Marie Hegler of Clemson University have coined the term “culinary nutrition,” which they define as “the application of nutrition principles combined with food science knowledge and displayed through a

<sup>205</sup> Contento, I.R. 2008, "Nutrition education: linking research, theory, and practice", *Asia Pacific Journal of Clinical Nutrition*, vol. 17, no. 1, pp. 176-177-179.

mastery of culinary skills.<sup>206</sup> Traditionally, the culinary and nutrition fields have existed in separate spheres; the culinary arts field revolves around cooking skills, while nutrition focuses on food and nutrition-related knowledge. But it is time to bridge the gap between these two endeavors. Because knowledge alone has been proven ineffective in altering eating behaviors, we can only encourage sustainable eating practices by combining the study of nutrition concepts with instruction in healthy cooking techniques.<sup>207</sup>

An important factor to consider when designing a cooking education program is the “necessity” of cooking skills. Because of the abundance of packaged and prepared foods, cooking skills are not always necessary “to survive.” This is not true for the large percentage of food insecure individuals in the country, but certainly applies to specific groups. Several studies have indicated an interest among adults in learning new skills of further developing existing cooking and food preparation skills. In light of this, researchers have suggested that effective cooking education programs should capitalize on people’s interest in the creative (versus mundane) aspect of cooking and food preparation.<sup>208</sup>

### **Cooking in Higher Education**

The study of food, which connects so many disciplines, is perfectly suited in a liberal arts curriculum, with a strong tradition of a multi-disciplinary approach to

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<sup>206</sup> Condrasky, M.D. & Hegler, M. 2010, "How Culinary Nutrition Can Save the Health of a Nation", *Journal of Extension*, vol. 48, no. 2.

<sup>207</sup> Ibid.

<sup>208</sup> Chenhall, C. 2010, *Improving Cooking and Food Preparation Skills: A Synthesis of the Evidence to Inform Program and Policy Development*, Government of Canada, Canada.

education. I believe that there are significant gaps in the discussion of food in academia (i.e. too much emphasis placed on physical health above political, social, and environmental considerations) that could be addressed in a liberal arts setting. The study of food could connect to a study of the environment, sociology, anthropology, politics, and health, among other disciplines.

There is a wealth of research devoted to investigating the value of cooking education among children and adults, yet there is very little research focused on college students. Even Isobel Contento only addresses child and adult education, completely ignoring the college-aged generation of learners. This makes little sense, given that children who adopt problematic eating behaviors at a young age will likely retain them into adulthood.<sup>209</sup>

I was able to uncover a small number of studies that look at the relationship between food preparation skills and eating behaviors and the success of specific nutritional education programs on college campuses.

One particular study<sup>210</sup> looks at the potential for colleges to provide non-nutrition majors with adequate nutritional knowledge. The study aims to better understand the nutrition knowledge, attitudes, and nutrition-related practices of these students in order to determine whether colleges provide adequate environments for learning nutrition. The researchers observed a significant correlation between nutrition knowledge, nutrition-related attitudes, and good

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<sup>209</sup> Young, E.M. & Fors, S.W. 2001, "Factors related to the eating habits of students in grades 9-12", *Journal of School Health*, vol. 71, no. 10, pp. 483-484-488.

<sup>210</sup> Wong, Y., Huang, Y., Chen, S. & Yamamoto, S. 1999, "Is the college environment adequate for access to nutrition education: A study in Taiwan", *Nutrition Research*, vol. 19, no. 9, pp. 1327-1328-1337.

dietary practices.<sup>211</sup> They also found that a whole 42% of the subjects were aware of the importance of nutritional and had the motivation to learn, but the majority of these students did not know how or where to get this information.<sup>212</sup>

Though the above study was conducted in Taiwan, similar studies looking into the value of nutrition education have been conducted in the United States. In such a study, food and nutrition questionnaires were administered to both students in a basic nutrition course and to other students in unrelated general studies classes at the beginning of a semester at California State University. In the survey at the end of the semester, 45% of students indicated that they had made dietary changes as a result of the course.<sup>213</sup> These changes included increased confidence in the adequacy of their diets and decreased supplement use, among others. All the students in the nutrition course reported that they had learned a lot about nutrition over the course of the semester.<sup>214</sup> The increase in knowledge and behavioral changes that resulted from the course indicate the potential for nutrition education to affect perceptions of food and eating behaviors among college students.

Another study investigates the “engaged learning”<sup>215</sup> movement that has begun to emerge in education at both the K-12 level and undergraduate level. The

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<sup>211</sup> Wong, Y., Huang, Y., Chen, S. & Yamamoto, S. 1999, "Is the college environment adequate for access to nutrition education: A study in Taiwan", *Nutrition Research*, vol. 19, no. 9, pp. 1327-1328-1337.

<sup>212</sup> Ibid.

<sup>213</sup> Mitchell, S. 1990, "Changes after taking a college basic nutrition course", *Journal of the American Dietetic Association*, vol. 90, no. 7, pp. 955-956-961.

<sup>214</sup> Ibid.

<sup>215</sup> Engaged learning” is based on the idea that the nature and applicability of learning depend heavily on a student’s relationship to the subject matter (Duster, T. & Waters, A. 2006, "Engaged Learning across the Curriculum: The Vertical Integration of Food for Thought", *Liberal Education*, vol. 92, no. 2, pp. 42-43-47.).

article describes the relatively new program at Yale called the Yale Sustainable Food Project, that is based on engaging undergraduate students in the processes of cultivating, cooking, and eating food. The authors of the article, one of whom is Alice Waters,<sup>216</sup> believe that educators have not taken advantage of opportunities for a “cross-the-curriculum integration” because so many disciplines can be creatively “engaged” through food studies.<sup>217</sup> This program has been highly successful, beginning with the creation of a campus farm with learning spaces and student internships, and extending to include the creation of new courses related to food and agriculture, and an increase in sustainable food in the dining halls.<sup>218</sup> The program has allowed students to become engaged in every step of the food production and consumption process and they have benefitted from the hands-on knowledge of their food.

### **Similar Initiatives**

Just as there is little emphasis placed on research in food education in higher education, there are few examples of cooking-related programs in higher education institutions. That said, there are several schools that have recognized the value of a cooking education. I will introduce each school and speak a little bit about their programs, discussing their goals, the specifics of the curriculum, and their successes and failures.

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<sup>216</sup> A prominent and highly regarded chef, food activist, and writer.

<sup>217</sup> Engaged learning” is based on the idea that the nature and applicability of learning depend heavily on a student’s relationship to the subject matter (Duster, T. & Waters, A. 2006, “Engaged Learning across the Curriculum: The Vertical Integration of Food for Thought”, *Liberal Education*, vol. 92, no. 2, pp. 42-43-47.).

<sup>218</sup> Ibid.



## Green Mountain College

Green Mountain College is a Vermont college with an environmental mission and a strong commitment to experiential learning. The college is known for its tradition of effective teaching and mentoring and has been praised for its classroom discussions. The college believes strongly that a liberal arts education should respond to the most pressing problems of our time,<sup>219</sup> and their course offerings certainly reflect that ideal.

The college has a Sustainable Agriculture and Food Production major. The college justifies this major with the argument that while certain methods of food production can intensify problems like global warming, water scarcity, and energy shortages, farming methods can also become part of the solution for a more sustainable and “habitable” world.<sup>220</sup> They believe that few areas of study are as well-suited to interdisciplinary inquiry and the integration of academic theory and hands-on practice as the study of food.<sup>221</sup> The major is necessarily multidisciplinary; the students examine food through the lenses of history, anthropology, the natural sciences, philosophy, business, economics, and art.<sup>222</sup>

The learning outcomes for a Sustainable Agriculture and Food Production Major are theory *and* skill heavy. They are as follows:

A successful student will:

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<sup>219</sup> *Academics*. 2012, 20 Nov 2012-last update [Homepage of Green Mountain College], [Online]. Available: <http://www.greenmtn.edu/academics.aspx> [2012, 20 Nov 2012].

<sup>220</sup> *Home of the Sustainable Agriculture and Food Production Program*. 2012, 20 Nov 2012-last update [Homepage of Green Mountain College], [Online]. Available: [http://www.greenmtn.edu/sustainable\\_agriculture.aspx](http://www.greenmtn.edu/sustainable_agriculture.aspx) [2012, 20 Nov 2012].

<sup>221</sup> *Ibid.*

<sup>222</sup> *Ibid.*

- Understand how to examine “sustainable agriculture” and “sustainable food production” along a historical continuum and within multiple cultural contexts;
- Demonstrate a sophisticated understanding of the ecological principles and systems upon which “best practices” in sustainable agriculture and sustainable food production are created and utilized;
- Articulate how farm businesses are established, managed, and marketed in today’s dynamic economic and social contexts;
- Develop skills both in specific farm/food enterprises and in the management of diversified farm operations, utilizing the college farm and regional farmers and food system professionals as critical components of their education.<sup>223</sup>

By graduation, a Sustainable Agriculture and Food Production Major will not only know how to theorize about food production and its implications, but they will also know *how* to produce food; they will have gained the skills necessary to put to practice the theory they learn in the classroom.

A Sustainable Agriculture and Food Production major is required to take a large number of skills-based courses, including the “Farm Skills Intensives” course, “Animal Husbandry,” “Composting and Organic Waste Management,” and “Food

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<sup>223</sup> *Home of the Sustainable Agriculture and Food Production Program*. 2012, 20 Nov 2012-last update [Homepage of Green Mountain College], [Online]. Available: [http://www.greenmtn.edu/sustainable\\_agriculture.aspx](http://www.greenmtn.edu/sustainable_agriculture.aspx) [2012, 20 Nov 2012].

Preservation.”<sup>224</sup> The food production-related skills courses are held at the school’s farm. The directors of the farm believe that how individuals relate to food is a good indicator of how they relate to the environment, society, other cultures, and other animals, and that how a community relates to food is indicative of the interests and priorities of the community as a whole,<sup>225</sup> beliefs that I share and discussed in the first chapter of my thesis. The cooking related courses are held in the college’s commercial teaching kitchen. The “Food, Society, and Environment” course uses the kitchen to cook an annual free community dinner. The class, which is designed for students to develop an understanding of social issues associate with food, do activities such as documenting everything they eat for a week and thinking about the social and health implication of those foods and interviewing senior citizens about food production, processing, distribution, and consumption when they were in childhood and adolescence.<sup>226</sup> The “Food Preservation” course creates value-added products<sup>227</sup> with produce from the farm for use in the campus dining hall, creating a link between academics, the dining hall, and the farm at the college.<sup>228</sup>

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<sup>224</sup> *Home of the Sustainable Agriculture and Food Production Program*. 2012, 20 Nov 2012-last update [Homepage of Green Mountain College], [Online].

Available:[http://www.greenmtn.edu/sustainable\\_agriculture.aspx](http://www.greenmtn.edu/sustainable_agriculture.aspx) [2012, 20 Nov 2012].

<sup>225</sup> *Other Farm & Food Courses*. 2012, 20 Nov 2012-last update [Homepage of Green Mountain College], [Online]. Available: [http://www.greenmtn.edu/farm\\_food/farm--food-101/other-courses.aspx](http://www.greenmtn.edu/farm_food/farm--food-101/other-courses.aspx) [2012, 20 Nov 2012].

<sup>226</sup> Ibid.

<sup>227</sup> Value-added refers to an extra feature of an item of interest that go beyond the standard expectations for that item. In this case, the vegetables from the farm would have been consumed by individuals, yet they gained additional value when they were preserved and served in the dining halls (*Meet Eleanor Tison*. 2012, 20 Nov 2012-last update [Homepage of Green Mountain College], [Online]. Available: [http://www.greenmtn.edu/farm\\_food/farm--food-101/meet-a-professor.aspx](http://www.greenmtn.edu/farm_food/farm--food-101/meet-a-professor.aspx) [2012, 20 Nov 2012]).

<sup>228</sup> Ibid.

## Riverside City College

Another example of a successful cooking course comes from Riverside Community College of Riverside, California. A couple years ago, several students began their own cooking course by inviting guest speakers and experts to share their food-related knowledge and skills with students and community members. The course quickly became popular and the students put forth a proposal to formalize the course. The administration approved the course and it now runs as a student organized, accredited course.<sup>229</sup>

Riverside City College houses a culinary academy, which offers primarily skills-based pre-professional cooking and food service courses such as “Advanced Culinary Arts,” “Cake Decorating,” and “Techniques of Garde Manger.”<sup>230</sup> However, the school offers two classes that link food skill with theory: “International Cuisine” and “Cognizant Cuisine: Delicious Decisions for Better Living.”<sup>231</sup> The “International Cuisine” course provides students with the necessary skills to prepare international dishes, but it also covers the history, climate, topography, and influences of food production on the people of each country the recipes come from.<sup>232</sup> The course strives to promote a global understanding and appreciation for different cultures.<sup>233</sup> The “Cognizant Cuisine” course is a food ethics course that looks at responsible food consumption through the lenses of health, economics, community, and the

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<sup>229</sup> Lunetta, M., Morales, F. & Cyr, C. 14 Oct 2012, *Conversation about college cooking classes*, AASHE Student Conference, Los Angeles.

<sup>230</sup> *Riverside Community College Course Descriptions 2012-2013*, 2012, Riverside City College, Riverside.

<sup>231</sup> Ibid.

<sup>232</sup> Ibid.

<sup>233</sup> Ibid.

environment.<sup>234</sup> The goal of the course is to provide students with the knowledge and skills required to procure, prepare, and consume food to maximize both enjoyment and responsibility.<sup>235</sup>

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<sup>234</sup> *Riverside Community College Course Descriptions 2012-2013*, 2012, Riverside City College, Riverside.

<sup>235</sup> *Ibid.*

## Course Syllabus

Throughout the syllabus, I offer notes of explanation, clarification, and reflection. The text of the syllabus is *italicized*, while my notes are in standard font.

### Food and Cooking Theory and Practice

#### **Course Description**

*The course will take a geographical view of food, beginning with the study of local food- food you could grow in your own backyard- to a global view of food. We will start with the smaller theoretical questions (How do I feed myself/ my family? How do I prepare simple dishes?) and gradually begin to tackle larger issues (What are the most efficient ways to feed a city? What does the link between food and culture mean? How can we increase food security?). By the end, we will have looked at global food systems and trade and worldwide solutions to the most pressing food-related issues. At the same time we ponder these larger theoretical questions, we will learn basic cooking skills that will allow for self-sufficiency in cooking, focusing on cooking locally, seasonally, economically, and sustainably.*

The course description gives students a brief synopsis of the goals, structure, and content, and expected outcomes of the course so that they can get an idea of what they will learn and gain from this course.

#### **Course Structure**

*This course will meet twice a week: once to discuss readings and concepts and once to cook and eat. The class will meet for lecture and discussion, the **theory** portion of the course, for an hour once a week. During this time, the professor will lead a discussion about the assigned readings and relevant theoretical concepts. Later in the week, the class will meet for three hours in the late afternoon for cooking and eating, the **skills** portion of the course. During this time, the class will be instructed in basic cooking skills and techniques while they prepare a meal. When the meal is complete, the class will spend the remaining time eating and discussing the food-preparation process and any connections to the readings that were discussed at the meeting earlier in the week.*

*On certain days, the students will prepare enough food for their class as well as additional members of the greater Pomona College community. These dinners will be designated "Community Dinners" and will still include a simple discussion of the readings and topics at hand, yet with additional class members.*

The course structure section details how often class will meet, how time will be spent in class, and what to expect during each class meeting. There are some additional details concerning the structure that I did not include in the syllabus, but should be mentioned here. Due to the hands-on nature of the course and limited resources, the course will be limited to 12-15 students. The lecture portion of the course will be held in an academic classroom. There are several possible locations for the cooking component of the course; it will either be held in one of the campus dining halls or the lounge kitchen in Pomona Hall.<sup>236</sup> The course will be primarily taught by a professor in the Environmental Analysis department at Pomona (potentially Professor Hazlett, yet there will be a number of guest instructors). One of the Pomona dining hall chefs will make frequent appearances in order to teach cooking skills and techniques. Certain professors and community members will be invited attend when a certain course covers their area of expertise or interest.

The course will meet for one semester twice a week, for a total of 14 weeks. We will meet for one hour early in the week and then three hours later in the week, in the late afternoon.<sup>237</sup> During the first meeting of the week, the students will discuss their assigned readings, complete activities, and give presentations. During the second meeting of the week, the students will learn basic cooking skills and techniques, while preparing a meal based around a certain food group. The professor/instructor will give demonstrations and help individual students with their techniques as they cook. A couple of the classes end in “community dinners.”

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<sup>236</sup> In Chapter 3, The Process, I will explain how I went about choosing a location and identifying the other resources necessary for this course.

<sup>237</sup> Most likely from 4-7pm

During these class periods, the students will prepare extra food for additional members of the Pomona College community (faculty, staff, students) who are interested in the topics covered that week and would like to join the class for a dinner and discussion. The purpose of the “community dinner” is to increase visibility and build support and interest in the course, allow students who could not enroll to be a part of the class (because course size is limited), enrich the dinner discussion by engaging interested and knowledgeable members of the Pomona College community in food-related issues, and provide a comfortable atmosphere for people to connect and create community around food.

***Student Learning Outcomes:***

*Each class is structured to encourage several outcomes, in the form of both theoretical concepts and cooking-related skills and knowledge.*

*By the end of this course students will have considered a wide range of ideas pertaining to food, allowing them to:*

- *Understand the entire life cycle of food, from farm to fork.*
- *Understand the movement of food in and around communities, cities, nations, and the world.*
- *Understand the link between diet and health: how do our dietary decisions affect our bodies?*
- *Understand the social/cultural importance of food: How does food affect individuals, families, and communities? How do communities organize around food?*
- *Understand the political/ economic importance of food: How does trade affect relations between countries? What do governments do to ensure that their citizens are fed? How do government food subsidies affect agriculture?*
- *Understand the cultural importance of food:*
- *Understand the environmental importance of food: How does food production, consumption, and waste affect our land, waters, and the surrounding environment?*
- *Think critically about potential solutions to local and global food-related issues and develop their own solutions.*

*In addition to the food theory, students will gain a wide range of cooking skills, including:*

- *Basic meal-planning skills*
- *Basic shopping skills*



- *Creativity and flexibility in food preparation*
- *Basic cooking techniques including the preparation of grains, fruits, vegetables, and proteins*

In order for a course to be approved by the course selection committee, its outcomes should align with the student learning objectives defined by the department in which the course will be housed. Since this course will likely be included in the Environmental Analysis (EA) curriculum, the learning outcomes coincide with the EA student learning objectives, which are as follows:

A student who majors in Environmental Analysis will:

- engage, assess, and critique an interdisciplinary scholar literature;
- apply relevant theoretical techniques and methodological insights to environmental issues across the disciplines;
- conduct original archival, empirical and/or applied research, individually and collaboratively;
- speak and write clearly and persuasively;
- understand the real-world dimensions of environmental problem-solving.<sup>238</sup>

This course seeks to address these learning objectives, as well as providing students with additional academic knowledge and skills. By the end of the course, students will have not only learned how to talk about, write about, research, apply,

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<sup>238</sup> *Environmental Analysis Learning Objectives*. 2012, 19 Nov 2012-last update [Homepage of Pomona College], [Online].

Available: <http://www.pomona.edu/academics/departments/environmental-analysis/courses-requirements/index.aspx> [2012, 19 Nov 2012].

and understand food-related theories, but they will also learn a wide range of cooking skills that will leave them equipped to feed themselves and others for the rest of their lives.

### **Evaluation**

**Participation** Students will be graded on their engagement in the cooking portion of the course and their participation in class discussions.

*\*Attendance is necessary, given the limited number of courses and the large amount of material and skills that will be covered in each class. Absences will be excused only in the event of a sickness, emergency, or other event that has been cleared with the professor in advance.*

**Notebook** Students are required to keep a notebook for the course, which will be used for class notes and assignments. The notebook will be checked for completeness and graded at the end of the semester.

- *Daily food entry- Each day, students must write a paragraph about something relating to food. This entry can be about a meal they ate, an article they read, a store they visited, etc., as long as they related their experience to something they have either read for class, learned about in class, or encountered in the course readings.*
- *Short response to readings- Each week, students must write several paragraphs responding to the assigned readings, to use during class discussions.*
- *Class notes (cooking and discussion)- During the cooking portion of the class, students must take notes on the skills and techniques they learn, the recipes and ingredients used, important points raised by the cooking instructor. During the dinner and discussion portion of the class, students should take notes on any important ideas or questions raised in discussion.*

### **Other Assignments**

- *Family recipe- Before week five, students are expected to submit a favorite family recipe.*
- *Food item w/ label- For week nine, students must bring in a food item that with a label ("organic," "free range," "Non-GMO," "natural," etc.)*
- *Story of a meal- For week eleven, students must fill a plate with dining hall food and then write the story of the meal, explaining the life of each ingredient, based on where the ingredients originated, how they were produced, what sort of processing/transport/distribution was necessary, and how they were prepared for consumption.*

This section explains how the students will be graded, as well as the assignments they will complete over the course of the semester. A large portion of the grade will be based on participation, as cooking is a particular activity and cannot expect to learn the cooking skills and techniques from class outside of the kitchen. Another large portion of the grade is based on a notebook, which the students must use for daily food journal entries, weekly reading assignments, and class notes. The rest of the grade will be based on several assignments that students will complete over the course of the semester.

### **Schedule**

<b>Week</b>	<b>Lecture Portion</b>	<b>Cooking Portion</b>
<b>1</b>	<b>Focus:</b> Course Introduction <b>Readings/Assignments:</b> None <b>Activity:</b> Go over syllabus <b>Theoretical Concepts:</b> None	<b>Food Focus:</b> Assorted Vegetables <b>Menu Items:</b> Napa cabbage coleslaw with slivered almonds and garlic ginger vinaigrette, vegetable stir fry with assorted chopped vegetables, cookies with chocolate and cherry chunks <b>Skills/Techniques:</b> kitchen safety, knife skills
<b>2</b>	<b>Focus:</b> The Life Cycle of Food <b>Readings/Assignments:</b> <b>Activity:</b> Visit Pomona Farm and looks at food cycle from production to waste <b>Theoretical Concepts:</b> Impact of agriculture, food cycle, food waste	<b>Food Focus:</b> Squash and Root Vegetables <b>Menu Items:</b> roasted vegetable enchiladas, baked sweet potato fries, kabocha squash cheesecake brownies <b>Skills/Techniques:</b> knife skills, roasting, baking, seasoning
<b>3</b>	<b>Focus:</b> Food and the Environment <b>Readings/Assignments:</b> Animal, Vegetable, Miracle <b>Activity:</b> None <b>Theoretical Concepts:</b> Pros/cons of local eating, local food systems	<b>Food Focus:</b> Grains <b>Menu Items:</b> quinoa fritters, bulgur wheat tabbouleh, fruit and nut brown rice pilaf <b>Skills/Techniques:</b> cooking grains, frying
<b>4</b>	<b>Focus:</b> Cooking by Season	<b>Food Focus:</b> Bread

	<p><b>Readings/Assignments:</b> <i>Animal, Vegetable, Miracle</i></p> <p><b>Activity:</b> None</p> <p><b>Theoretical Concepts:</b> <i>Pros/cons of seasonal eating, food production and transportation, self-sufficiency</i></p>	<p><b>Menu Items:</b> <i>no-knead wholegrain bread, crusty bread, oatmeal rolls, quick breads</i></p> <p><b>Skills/Techniques:</b> <i>bread making: kneading, rising, baking</i></p>
5	<p><b>Focus:</b> <i>Food and Community</i></p> <p><b>Readings/Assignments:</b> <i>Submit family recipes prior to class</i></p> <p><b>Activity:</b> <i>Talk about family food traditions, family recipes</i></p> <p><b>Theoretical Concepts:</b> <i>Food and tradition, culture, food as nourishment, building community with food</i></p>	<p><b>Food Focus:</b> <i>Nuts and seeds</i></p> <p><b>Menu Items:</b> <i>sesame seed noodles with peanut sauce, sprouts, and cashew cream, pecan tarts with almond meal crust</i></p> <p><b>Skills/Techniques:</b> <i>cooking noodles, making peanut butter, making sauce, sprouting seeds, making non-dairy cream, making nut-based crusts</i></p>
6	<p><b>Focus:</b> <i>Local Food</i></p> <p><b>Readings/Assignments:</b> <i>Animal, Vegetable, Miracle</i></p> <p><b>Activity:</b> None</p> <p><b>Theoretical Concepts:</b> <i>Pros/cons of local eating, local food systems</i></p>	<p><b>Food Focus:</b> <i>Green Vegetables</i></p> <p><b>Menu Items:</b> <i>roasted brussels sprouts, green salad with blanched green beans, kale chips</i></p> <p><b>Skills/Techniques:</b> <i>roasting, blanching, making salad dressings, making chips</i></p>
7	<p><b>Focus:</b> <i>Forms of Agriculture</i></p> <p><b>Readings/Assignments:</b> <i>Animal, Vegetable, Miracle</i></p> <p><b>Activity:</b> None</p> <p><b>Theoretical Concepts:</b> <i>The impacts and implications of various agricultural methods (conventional vs. alternatives)</i></p>	<p><b>Food Focus:</b> <i>Chicken</i></p> <p><b>Menu Items:</b> <i>Roasted chicken, chicken soup</i></p> <p><b>Skills/Techniques:</b> <i>preparing chicken, meat safety, roasting, carving chicken, making soup</i></p>
8	<p><b>Focus:</b> <i>Labels and Certifications</i></p> <p><b>Readings/Assignments:</b> <i>bring in a food item with a recognized label (Organic, humane, gluten free, Non-GMO, fat-free, etc.)</i></p> <p><b>Activity:</b> <i>Look at and discuss students' labeled items</i></p> <p><b>Theoretical Concepts:</b> <i>Politics/economics of labeling, effects of labeling on food choice</i></p>	<p><b>Food Focus:</b> <i>Cheese</i></p> <p><b>Menu Items:</b> <i>caprese salad with mozzarella, butternut squash and cheddar casserole, ricotta with berry coulis</i></p> <p><b>Skills/Techniques:</b> <i>cheese making</i></p>

9	<p><b>Focus:</b> Food and Health  <b>Readings/Assignments:</b>  <b>Activity:</b> None  <b>Theoretical Concepts:</b> Diet and health</p>	<p><b>Food Focus:</b> Beans  <b>Menu Items:</b> black bean croquettes, hummus, chilled lentil salad, navy bean blondies  <b>Skills/Techniques:</b> frying, making hummus and dips, making substitutions with beans</p>
10	<p><b>Focus:</b> Food Systems  <b>Readings/Assignments:</b> Bring meal stories  <b>Activity:</b> Before class, every student will begin with a dish from the dining halls and gather enough information about each ingredient on their plate to write a cohesive story of their meal. These stories will be presented in class.  <b>Theoretical Concepts:</b> Introductory view of food systems</p>	<p><b>Food Focus:</b> Eggs  <b>Menu Items:</b> spring vegetable frittata, spinach soufflé, hard boiled eggs, meringues  <b>Skills/Techniques:</b> baking, making soufflés, boiling eggs, making meringues</p>
11	<p><b>Focus:</b> Food Systems Cont.  <b>Readings/Assignments:</b>  <b>Activity:</b> Focus on the movement of specific food items through different food systems (Tomatoes in California vs. Rooibos in South Africa, for example)  <b>Theoretical Concepts:</b> Formal and informal food systems, farmer cooperatives, global food markets</p>	<p><b>Food Focus:</b> Fish  <b>Menu Items:</b> grilled salmon, steamed white fish, salt-baked fish  <b>Skills/Techniques:</b> grilling, steaming, salt-baking</p>
12	<p><b>Focus:</b> Food and Politics  <b>Readings/Assignments:</b> Animal, Vegetable, Miracle  <b>Activity:</b> None  <b>Theoretical Concepts:</b> Food policy, government commodity crop subsidies, food aid</p>	<p><b>Food Focus:</b> Summer Vegetables  <b>Menu Items:</b> corn, bell pepper, and tomato salad, watermelon, feta, and basil salad, grilled portobello burgers  <b>Skills/Techniques:</b> making salads, making salad dressings, marinating, grilling</p>
13	<p><b>Focus:</b> Solutions to Food-Related Issues  <b>Readings/Assignments:</b>  <b>Activity:</b> None  <b>Theoretical Concepts:</b> Food policy, government/social interventions, community projects, NGOs</p>	<p><b>Food Focus:</b> Fruit  <b>Menu Items:</b> heirloom tomato pizza, grilled peaches, black cherry scones, raspberry sorbet  <b>Skills/Techniques:</b> making pizza, grilling, baking, making ice cream</p>
14	<p><b>Focus:</b> Celebrating Food  <b>Readings/Assignments:</b> Visit farm before class and take notes of foods</p>	<p><b>Food Focus:</b> Celebration  <b>Menu Items:</b> Delicious local and seasonal food from the Farm</p>

	<i>ready for harvest</i> <b>Activity:</b> <i>The class will plan a meal for the last cooking session based on what is available at the farm</i> <b>Theoretical Concepts:</b> <i>Meal planning, conceptualizing a menu</i>	<b>Skills/Techniques:</b> <i>creativity, meal planning</i>
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I have put together a rough schedule for the course. The course takes a geographical approach to the study of food, beginning with local food systems and extending to the study of global food systems by the end of the semester. The cooking component of the course will feature a different basic food item each week. These food items include most foods that the students will encounter regularly and are all in season and locally sourced. The students will learn the basic techniques required to prepare a number of dishes using these simple ingredients.

For each of the lecture meetings, I have included the focus of that day's course, the readings and assignments to be completed prior to class, the daily activity (if applicable), and the theoretical concepts that will be discussed in class. For the cooking meetings, I have included the food focus of the day, sample menu items, and the cooking skills and techniques that will be taught in class.

## **The Process of Creating the Course**

In this third and final chapter, I will share with you my experience of envisioning and attempting to make this course reality at Pomona College. I will briefly explain the whole process, including the people with whom I spoke and various people and ideas that inspired me. Next, I will list the resources I have identified and plan to use

to make the course run efficiently. I will then discuss the challenges I faced while designing this course. I will end with recommendations for future action- everything that must be done before this course is offered at Pomona.

## **The Process**

As I mentioned in the introduction, the idea for this project was born out of a conversation with Professor Rick Hazlett in which he mentioned the need for cooking skills among college students. Initially I planned to create either a quarter or half credit course or a lab component to complement Professor Hazlett's existing Food, Land, and the Environment course.<sup>239</sup> This course or lab component would focus simply on cooking skills and would meet once a week for a few hours at Professor Hazlett's to cook a meal and eat together. However, Professor Hazlett challenged me to create a full credit course, focusing on both cooking skills *and* food theory. Suddenly this project became more complicated- I would need to secure a space large enough to hold a whole class, this space would need to be equipped with all the cooking equipment and supplies required, and I needed to make sure there were professors willing to facilitate discussion and chefs willing to lead the cooking instruction.

As soon as I returned to campus after our summer break, I began to talk to anyone who I thought might be interested in assisting me with my project. My first conversation was with Samantha Meyer, the Sustainability and Purchasing Coordinator for the Pomona dining halls, Michael Gove, a sous Chef at Pomona, and

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<sup>239</sup> Professor Hazlett teaches a course on the history of agriculture, food systems and food justice, and farming techniques each spring semester at Pomona College.

Liz Ryan, Pomona College's nutritionist.<sup>240</sup> We had decided to meet because the dining services department at Pomona College had expressed interest in beginning a series of cooking classes for Pomona students, led by Pomona chefs. I hoped that I could collaborate with dining in order to take advantage of the large kitchens spaces and equipment they had available to them, while at the same time designing a course that could take the place of the classes that they had proposed. I invited Sam to act as the voice of sustainability, because I wanted sustainability to be a major theme of the course. I invited Liz to act as a nutrition consultant for the course. Michael was very interested in the idea of designing and teaching a cooking class, so I wanted to hear his ideas and determine whether we could work together. I was met with a huge amount of enthusiasm. Not only did these three dining employees agree to help me design my course, but they also offered to provide the space and resources I would need to make the course possible (In this next section, I will detail the resources they agreed to give me access to).

Over the course of the semester, I also spoke with interested professors and students,<sup>241</sup> who all provided valuable ideas, criticisms, and questions. In late October, I attended the 2012 AASHE<sup>242</sup> Conference in Los Angeles, where I spoke

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<sup>240</sup> Meyer, S., Grove, M., Ryan, L. & Cyr, C. 13 Sep 2012, *Conversation with Pomona College dining service employees about cooking class*, Conversation edn, Frank Dining Hall, Pomona College.

<sup>241</sup> Most were members of the student club PEAR (Pomona for Environmental Activism and Responsibility), the faculty, staff, and student committee PACS (Pomona Advisory Committee on Sustainability), the Pomona College Farm Club, or the EA (Environmental Analysis) department.

<sup>242</sup> AASHE stands for the Association for the Advancement of Sustainability in Higher Education. Each fall they have a conference for students, administrators, faculty, and staff in higher education to attend conferences and network about sustainability in higher education.



with students Meiko Lunetta and Fortino Morales, who had taken courses at their own schools similar to the one I was designing. Prior to meeting them, I was not aware of any courses like my own in higher education, but they prompted me to look into the programs at Green Mountain College in Vermont and Riverside City College. These examples proved useful in putting together my syllabus.

## **Resources**

A large number of resources are required to make this course possible, due to its hands-on nature and practical component. Below I have listed the necessary components, along with their sources.

### **Space**

One of the most critical components of this course is its classroom space. For the course to be successful, it must be held in a space that contains cooking equipment for the practical portion of the course, has ample counter space for demonstrations, and is large enough to accommodate 12-15 students. Pomona's dining hall kitchens meet these criteria. They are commercial kitchens, with adequate space and equipment. When I met with several dining services employees, I was told that these spaces could be utilized for the course.<sup>243</sup>

The downsides of using a dining hall kitchen are potential scheduling conflicts and safety certification issues, which I will address in the "challenges" section below. In the event that the dining hall kitchens do not work out, the newly

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<sup>243</sup> Meyer, S., Grove, M., Ryan, L. & Cyr, C. 13 Sep 2012, *Conversation with Pomona College dining service employees about cooking class*, Conversation edn, Frank Dining Hall, Pomona College.

constructed campus residence Pomona Hall houses a large kitchen. The kitchen is large enough to hold a class, however, the space is not ideal because the cooking equipment is limited.

Several classes will be held at the Pomona College Organic Farm. The Farm, which is committed to promoting more sustainable food production and a greater understanding of food and agriculture, is comprised of two large spaces that occupy a total of 2.5 acres, full of crops, fruit trees, garden beds, a berry patch, greenhouses and tool sheds, a super-adobe structure, and a large composting area.<sup>244</sup> Currently, the farm is run by the Pomona College Farm Club and used by individual students, community members, and Professor Rick Hazlett and Juan Araya's Food, Land, and the Environment course. The farm will be used in my course to teach students about the life cycle of food.

### **Equipment**

Kitchen equipment will be needed to make the practical portion of the course possible. The class will need access to basic appliances such as ovens, stoves, food processors, and mixers. Also necessary are basic kitchen tools such as knives and cutlery, cutting boards, bowls, spoons, measuring cups and spoons, pots and pans,

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<sup>244</sup> *The Pomona Organic Farm*. 2012, 20 Nov 2012-last update [Homepage of Environmental Analysis at the Claremont Colleges], [Online]. Available: <http://ea.pomona.edu/the-farm/> [2012, 20 Nov 2012].

and cooking utensils (spatulas, tongs, whisks, graters, etc.). Dining services has also agreed to supply these items for the class.<sup>245</sup>

### **Instructors**

This course will ideally have one professor who leads the cooking demonstrations and discussion portions of the course. However, depending on the cooking experience of the professor, it may be necessary to have both a professor to lead class discussions and a chef instructor to assist with the cooking portion of the course. Professor Hazlet is an ideal candidate for the position, due to his interest and knowledge in food theory and his cooking skills. Chef Michael Gove has agreed to help with the course if necessary.<sup>246</sup>

In addition to the primary professor, additional professors will come to certain class meetings that align with their interest to join in the discussion portion. There are a number of professors at Pomona College whose areas of study align well with the topics covered in the course syllabus. The professors and their areas of study are as follows:

**Professor Richard Hazlett**- agriculture, the role of selected natural resources in human conflict and history<sup>247</sup>

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<sup>245</sup> Meyer, S., Grove, M., Ryan, L. & Cyr, C. 13 Sep 2012, *Conversation with Pomona College dining service employees about cooking class*, Conversation edn, Frank Dining Hall, Pomona College.

<sup>246</sup> Meyer, S., Grove, M., Ryan, L. & Cyr, C. 13 Sep 2012, *Conversation with Pomona College dining service employees about cooking class*, Conversation edn, Frank Dining Hall, Pomona College.

<sup>247</sup> *Richard Hazlett*. 2012, 20 Nov 2012-last update [Homepage of Environmental Analysis at the Claremont Colleges], [Online]. Available: <http://ea.pomona.edu/faculty/richard-hazlett/> [2012, 20 Nov 2012].

**Professor Hans Rindisbacher**- sensory research<sup>248</sup>

**Professor Nicki Lisa Cole**- ethical consumption<sup>249</sup>

**Professor Heather Williams**- global politics of food and agriculture<sup>250</sup>

**Professor Samuel Yamashita**- Japanese food, Pacific Rim fusion cuisine<sup>251</sup>

## **Food**

Enough food to feed the whole class is needed for each class meeting. Course funding, which is explained below, will cover the cost of ingredients for the class. Dining services employs a food vendor to get a discount on food items. Samantha Meyer, Pomona College's Purchasing and Sustainability Coordinator, has offered to order food for the course through Pomona's vendor.<sup>252</sup> Additional food will be supplied by the Pomona College Farm and purchased at local groceries and the Claremont Farmer's Market.

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<sup>248</sup> *Hans Rindisbacher: Research*. 2012, 20 Nov 2012-last update [Homepage of Hans Rindisbacher], [Online]. Available: <http://research.pomona.edu/hans-rindisbacher/research/> [2012, 20 Nov 2012].

<sup>249</sup> *Nicki Lisa Cole: Teaching*. 2012, 20 Nov 2012-last update [Homepage of Nick Lisa Cole], [Online]. Available: <http://pages.pomona.edu/~nlc04747/Teaching.html> [2012, 20 Nov 2012].

<sup>250</sup> *Politics Faculty: Heather Williams*. 2012, 20 Nov 2012-last update [Homepage of Pomona College], [Online]. Available: <http://www.pomona.edu/academics/departments/politics/resources/faculty.aspx> [2012, 10 Nov 2012].

<sup>251</sup> *Samuel Yamashita: Current Research* 2012, 20 Nov 2012-last update [Homepage of Samuel Yamashita], [Online]. Available: <http://research.pomona.edu/samuel-yamashita/current-research-interests/> [2012, 20 Nov 2012].

<sup>252</sup> Meyer, S., Grove, M., Ryan, L. & Cyr, C. 13 Sep 2012, *Conversation with Pomona College dining service employees about cooking class*, Conversation edn, Frank Dining Hall, Pomona College.

## **Funding**

The course will certainly require funding for extra equipment not provided by dining, additional materials needed by students (small personal items like aprons, knives, etc.), food, and any other necessary items. I have not yet secured a source of funding for the course, but the academic departments at Pomona provide funding for curriculum-related needs. I expect that this course will be housed in and thus supported by the Environmental Analysis department at Pomona.

A number of grants, ranging from \$500 to \$2,500, supported by the Wig Fund, are awarded by the Teaching and Learning Committee at Pomona College. These grants support the development of new courses and are awarded to pay for course materials, student assistants, field tips, and conferences and workshops.<sup>253</sup>

In addition, small grants (up to \$600) called Teaching Innovation Grants are offered by the Wig Fund to cover costs that cannot be met by Curriculum Development Grants or the department budget.<sup>254</sup>

## **Interested Parties**

There are a number of parties on campus who may prove useful for securing funding, assistance, or other resources necessary in establishing and facilitating this course. They are listed below with the ways in which they could assist:

**Dining-** Provide space, cooking equipment, food ordering

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<sup>253</sup> *Curriculum Development Grants (Wig Fund)*. 2012, 20 Nov 2012-last update [Homepage of Pomona College], [Online]. Available: <http://www.pomona.edu/administration/academic-dean/teaching-curriculum/curriculum-development-grants.aspx> [2012, 20 Nov 2012].

<sup>254</sup> *Teaching Innovation Grants (Wig Fund)*. 2012, 20 Nov 2012-last update [Homepage of Pomona College], [Online]. Available: <http://www.pomona.edu/administration/academic-dean/teaching-curriculum/teaching-innovation-grants.aspx> [2012, 20 Nov 2012].

**Sustainability Integration Office (SIO)**- Provide publicity

**PEAR**- Raise student awareness and interest

**Farm Club**- Raise student awareness and interest, provide assistance during class meetings at Pomona's Farm

**EA department**- Fund course, raise awareness and interest

## **Challenges**

I encountered some challenges during the course design process and expect to encounter additional challenges as this project progresses. The challenges I foresee are as follows:

A significant challenge will be securing the space for the course. Dining has agreed to provide space for the course in their kitchens, however scheduling may be an issue. The course will take place beginning in the late afternoon and continuing through dinner. During this time, the dining staff will be using the Frank and Frary dining hall kitchens to prepare and serve dinner. It may be possible to use the Oldenborg dining hall, which has adequate cooking facilities but does not serve dinner.

Another challenge will be gaining approval for the course. Before the course can become part of the Environmental Analysis curriculum, the Curriculum Committee must approve it. It will be a challenge to write a convincing proposal, considering relatively small number of skill-based courses that are currently offered at Pomona.<sup>255</sup>

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<sup>255</sup> *Pomona College Catalog 2012-2013*, 2012, Pomona College, Claremont, CA.

Another potential issue is a legal one; health codes may cause problems. In order to cook in a dining hall kitchen, students may need a special health certification. During my conversation with dining services, this issue did not arise, but I expect that it may pose a challenge. If the students do in fact have to become licensed to cook in the kitchens, and the process is not too time consuming, it may be possible to complete it during the first class meeting. If the certification issue proves to be an inconvenience, it may make sense to use the Pomona Hall student residence kitchen for the course.

### **Recommendations for Future Action**

Though I have initiated the process, there is a huge amount of work to be done before this course becomes reality. Here I will outline the steps we must take before this course is offered at Pomona College.

1. Find a willing professor: Before the course can move forward, a professor willing to instruct cooking and facilitate discussion must be identified and must agree to teach the course in the future.
2. Research potential student certification: It may be necessary for students to be certified to cook in the dining hall kitchens. If this is the case, the certification process must be investigated.
3. Conduct pilot course: Before the course is formally proposed to the Curriculum Committee, it should be piloted. A pilot will allow for feedback from students and instructors and will lead to changes in the course structure and syllabus before it is proposed as a formal course.

4. Write formal course proposal and submit to Curriculum Committee:<sup>256</sup> Once the syllabus and course description have been finalized, the application for a new course can be completed and submitted to the Curriculum Committee for review.
5. Secure funding for course materials: I listed several funding sources above. If the course is approved, it will be funded in part by the Environmental Analysis department. Additional funding will come from Curriculum Development and Teaching Innovation Grants. The deadline for Curriculum Development Grants is April 8, 2013.<sup>257</sup> In order to secure funding, the grant application should be submitted by this date, including a course description and a detailed itemized budget.<sup>258</sup>

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<sup>256</sup> Included in Appendix A and available online at

<http://www.pomona.edu/administration/academic-dean/applications-forms.aspx>

<sup>257</sup> *Curriculum Development Grants (Wig Fund)*. 2012, 20 Nov 2012-last update [Homepage of Pomona College], [Online]. Available: <http://www.pomona.edu/administration/academic-dean/teaching-curriculum/curriculum-development-grants.aspx> [2012, 20 Nov 2012].

<sup>258</sup> Proposals should be submitted to Kristin Fossum, the Associate Dean for Academic Affairs. The Teaching and Learning Committee will review the proposal and notify awardees after the May Board of Trustees meetings. The awards become effective July 1, 2012 and must be spent by June 30, 2014 (Curriculum Development Grants 2012).



## Conclusion

The practice of cooking was once glorified as the ideal medium with which to teach students everything from physics and math, to chemistry and biology, to geography and germ theory. A history of war, feminist fury, a burgeoning industrialized food system, and the rise of convenience foods pushed the study of food and cooking out of our schools *and* our kitchens. The deskilling of our cooks can be tied to the increase in obesity and diet-related disease, a degradation of local food communities, terrible working conditions for food workers, and environmental destruction.

Eating and its related practices (producing, preparing, etc.) represent so much more than simply a means to fuel the body. As we have heard time and time again, “we are what we eat.” What we eat *does* matter and we need to take this matter into our own hands by educating people about the reality of food production in our country. Inspired by my belief in the importance of food knowledge and cooking skills, I have designed this cooking course for Pomona College, with hopes that the food education movement will gain traction here and spread throughout the higher education system.

Here I must mention the limitations of cooking education. We must remain aware of the other important factors, besides education, that determine how and what a person eats. Though lack of cooking skill is certainly a barrier preventing certain eating practices, other barriers such as food access and availability, preferences, and culture are equally important. The objective of this course is to provide students with a greater understanding of food and how it relates to them as

individuals, their communities, and the world, as well as giving them a skill-set they can make use of as they please. What the course does not do is provide a prescription for all food-related issues worldwide. This course is designed for college students as part of a liberal-arts curriculum and is just one step of many in creating a sustainable food system.

But there is so much to be gained from this course. To me, food is an amazing lens with which to view the world. Food is so much a part of our individual, communal, and political lives that it cannot go unstudied, un-scrutinized, and ignored. We must open a discourse around food so that we can begin to understand the flaws within our current food system. Only then can we collectively create a relationship with our food that nourishes our bodies, our communities, and our world.



# Appendix

## Appendix A: Course Proposal Form



### PROPOSAL FOR A NEW COURSE OR COURSE REVISION For Curriculum Committee Review

**Instructions:**

- 1) **Instructor:** Complete sections A thru C. Use the tab button to move to each area of the form. When complete, save a copy on your computer. Then, send the form as an e-mail attachment to your department chair.
- 2) **Department/Program Chair:** Complete Section D, save the form to your computer, and then send it as an e-mail attachment to [registrar@pomona.edu](mailto:registrar@pomona.edu). Please note the course number in the subject line of the email.

**Section A – to be completed for all course proposals**

Date \_\_\_\_\_ Dept(s)/Program (s) \_\_\_\_\_ Requested Course Number \_\_\_\_\_

Instructor Name(s) \_\_\_\_\_ Department Chair Name \_\_\_\_\_

Full title for catalog \_\_\_\_\_

Transcript Title (maximum 32 characters) \_\_\_\_\_

Semester/year course will next be offered: Semester? \_\_\_\_\_ Year? \_\_\_\_\_

Frequency of Offering (*each semester, each fall, each spring, alternate years, etc.*) \_\_\_\_\_

**Grading:**  Letter Grade Only  P/NC Only  Either

**Credit**  Full  Half  Variable Credit  Cumulative Credit

**Maximum Class Size** \_\_\_\_\_ **Anticipated Class Size** \_\_\_\_\_

**Prerequisites** \_\_\_\_\_

**Repeatability** Course may be taken a total of \_\_\_\_\_ times for credit.

**Course Description** (as it will appear in the Pomona College Catalog - 40-60 words – **please submit edited text!**)

**Section B - for course revisions only (complete all that apply)**

Previous course title \_\_\_\_\_ Previous course number \_\_\_\_\_

Previous grading option \_\_\_\_\_ Previous repeatability \_\_\_\_\_ times for credit (total)

Previous prerequisites \_\_\_\_\_

Check if description has changed.

**Section C - rationale For introducing/changing course.**

**Note:** The text of this rationale will be presented to the faculty. Please submit publication-ready text.

**Section D - to be completed by the department/program chair:**

- How will this course, or its revision, impact the department's or program's curriculum and resources?
- How will it affect other departments' or programs' curriculum?