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A New Look at Dewey’s Cooking Lab: a Pedagogical Model for Interdisciplinary Learning in Contemporary Higher Education

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A NEW LOOK AT DEWEY’S COOKING LAB: A PEDAGOGICAL MODEL FOR INTERDISCIPLINARY LEARNING IN CONTEMPORARY HIGHER EDUCATION

A Dissertation Presented
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Cynthia Belliveau
to
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of
The University of Vermont

In Partial Fulfillment of the Requirements for the Degree of Doctor of Education Specializing in Educational Leadership and Policy Studies

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ABSTRACT

This dissertation examines the link between cooking and learning. It first examines John Dewey’s pedagogical philosophy in which he asserts that the kitchen laboratory was an ideal learning environment to teach and learn about a broad range of subjects, an illustration of Dewey’s philosophical notions about true experiential education. Second, there is an examination of a Home Economic Department and its historical role in teaching cooking which introduces the issues of cooking and learning in the post secondary, higher education context. Finally to determine whether Dewey’s kitchen-based pedagogical approach applied in higher education, a pedagogical experiment was undertaken in which cooking was integrated into a college-level humanities course on food and culture. Reported as a case study, the ‘experiment’ was to recreate Dewey’s University of Chicago Laboratory School’s curriculum with 28 college-aged students in a kitchen laboratory at the University of Vermont. This qualitative research yielded results that suggest that Dewey’s methodology is a highly effective pedagogy at the college level and enhances students’ learning about the role of food in their own and in other cultures. Finally, these findings make the case for including more interdisciplinary, experientially based learning opportunities in higher education, generally, and for using food laboratories as a site for such learning opportunities.
ACKNOWLEDGEMENTS

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DEDICATION

To Ed,

Alek,

Eva

and Willa
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Chapter One

Introduction

On Cooking and Eating and John Dewey

In 1980, after finishing graduate school, I opened a small restaurant in Vermont. I started cooking professionally then after many years as my mother’s prep cook for our large family. I was a home cook, well-versed in basic culinary techniques, but nothing that I learned at my mother’s side or in my many years of formal education prepared me for what I was to learn over those next nine years in my restaurant.

Under tremendous pressure to succeed (i.e., pay my rent, staff, and self), I quickly learned how to source food from a variety of vendors, write recipes, manage staff, take care of customers, advertise, and read profit/loss statements. The first four years I made almost all the food and cooked the meals for my customers every day from six-thirty in the morning to ten o’clock at night and was on my feet the entire time. At no time in my life was I so seamlessly connected to what I was learning. Every day was a juggling act with a trapeze artist’s sense of timing. We had to be ready for lunch at eleven and dinner by five with tables set, ingredients prepped, plates warmed, dressings made, and bread racked. When we were done, we did it all again the next day, seven days a week, year after year.
Throughout my own now long culinary life, when either feeding my family, cooking in my restaurant, or teaching at Vermont’s New England Culinary Institute, I have always viewed my ability to cook as a potent bodily and intuitive experience irrevocably fused with my rational knowledge. I am unable to critically reflect or separate from the experience. My social and agricultural understanding of the complexities of taste and flavor, seasonality, food history, and diversity of cuisines merge with my understanding of nutrition, sanitation, and food chemistry, which merge with my understanding of chopping, sautéing, braising and baking, and so on. The experience is seamlessly connected to the knowledge and visa versa.

It is with this life experience and educational perspective that I entered the University of Vermont (UVM) six years ago to work for Continuing Education. During this time, I have been struck by the distance the institution keeps from its food. There appears to be a clear separation for the students between eating on campus and learning about the food they eat in the classroom.

For one of my doctoral assignments on leadership three years ago, I wrote a paper on John Dewey. I had not studied him since my undergraduate work in education (at UVM) and wanted to know more about our institutional legend. Louis Menand (2001) had just won the

The book is about American thought from the Civil War to the 1920s and focuses on three great American philosophers of which John Dewey was one. It was while reading this book that I remembered Dewey’s (1959) pedagogical philosophy of the unity of knowledge which centrally maintains that “knowledge is inseparably united with doing; that knowledge is a by-product of activity” (Menand, p. 319). Dewey said, “People do things in the world and the doing results in learning something that, if deemed useful, gets carried along into the next activity” (p. 392), hence the creation of the over used phrase “learning by doing.” Furthermore, I learned, and with much surprise, that Dewey had a curricular focus on cooking as a way to “apply” this philosophy in the classroom (Menand, p. 320).

It is with this awareness that I explored Dewey’s (1959) view, that cooking and eating together is not only a didactic tool, but also instrumental in teaching us how to cooperate with and engage in our natural world and communities, and in effect create thriving democracies. If John Dewey were here at UVM today, he would undoubtedly urge our professors to make use of each student’s daily interaction with food or utilize the Food Lab in Terrill Hall as a vehicle to
engage the learner. This is not a capricious idea! I contend that the preparation of food connects us to our land, water, soil, and ancestors and is inherently interesting to students. “There is no better field,” to use Bourdieu’s term, “for the analysis of globalization, migration, culture, and social identity than food” (Bourdieu, p. 389, cited in Deutsh, 2003, p. 8).

Educator Stephen Bowen (2005) says, “Engagement is increasingly cited as a distinguishing characteristic of the best learning in American higher education today. Vision statements, strategic plans, learning outcomes, and agendas of national reform movements strive to create engaged learning and engaged learners” (p. 4).

Drawing on these ideas and my own experience, I assert that the study of food and cooking are remarkably engaging and worthy of further investigation. In this dissertation, I propose that teaching college students about the world they live in through cooking and eating is relevant and uniquely integrative. We are linked by what is on our plates and by how we think about who made it, where it came from, how it was grown and transported and transformed, served, and eaten. My research is based on Dewey’s (1916) pedagogical assertion that learning happens through doing, using the study and preparation of food as the bases for this examination.
My Study

I used Dewey’s (1959) fundamental observations about learning as I examined the potential for integrating a cooking laboratory into college curricula.

First, in Chapter Two, I examine and critique Dewey’s (1959) interest in cooking to better understand its place in his pedagogical philosophy. In Chapter Three, I explored UVM’s past and present food practices/curricula focusing on the Home Economics Department’s Food Laboratory. In Chapter Four, I examined aspects of student development in order to understand how Dewey’s kitchen methodology would apply in a college classroom. In Chapter Five, I discussed my methodology using heuristic inquiry. In Chapter Six, I discussed the results of my experience co-teaching in UVM’s Food Laboratory where aspects of Dewey’s kitchen methodology were recreated in order to study his pedagogical model of synthesizing practice and theory. In Chapter Seven, I wrote a creative synthesis of my findings and their implications. And finally in Chapter Eight, I conclude.

Methodology

Overarching Research Questions that guided the study

1. A literature review of Dewey’s curricular focus on cooking and eating at the Dewey School.
• What was Dewey's philosophical perspective?
• What was the food curriculum?
• What was the significance of its inclusion in the curriculum?
• How did it relate to his pedagogical philosophy?

2. UVM's past and current food practices and curricula in the context of Domestic Science Movement.

• What were the significant historical moments?
• What was the role of Home Economics at UVM and what was taught?
• Why did Home Economics at UVM go away?
• How did industrialization influence Home Economics’ demise?
• How do UVM students currently learn about food?

My research, focused at UVM, contributes to the body of literature in food and society, and experiential education. Finally, this research provides a perspective for the study of food being more strongly connected to academic curricula across disciplines.
Chapter Two

John Dewey’s Kitchen Pedagogy

Dewey’s Philosophical and Pedagogical Framework

Since this is a dissertation in education and not philosophy, for purposes of this study and in this chapter, I will ground Dewey’s (1922) pedagogical perspectives by defining two generally held philosophical perspectives on theoretical and practical rationality. I will then provide context for understanding how Dewey’s philosophy evolved to pedagogy.

Within the philosophical tradition, two dominant perspectives, positivist and dialectic, emerged in the 19th century in reaction to the metaphysic perspective – a perspective concerned with understanding reality and the existence of god. Dating all the way back to Aristotle, the metaphysical tradition, initially meaning the study of physics, had been one of understanding the universe, both divine and human. It was during the 19th century, however, that metaphysics was contained and defined as the study of anything beyond the physical (Heylighen, 1997).

Both of the newer perspectives of positivism and dialectic had the progressive features of the secular rationalist and were critical of metaphysical dogmatism as it attempted to blend religious views with new found Darwinist views. Dewey, educated by Transcendentalist
professors (metaphysical tradition) at UVM, joined in this criticism early in his career and moved toward the perspective of a secular rationalist embracing both the positivist and dialectic traditions (Menand, 2001, p. 239).

**Positivist Tradition**

In the 19th century, positivism was a movement associated principally with French thinkers – Saint-Simon, Auguste Comte, Charles Fourier, Joseph Proudhon, but also with Englishmen like Francis Bacon and John Stuart Mill (Menand, 2001, p. 207). In positivism, the only true knowledge is scientific knowledge with an absolute distinction between facts and values. Although the scientific method provides more limited kinds of knowledge, the results have practical applications that build on one another over time and increase in scale. Then, as now, the general features of the scientific method are familiar to us because it has become “the common sense” of formally educated people in science and the social sciences where, “Theories are posed in statements which codify the laws governing phenomena in quantitatively precise ways. The deductive manipulation of these laws, in conjunction with empirical observation, allows the explanation of past events and the prediction of future ones” (Peterson, 1978, p. 65). To the positivists, it is precisely the independence of observation from theory that permits the testing of these laws.
Dewey was influenced by the positivist tradition and one can readily understand why. The steady development of the sciences promised mastery by society over its natural environment with freedom from famine and disease, and a rationalized social order free from ignorance, superstition and dogmatism (Kockelmans, 1978, p. 97; Peterson, 1978, p. 67). Dewey believed science was a kind of salvation for the impoverished masses. He celebrated “science” because it suggested “possibility, progress, free movement and infinitely diversified opportunity” (Upin, 1993, p. 45). He believed that science would sweep away the old ideas of the past and invigorate society by embracing the dominant ideas of positivism: “The scientific attitude would liberate us from the heavy burden imposed by dogmas and external standards” (Upin, p. 45).

**Dialectical Tradition**

Dewey was also influenced by German Philosopher Hegel (Menand, 2001; Peterson, 1978). Hegel was the germinal thinker of the modern dialectical tradition; in the early 19th century, he attempted to develop his own alternative to the earlier metaphysics tradition. He criticized absolutism, eschewing all thought that divided reality into rigid compartments (also known as reductionism). Hegel emphasized process, the structurally dynamic interconnection of elements, and the qualitative change (Peterson). Hegel placed social activity at the center of his
philosophy. For him, a central problem of the modern world was the tendency for agents to lose understanding and control over their own agency (Peterson).

For Hegel, a key way of thinking about knowledge and action in a dialectical way is that of holism. "If neither objectivity nor subjectivity is absolute and independent of the other, than each can be understood only in interconnection [and interdependence] with the other" (Peterson, 1978, p. 67). The concept of dialectics meant then that there were always opposing forces seeking synthesis. Hegel believed this synthesis happened through dialogue. But for Dewey it did not end there – he took this concept and made it dynamic, more active – and this idea created a major shift in his thinking. He came to believe that even a synthesis of "static and mechanical categories" distort what actually occurs in human behavior and experience" (Herrick, 1996, p. 12). While at the University of Chicago and at the Laboratory School, this emerging, more pragmatic belief supposed that, “Learning was a continuum and knowledge was provisionally constructed by the mind in perpetual interaction with the world" (Bickman, 2000, p. 301).

Pragmatism

Dewey was strongly influenced by the dialectic and positivist traditions, but gradually transformed his thinking toward the pragmatist
perspective by the beginning of the 20th century. The Pragmatists were critical of the dialectic’s introspection, and the positivist’s reduction static approach to philosophical questions, especially to matter and motion. The Pragmatists, “preferred other metaphors such as ‘field’ or ‘stream’ or ‘circuit’ to suggest the continuity and meaningfulness of consciousness” (Kloppemberg, 1996, p. 102).

For Dewey, pragmatism boiled down to a single claim: people are the agents of their own destinies and nothing is predetermined (Dommeyer, 1946, p. 477). Pragmatism for Dewey was about incremental adjustments. It was oriented towards a determination of what should be done and how to do it, moving the inquirer to action (Galdos, 2000). For Dewey, the universe was still in progress; a place where no conclusion is predetermined and every problem modifiable to the exercise of what he called “intelligent action” (Menand, 2001, p. 372).

Dewey was not a reformer, but a Progressive who believed in improving the quality of life under a given social structure. For example, he did not believe in industrial capitalism, a factory system dominated by rich industrialists, but was under no illusion that it would change. Subsequently, his strategy was to promote, in every area of life, including industrial life, democracy. A democracy that he interpreted as the practice of “associated living” – cooperation with others on a basis of
tolerance and equality (Menand, 2001, p. 373). In order to live in this “democracy,” Dewey’s pragmatism evolved even further to a philosophy of instrumentalism.

**Instrumentalism**

Instrumentalism stems from pragmatic philosophy and holds that ideas are instruments and function as guides of action, their validity being determined by the success or usefulness of the action (Britannica, 2007). As an instrumentalist, Dewey believed all thought was conducted from within the context of a “situation” or “environment” (Lamprecht, 1924, p. 426). In Dewey’s cognitive theory, the process of thought progresses naturally from the anxiety of an unsettled situation (an anxiety directly experienced) to the comfort of the settled situation by the transformation of a situation which provides “the background, the thread and the directive clue” of our thought (Galdos, 2000, p. 134). In other words, Dewey believed, “People do things in the world and the doing results in learning something that, if deemed useful, gets carried along into the next activity” (Dewey, 1959, p. 392).

Dewey (1959), the pragmatist/instrumentalist, distrusted all forms of foundationalism; all attempts in grounding values and thought on *a priori* postulates. Instead, he urged evaluation of all beliefs with the test he considered the most demanding of all: our experience as social and
historical beings (Kloppemberg, 1996). Experience was to be conceived, not as introspection, but through the intersection of the conscious self with the world. “Immediate experience is always relational (it never exists in the abstract or in isolation from a world containing both other persons and concrete realities” (Kloppemberg, p. 102). Consequently, Dewey’s pedagogical “instrumental/experimental/pragmatic naturalism” can be seen as a systematic approach to the integration of this mind/body, subject/object dualism.

In the concept of work as practical activity, Dewey (1959) found the ground for overcoming the social and intellectual dualisms which he felt distorted both social and intellectual pursuits. It was for Dewey the bridge that connected home and school – learning how criteria are used in making value judgments, how means and ends are coordinated, how consequences are weighted, how social costs are deliberated, how priorities are set. In essence, practice is simply the “craft of valuation; the combination of reasoning skills, cognitive dispositions, and habits of good citizenship” (Roemischer, 2006, p. 3).

Criticisms

Critics of Dewey’s (1922) pragmatism assert that people are not always pragmatic in their wants and beliefs, and interests are not predictable and not to be taken for granted. They contend that Dewey
never considered “right” reasoning from “wrong” reasoning (Galdos, 2000, p. 131). Building on this critique, others challenge that his pragmatic instrumentalist approach to science was amoral. It encouraged blind commercialism and greed without conscience or “love of truth” (Upin, 1993, p. 44). But others defend Dewey by saying science to him was a synonym for reason, intelligence and reflective thought (Kloppemberg, 1996; Upin). Science to Dewey was not “science” in the positivist sense that is objective, emotion free, value neutral. Dewey argued that, “Pragmatism [and instrumentalism] were not a defense of a ‘feudalized commercialism,’ but a genuine idealism of faith in the future, in experiment directed by intelligence, in the communication of knowledge, in the rights of the common [person] to a common share in the fruits of the spirit” (Dewey, p. 310; Upin, p. 44).

I believe Dewey’s (1922) pragmatism was directly influenced by the circumstances of his own times. The Progressive period was an age of “solutions” where alleviating health problems, conserving natural resources, and building incorruptible political institutions was possible (Taylor, 2004, p. 23). I would agree that today his views could appear paternalistic and, at times, even elitist in their utopianism, especially in these cynical times. The tragedies of the 20th century have made us less sanguine about our future and in thinking that any single philosophy can
solve all our problems, but I contend Dewey’s enduring philosophical wisdom that “science” is active, cooperative, and shared problem solving requiring the individual to make her or his contribution to a group interest is vitally relevant for today’s troubled American democracy. His philosophical “willingness” to continue to try to find a better way, and his deep faith that we are all “worth it” is just plain hopeful, and eminently worthy of closer scrutiny as a methodology in the contemporary college classroom.

The Dewey Laboratory School

After graduating from UVM in 1879, Dewey went to graduate school at Johns Hopkins University, and then taught philosophy at the University of Michigan. In 1894, he moved to the University of Chicago, and at the age of 35, became chair of the philosophy, psychology, and pedagogy department (Dewey, 1959, p. 5). At the University of Chicago, Dewey and his colleagues, elementary school teachers Anna Camp Edwards and Catherine Camp Mayhew, and his wife, Alice Dewey, opened an experimental elementary school. By 1902, there were 140 students enrolled with 23 teachers, and 10 graduate students attending. The Laboratory School became internationally recognized and was commonly known as the Dewey School (Dewey; Edwards & Mayhew,
1936). It was in this teaching laboratory that he tested his learning by doing philosophy blending the theoretical with the practical.

When Dewey took his philosophy to Chicago, what he and his colleagues accomplished fundamentally changed the way children were taught (Dewey 1959; 1978). As a result, he earned a reputation as a great educator. It is interesting to note that he did not regard himself as an educator or a reformer. He considered himself to be a philosopher for he said, “I think I will drop teaching philosophy directly and teach it via pedagogy” (Menand, 2001, p. 319). As he had been taught at UVM, he recognized that learning is not separate pieces of information floating in a curriculum, “but interacting, unpredictable activities forming the unity of knowledge. He saw knowledge as inseparably united with doing” (Dewey, 1916, p. 389; Menand).

As a pragmatist, Dewey was predictably scornful of schools that separated the mechanical and the intellectual or art. He claimed that “education” must be construed as a function of activity where something else needs to be discovered, something which mediates between these extremes. His idea that all educational aims and ends must be “instrumental” (meaning ideas are instruments and function as guides to action) required that the student be experimentally involved with the objective world in order to see what the consequences were of her/his
transaction with it. It is here, in the quest for the continuity of action in real experience, that Dewey turned to the kitchen activity (Roemischer, 2006, p. 2).

Dewey believed that cooking was one of those activities that inseparably united knowledge with doing. Cooking, so central to human survival and inherently interesting to children (and adults), was the ultimate example of producing knowledge as a by-product of the activity. As stated by Menand (2001):

The children cooked and served lunch once a week. The philosophical rationale is obvious enough: preparing a meal (as opposed to memorizing the multiplication table) is a goal-directed activity, it is a social activity, and it is an activity continuous with life outside school. Dewey incorporated into the practical business of making lunch: arithmetic (weighing and measuring ingredients, with instruments that the children made), chemistry and physics (observing the process of combustion), biology (diet and digestion), geography (exploring the natural environment of plant and animals) and so on. (p. 32)

Each group of children prepared the communal lunch once a week, including setting of the table, reception of the guests, and the
serving of the meal. “Dewey thought this gave the student a positive motive for the cooking, as well as social value” (Edwards & Mayhew, 1936, p. 33).

Cooking, to Dewey, was not only a central vehicle for teaching the scientific method, but also the “logical sequence of this work formed simple and direct habits of thinking; and acting; and learning; and problem solving” (Hilgard, 1953, p. 124). Cooking also provided a tool for socialization of the student into the group. Cooking, eating and conversing in a social setting were key ingredients for educating young members of society into a life of community participation. Teacher Anna Edwards (1936) wrote, “Each individual, no matter how young, did certain things in the way of work and play along with others, and learned thereby, to adjust himself to his surroundings, to adapt himself to social relationships, and to get control of his own special powers” (p. 303). Bringing children into the kitchen early in life, giving them social and moral responsibilities and the practical basis for manifesting scientific intelligence within a community of inquiry was, for Dewey, distinctly educational.

In Dewey’s Laboratory School at the University of Chicago, the kitchen as laboratory, featured prominently in the curriculum. Students ages 4-14 cooked, served and ate together because the kitchen was one
of those environments where mind/body, subject/object dualisms melted away.

Cooking uniquely supported Dewey’s ideas and I have chosen four of his key premises to elucidate why for him kitchen classroom environment was a good test for his pedagogical philosophy. Although there are multiple interpretations of these ideas, my investigation has led me to the construction of these four interconnected themes:

1. **Aims and means** – The activities of the home, the fundamental activities of living, become logically the activities of the school and continue with ever-widening horizons. For Dewey, the student, inherently interested in cooking, does things to and with others for a purpose s/he understands and for the attainment of an immediate end which s/he desires and which leads into further attempts. In each progressive experience, the mind, stimulated by genuine interests and desired ends, directs her/his activity as initiated by her/him.

2. **Theory of the ‘act’** – Unlike most other subject areas presently conceived and taught, the kitchen lab is a perfect example of an operation that Dewey refers to as a “complete act” – a complete act of thought. In this sense, the (kitchen) work which students do involves an integration of the various operations and materials
which constitute “cooking,” but ultimately must engage students in the development of a work-product-project. The pursuit of knowledge is not only productive, but a fun experience. It meets Dewey’s criterion for “an experience” – students must be allowed to do something and then undergo the consequences of that doing: it is this rhythm, inherent in activity, which connects knowledge and experience and transforms teaching-learning into experimentation and problem solving.

3. Community of Inquiry – Though most classroom engagements are isolating, the kitchen laboratory as kitchen experience is integrating: it is work done with and through others. It is essentially a cooperative enterprise in which the teacher is a member of the group, not its sole authority. What is learned has much to do with the value status of the process itself seen as a social enterprise. Any value criterion is always situation-specific. Change and individual differences lead to group “progress,” but not in an overall sense; that is, not to some ultimate end or value, but only as a resolution of a local impediment of progress. Values are; therefore, open to evaluation and re-evaluation by the group, since some one thing achieved opens the possibility of future novelty and change.
4. Value-theoretic vs. Game-theoretic situations – While much teaching learning as currently practiced is governed by a game-theoretic design (competition, merit, grades, tests, etc.), kitchen study is not because essentially it is cooperative and more in line with a value-theoretic endeavor. Kitchen study, as operational, is value inclusive: all members of the class have a place as the experience unfolds (Edwards & Mayhew, 1936, p. 461; Roemischer, 2006, p. 6).

The critical significance then for Dewey’s educational premise and of his use of “kitchen experiences” was to demonstrate the natural transition from play to work in a student’s personal-social development (Dewey, 1916, p. 229). I would argue that this earlier curricular involvement with “kitchen work” became the developmental cornerstone of his larger educational philosophy.

The Design of Dewey Laboratory School

As mentioned earlier, the University of Chicago’s Dewey School was started in 1896 and ended in 1904. During those eight years, John Dewey and his team created a place where curriculum related to life and experience because they believed that students would experience greater freedom if vocational and academic curricula were unified rather than separated.
The two teachers from the Dewey Laboratory School, Katherine Mayhew and Anna Edwards, wrote of their ground-breaking experience in their book, *The Dewey School* (1936). They start with the mission: “The primary business of school is to train children in cooperative and mutually helpful living, to foster in them the consciousness of interdependence, and to help them practically in making the adjustments that will carry this spirit into overt deeds” (p. 39). Their lengthy tome chronicles the growth of the school with in-depth narrative and details about the daily activity. *(I refer to this text on numerous occasions as it is a primary resource with first-hand perspectives.)*

The theory of the Laboratory School was founded on the grand idea that the classroom was a mini-society and the teacher’s goal was to create an environment, parallel to an effort to develop a civilization. The teachers selected permanent contributions to the civilization in the form of enduring lessons. Beginning with the simple in the early years and gradually becoming complex in the later years, the learning was never thought of as linear and compartmentalized, but more backward and forward connections over time (Dewey, 1939, p. 470).

As has been discussed in earlier sections, the Laboratory School was designed to create imperceptible divisions between the practical and theoretical; or the home, community and school. It was, therefore, very
important to design curriculum that reflected this fundamental blend, which at the time were cooking, sewing and carpentry. The teachers asked these three questions when designing curriculum:

1. What can be done to bring the students into closer relationship with their home and community?
2. How can history and science and art be introduced so that they will be of positive value and have real significance in the student’s own present experience?
3. How can instruction in the formal, symbolic branches of learning – the mastering of the ability to read, write and have numeric intelligence – be gained out of other studies and occupations as their background? (Edwards & Mayhew, 1936, p. 26)

The Kitchen Curriculum

“The activity of cooking is in itself its own reason for being. It constantly furnishes incentives to attempt new problems and can, therefore, be used to great advantage with [students],” said the Laboratory teachers early in the founding of the school (Edwards & Mayhew, 1936, p. 296). Cooking held a distinct place in the curriculum all eight years because it was so versatile a medium in which to teach about historic and social values or scientific principles. The kitchen laboratory
was planned and directed by two teachers whose training in the domestic sciences was coupled with a wide teaching experience. The program began in kindergarten and went through the eighth grade. At each grade level, an elaborate series of materials were developed over the eight years, with a correlated scientific experiment, to clarify the purpose or theme of the lesson.

The inclusion of cooking in the Laboratory School was not coincidental as Dewey was very influenced by the Domestic Science Movement during that time (see Chapter 3). The grand dame of this movement, Ellen Richards of MIT and friend of Dewey’s, worked out in theory, as well as in practice (with her older female students), what was later called “the free-hand method of teaching cooking.” The method emphasized the science of cooking relating to nutrition, sanitation, and chemical and heat processes. She believed an understanding of “why things happen” allowed the home cook freedom from recipes and the ability to be more creative (Edwards & Mayhew, 1936, p. 298).

Until Dewey and his colleagues created the kitchen in his experimental school, there had been no cooking curriculum for younger students in public education. According to the designers of the curriculum, “The problem in the school, then, became one of adapting to little children the successful courses already planned and in practical use.
for older girls" (Edwards & Mayhew, 1936, p. 299). Over the next eight years, the cooking curriculum was adapted to meet the ability and interest of the students, as well as meet the objectives of the lesson.

**Cooking from kindergarten to second grade.** The two cooking teachers designed the cooking experience to meet the needs of the younger student (boys and girls) by creating an experience that had a clear end. In other words, they designed the lesson so there was a clear causal link between the ends and means. The children prepared one thing, each child contributing by measuring, retrieving, and mixing one item. This exercise created for the student a sense of responsibility to the whole group. As Dewey would say, “the social end (the final preparation) reinforced the immediate one (the tasks)” (Menand, 2001, p. 372). The teachers noted that in the beginning of these “experiments,” the students’ intense interest in the final product overshadowed the process. They were not interested in understanding what was happening during the procedure, but more interested in outcome. However the teachers also noted that after exploring the “results” over a period of 18 months, the students became more interested in some fundamental principles and materials used in cooking (Menand).

An interesting aside and worthy of mention is the development of mathematical sciences, as a tool, was critical to the teachers. In the early
grades, students did measuring of all kinds, working up to expressing fundamental mathematical relations such as ratio and proportion and to using freely algebraic symbols and geometric construction. But it was never assumed that mathematics could be developed as a way to control social situations, “for mathematical expressions are only of use as formal tools in a special limited kind of experience. Hence, number is discussed not primarily as one of the sciences, but as a form of communication” (Edwards & Mayhew, 1936, p. 309). In other words, math in their eyes did not reside solely in abstraction, but rather was always part of the everyday human experience.

**Third grade to fifth grade.** During these ages, the teachers noticed a change in interest level. “[There] is a more conscious reference to technique and to what might be termed the intellectual side” (Edwards & Mayhew, 1936, p. 299). At this stage, simple experiments were introduced because the students (again boys and girls) were capable of performing multiple tasks at a time. The teachers were very careful to tightly control the experiment so that the student could draw an inference and learn a general principle. For example, experiments with egg proteins were designed to better understand scientifically heat and heat transfer, and the denaturing of proteins, and social observation and inquiry in a social setting. “To see a class of eight year old children prepare perfect
omelets, using small covered sheet-iron saucepans over gas burners was a revelation of what experimental work could do" (Edwards & Mayhew, p. 307).

**Sixth to eighth grade.** In this age group (boys and girls), the lessons became even more complex. "The preparation and cooking of proteins was taken up. The cooking of eggs, meats and fish was followed by a review of the milk and vegetable soups, and was concluded with the preparation of batters and doughs by means of various raising agents" (Edwards & Mayhew, 1936, p. 330). The teacher's role at this stage was to guide and facilitate by asking questions and refreshing memories of prior work. Their focus with this older group was largely experimental. For example, the making of jelly from cranberries and apples was an occasion for emphasizing or introducing many physical processes, such as the effect of boiling water in disintegrating solid matter and in hastening the process of evaporation (Edwards & Mayhew). There was a strong emphasis on relating the process of cooking to physiology (especially nutrition and hygiene). Interesting to note here is at this point in the cooking curriculum, the cooking teachers co-taught with the science teachers.

In the older groups, students worked on different experiments and then compared results at the end of the session. Their interest in the form
of expressing what they were about to undertake as a result of trial and error experienced in past sessions, increased their need for clarity at the onset. They were now, as opposed to the younger groups, more interested in the preparation phase and methods for recording results. In other words, because of their past experience, they were more aware of what to ask and how to organize prior to cooking.

**The Weekly Luncheon**

The lessons at the Laboratory School were thematic in nature. The teachers worked closely, relying on one another's special area of expertise in history, mathematics, language and science, using the kitchen as their medium. "Association and exchange among teachers was our substitute for what is called supervision, critical teaching and technical training and is critical and fundamental to school organization and administration" (Edwards & Mayhew, 1936 p. 374).

The time for cooking varied from one and half to two hours per week. The period was divided into two parts, 30 minutes for discussion and the rest of the time for experimentation. On Wednesdays, the students all sat down for the much awaited luncheon (Edwards & Mayhew, 1936). Students contributed to the meal with items from home or from certain groups' preparations that day. On special occasions such as Thanksgiving or Christmas, the menu for the lunch was elaborated and
extended to include the actual cooking of one food from beginning to end (Edwards & Mayhew). I include these two quotes from Edwards’ and Mayhew’s account of their experience as evidence of the activity:

   The work of getting lunch was variously distributed among the different students. Some calculated and measured the amount of cocoa needed, other measured and weighted hominy and water. Others set the table, while two wrote stories to read for the entertainment of the others. On special occasions, the students prepared a meal for 20 people. The meal consisted of bean soup and cocoa, and the children themselves bought the milk, bread and butter needed. In the meantime, some of the other students set the table and some wrote stories to read at the table for entertainment.

   Opportunity was constantly given for expression in various mediums. By means of crayon, pencil, color and scissors, as well as through the spoken and written word, the students were encouraged to record the memories of a walk, [the taste of] apples they gathered, the story they had heard, or the process they had imagined or carried through. (p. 51)

   The older groups were responsible for the servicing of the table and individuals were assigned this role in strict rotation, as in this assignment,
students could invite other guests (a very popular job!). The clearing away and dish washing, also popular, was again, part of the luncheon ritual. It was expected that the older students would converse with each other as they dined. The teachers often read to students at their table. As Dewey so succinctly said, “The luncheon became a natural opportunity to show hospitality to others” (Edwards & Mayhew, 1936, p. 296-99).

Operational and Instructional Organization of the Teachers

The tone of the Laboratory school was set by the 23 teachers and 10 assistants. They were passionate about their mission and organized themselves democratically allowing for a free flow of ideas. They based their pioneering institution on two inviolable tenants:

1. In all educative relationships the starting point is the impulse of the [student] to action, [her/his] desire responding to the surrounding stimuli and seeking it expression in concrete form.

2. The educational process is to supply the materials and the positive and negative conditions, - the let and hindrance – so that [her/his] expression, intellectually controlled, may take a normal direction that is social in both form and feeling.

(Edwards & Mayhew, 1936, p. 23)
These principles determined the school's operation and organization, as a whole and in detail. The teachers preferred not to have to have lesson plans or syllabi too predetermined or much elaboration in advance of teaching. They believed that although at times it was difficult not to rely on traditional methods (for example, they rarely used textbooks), the vitality and constant growth, as a result of the iterative process, was preferable (Edwards & Mayhew, 1936; Provenzoi, 1979).

The teachers worked cooperatively, with considerable use of the trial-and-error method that required constant check-in between teachers. In The Dewey School (Edwards & Mayhew, 1936), Edwards and Mayhew outline a template for collective curriculum development. I include all 20 questions in Figure 1 as evidence of the extent and dimension of their planning and development.

1. What is the common end to all?
2. What is the intellectual result?
3. Is the intellectual aim single or multiple?
4. Is there any end which is comprehensive enough and definite enough to mean anything?
5. By multiple – do we want to train observation, memory, and/or judgment?
6. Are there separate ends?
7. If the end is single, how shall we relate all the subsidiary ends, such as memory, attention, observation, reasoning power, to it?
8. If it is multiple, what is the effect of that in practice; is one study especially to reach one end and another?
9. Do we work memory in one recitation and observation and reasoning power in others?
10. And if so, how shall we regulate their balance?
11. Is there any normal process of the mind which corresponds to this end which we want to reach, and if so what is it?
12. If there is a normal process, if the mind actually works toward it, just as the body is working toward health, what is the use of a teacher anyway?
13. Where does the teacher come in?
14. What is the relation toward this movement in the child’s mind and the responsibility of the teacher?
15. What is the relation of the different members of the group to the teacher?
16. What is the relation of the different members of the group to the class?
17. What have they to do with each other in working out this end?
18. What is the significance of the various lines of study taken up toward the reaching of this end?
19. How is the gaining of control and of new experiences to be secured?
20. What is meant by bringing in something new? There must be a point of contact, a place where the old experience comes up to the new, and from the student’s point of view, what is the new? The new is something presented to the child as a problem, a difficulty, something that is doubtful, which has enough connection with the old to make the thing continuous.

Figure 1: Corrective curriculum development template (Edwards & Mayhew, p. 369-70).

These questions helped set boundaries and ground rules for the teachers, and served like a code of conduct for how they would teach in a laboratory environment. Without getting into too much detail on the activity of the teacher community, suffice it to say, they spent significant amounts of time planning and making decisions as a group. Some of Dewey’s important theoretical premises lying behind the work of the school were “operationalized” through these faculty meetings.

Dewey thought cooking allowed students to unconsciously and naturally participate in the scientific method. They “learned” through active investigation, testing out of guesses, in social relationship with their group. The teachers were to act as facilitator of “asked for” facts and figures and to supply books and resources when guidance was necessary.
As he saw it, cooking provided a natural avenue or approach to fundamental aspects of the scientific method and, at the same time, for cooperative and social interaction (Edwards & Mayhew, 1936).

Dewey believed that activity carried on under conditions of external pressure or coercion by the teacher or curriculum would not carry any significance attached to the doing. “The course of action is not significantly satisfying; it is a mere means for avoiding some penalty, or for gaining some reward at its conclusion” (Dewey, 1916, p. 203). Focusing on student interest and/or value is, therefore, paramount to the activity; otherwise, they lose interest and incentives are necessary (e.g., grades, awards, punishment, etc.). Dewey did not believe in an unsupervised, student run environment; quite the contrary. He was well-aware how tough it was for children to establish connections to the cultural and technical achievements of adult life, and then to continually increase in difficulty, always putting the interest of the child first (Provenzoi, 1979). More succinctly, he was aware that children and young adults were inherently not impressed with accomplishments of the past, but were intrinsically interested in their active role in the “now.” Therefore, Dewey's rejection of the concept of antecedent – that of not basing lessons in past values, interests and habits – freed the teacher and student to experiment and experience novel situations, together.
Chapter Summary

In this chapter, one can trace Dewey’s philosophical evolution through both the positivist and dialectical traditions finding a resting place in pragmatism. His philosophy became active when he started the Dewey School early in the 20th century. Along with many innovative teachers, he designed an educational environment that blended the practical with the theoretical and in so doing created a fundamental change in educational thought. One of Dewey’s curricular foci was the use of the kitchen as a vehicle to teach in this blended learning model. His kitchen methodology, carefully detailed by the teachers, was according to Dewey, uniquely appropriate and highly effective in promoting active investigation and problem solving – key elements in his pragmatic philosophy.

Although Dewey’s educational theories have been the watchword for over 100 years, no one has taken his kitchen methodology seriously. In all of my research, I was unable to find one reference that pointed to scholarly work in this area. So as my colleague and I attempted to re-create aspects of Dewey’s kitchen in the Food Lab at UVM, we were aware of creating a “new” experience for ourselves and our students. Like Dewey, we wanted to develop an experimental methodology that was deliberately designed to present a problematic situation (in the form
of a recipe); then to propose a hypothetical solution (as in methods for preparation); and finally to test it (by cooking it in the Food Lab). We attempted to put “activity” at the center of our teaching-learning experience believing, like Dewey and his colleagues, that only through activity can we “act” on the hypotheses and learn about ourselves and the culture we live in.
Chapter Three

Missed Opportunity within UVM’s Home Economics Department

Domestic Science Movement Pedagogy

This review of the literature and historical documents about the Domestic Science Movement is not to write the definitive essay on the Movement itself. In this chapter, my objective was to flesh out how Dewey’s pedagogical philosophy, especially his kitchen methodology, manifested itself at UVM. This examination focuses primarily on the history of Home Economics Department with emphasis on its food curricula.

In a speech in 1899 to the American Psychology Association Dewey, UVM’s most notable alumnus, said, “The real essence of the problem is found in an organic connection between the two extreme terms – between the theorist and the practical worker” (Dewey, 1978, p. 124). Perhaps not aware of Dewey’s oration, it was the women faculty in UVM’s nascent Home Economics Department who were attempting to connect theory and practice by developing curricula that in many respects mirrored Dewey’s Laboratory School.

In her paper on the history of the Home Economics Department, A Backward Look – Ahead Home Economics at The University of Vermont, Professor Blair Williams (1987), traces the 70 year history of the department until its closing in 1982 (Ross, 2007; Tyzbir, 2007). It is in this paper that
Williams commends Bertha Terrill, first director of the department, for her forward thinking pedagogy of learning by doing (Williams, 1987).

Brief Overview of the Domestic Science Movement

According to Laura Shapiro in her book, *Perfection Salad* (Shapiro, 2001), the pioneering women of this early movement lived at a time when “science and technology were gaining the aura of divinity; such forces could do not wrong and their very presence lent dignity to otherwise humble lives and proceedings” (p. 4). In the mid 1800’s, the main goal of this emerging movement was to elevate home standards and to lessen labor, “The constant quest was to discover an easier way” (Hoeflin, 1988, p. 14). Industrialization was already changing the nature of work with the escalation of factory jobs. In many cities, gas and electricity were beginning to change the procedures of daily life; scientists and inventors were concocting new things like the typewriter, telephone, light bulb, and calorie (Shapiro). The Movement took root in a link between what they perceived as science and the world the Home Economist knew best: housework.

The Movement, started by the pioneering women of the Midwest with incentives from the USDA, provided domestic education for farm women. These enterprising farm wives were interested in labor-saving devices and entrepreneurial ideas to alleviate arduous work and, in many
cases, grinding poverty (Hoeflin, 1988). For them, the challenge was to revamp traditional methods of housekeeping into something more regulated as in a business or factory setting. There was little differentiation in housework between laundry, domestic chemistry, physiology, house furnishing, care of the sick, care of children, sewing, and food preparation – they were all critically important to the survival of one’s family (Bevier, 1906). Food and cooking, however, were of greatest interest to these ambitious women in the Movement because all housewives and their families needed it; it offered an easy and immediate access into the home (Shapiro, 2001).

By the early part of the 20th century, the Domestic Science Movement had moved to the Northeast as heavy immigration from Europe and mass migration from rural areas to the cities caused unsettling societal problems. The uprooting of many ethnic groups in this new era of industrialization created tremendous disruptions in family traditions and the passing down of ancestral knowledge. Subsequently, the preponderance of this population who were uneducated and poor gave a powerful sense of mission to the Movement; it called on the middleclass to “reshape reproductive and childbearing practices and the management of the household to meet the needs of the new modern society” (Reiger, 1987, p. 479). It was a call to action by the professionals
or “experts” to intervene in the private sphere with programs and plans funded by philanthropic individuals and charities (Reiger).

Riding this wave of social reform was Boston professor, Ellen Richards. With missionary zeal, Richards, an MIT chemist by training, captured this societal phenomenon and scientifically codified these domestic situations into what we now call the field of Home Economics (Shapiro, 2001). In her Sanitation Lab at MIT and in her influential book, *The Chemistry of Cooking and Cleaning: A Manual for Housekeepers*, in 1882, Richards tested and systematized the “discipline of housekeeping” into categories of good nutrition, proper clothing, pure foods, physical fitness, sanitation and efficient practices with the intention that, if upheld, would allow women more time for other activities.

The Home Economics Movement gathered steam and 20 years later, up in New York State, at the now legendary Lake Placid Conference of 1908 (organized by Richards), Melville Dewey (a distant cousin of John Dewey) gave a paper proclaiming the future of home economics. He said, along with many other progressive women in attendance, including Richards, “As to the work to be accomplished, the movement should not be confined merely to matters of food, clothing, and shelter but should cover all that pertains to the general welfare and environment of the home” (Dewey, 2000, p. 1). Melville Dewey’s (inventor of the Dewey
Decimal System) range of knowledge and work was wide and varied. He pioneered the creation of career opportunities for women. He and his first wife, Annie Dewey, developed the Lake Placid Club, a resort for social, cultural and spiritual enrichment in the Adirondack Mountains (Online Computer Library Center, 2007). In his speech, he urged that home economics be included in college curriculum.

Several years ago, when I suggested to a college president that he add home economics to his curriculum, he was surprised, as if I had asked him to add the cook of the college dormitory to his faculty. Since that time, we have seen great change. In 12 years [since that conversation], home economics has been introduced into educational institutions from kindergarten to university. (Dewey, 2000, p. 1)

He went on to advocate for the organization of a national association for home economics that would be unified with monthly publications. He commended the Vermont State Republicans for their inclusion of home economics in their 1908 platform (Dewey, 2000).

**Home Economics at UVM**

Bertha Terrill, UVM's first female professor, arrived in 1909, one year after Melville Dewey’s paper, to introduce the emerging study of professional Home Economics. The inclusion of a Home Economics
Department at UVM was unique. Up until 1909, when Terrill arrived on campus, there were no eastern colleges with such a department (the western state universities were at least 40 years ahead in curricular design) (Hoeflin, 1988). She joined a university with a predominantly male student body steeped in the tradition of “classical” education. Terrill, a professor of Latin and Greek, was hired with a $60,000 appropriation from the State of Vermont to build Morrill Hall, to come and provide instruction for young women in “Household Economics” (Williams, 1987). I would put forward here that like Richards, who was a chemist by training, but relegated to her own department in the School of Housekeeping at MIT, Terrill faced the same arrangement. Her scholarship in Latin and Greek did not provide entrée into the Classics department, and if she was to enter into the hallowed halls of the university, it would be in the segregated realm of Home Economics.

A native of Vermont, Terrill was born in Morrisville in 1870. Before joining the UVM faculty, she had received a fellowship to study at the University of Chicago and was granted the degree of Masters of Arts and then studied at MIT with Richards in the Department of Household Administration. As mentioned earlier, Dewey was a great admirer of Richards and included Richard’s scientific cooking methodology in his Laboratory curriculum. Although there was no direct narrative that I could
find linking Terrill with Dewey, even though they were both at the University Chicago at the same time, one does wonder if Terrill was influenced by Dewey’s kitchen pedagogy in the same way she was certainly influenced by Richards’ kitchen methods. Wherever the influences originated, for Terrill, blending theory and practice was central to her curricula design.

**Historical Review of UVM’s Food Practices**

The historical influences on food curricula at UVM are best understood through the lens of the Home Economic Department’s 70 year history. Yet I want to expand that view somewhat by including wider institutional food practices at the time as a way to contextualize and foreshadow what eventually happened to the School of Home Economics. This section will also shed light on my reasons for resurrecting the Food Lab with new curricular intent.

In Julian Lindsay’s (1954) *The UVM Traditions Look Forward - 1791-1904*, he says, “The first college in this country was established by graduates from Cambridge and Oxford. It became the veritable model to which all other institutions were confirmed” (p. 85). A peculiar feature of English universities was the furnishing not only of instruction, but also of board and lodging (Levelle, 1938; Lindsay, 1954; Wayland, 1842). UVM took this approach and early on offered food and lodging for its students. There were various documents and records with mention of “commons,”
“board,” “eating clubs” and “dinners.” There was one reference, dating back to 1888, in the UVM Chart of Accounts, to food purchases (for its 47 male students) of mainly bread, rice, meat and fish (Recorder, 1888). In an interview I had with former UVM Professor of Home Economics and alumna, Marion Brown Thorpe (Class of 1938), stated that, “Up until the 1940s, most students ate their main meal in their fraternity or sorority house if they belonged to one [as she did] or students ate at downtown restaurants or boarding houses to save money” (Thorpe, 2005).

Historical information on campus eating practices gets clearer in the 1950s. There were two dining halls, Waterman and Robinson, for men and women respectively, and students ate there only if their class schedule interfered with eating elsewhere (Levelle, 1938; Thorpe, 2005).

A decade before, in 1944, a joint appointment had been made between the Waterman Cafeteria and the Home Economics Department for a faculty member to oversee the nutritional standards and the preparation of the food in the cafeteria (Williams, 1987). It also provided a faculty member to teach the necessary institutional “quantity cooking” courses (cooking large quantities for institutions like hospitals and schools) for the Dietetic majors, as well as to supervise these students in the hands-on function of the food service operation (Williams).
Twelve years later, in February of 1956, UVM became one of the first universities in the country to contract with an outside foodservice vendor (Saga Foodservice Corporation) to manage their now mandatory meal plans (Reporter, 1956). Up until this point in time, UVM, like most universities across the country, made its own food and students had the option of buying it. There was no official reason for moving to a mandatory contract that I could find; however, the literature does suggest, especially in my review of President Lyman Rowell’s letters, that complaints from students and faculty were perhaps Rowell’s justification to outsource (Bandel, 1966; Rowell, 1966). The signing of the contract also coincided with a time of tremendous growth in buildings, infrastructure and enrollments (Rowell), suggesting that the current Home Economics foodservice infrastructure was not positioned for the increase in volume.

According to Professor Brown, whose sister was the lead instructor in Waterman Dining Hall, the staff was downsized, and the dietician course work was moved to the laboratory kitchens within the Home Economics department (Thorpe, 2005).

Interesting to note, soon after the Saga Foodservice Corporation contract was signed, there was significant student uproar, enough to warrant many articles and letters to the student newspaper, The Cynic (Perfetti, 1956; Student Editor, 1956), about poor food quality and high
prices. Freshman Robert Perfetti said, “The food is disgusting and prices are outrageous, I have heard rumors to the effect that the entire Waterman building is supported by profits from the cafeteria” (Perfetti, p. 4). The most poignant letter, however, came from a faculty member, almost nine years later in 1966, addressing the disastrous effects the contract had had on food quality, ambiance and social decorum. She claimed, “…to be ‘no food faddish,’ having happily survived in army cafeterias.” But having just finished her first meal at Waterman cafeteria in five years, she claimed that it was a “catastrophe” (Bandel, 1966).

In this historical review of food preparation and dining at UVM, I found that in each time period, food education in the Dewey pedagogical tradition appears to be important only in the Home Economics Department. Why UVM ignored the Deweyian possibility for learning by doing campus-wide is not clear, but certainly the last sign of it was being slowly suffocated in Home Economics during this time period. Ironically, while UVM was relegating its cooking class to a “contained” laboratory, many other colleges and universities at the time (1955-1965) reveal attempts to revamp their menus and kitchens as ways to meet new student culinary demands (Kinsella, 1978; Manning-Anderson, 1976; Wesselhoeft, 1976). For example, during this time, the University of Maryland student government negotiated with administrators to establish
a student food coop on campus that allowed students to cook and sell food at minimal profit (Manning-Anderson). In other examples, special kitchens were reserved for students to cook their own food (Kinsella).

This brief historical overview firmly establishes the wavering status food and food curricula had at UVM. What appeared to start out convincingly cutting-edge with Terrill’s arrival in 1908 appears to have slowly eroded over time. I have some suggestions further in this section as to why this may have happened, but before that discussion, let me discuss UVM Home Economics department in more detail.

*Home Economics Educational Philosophy*

Terrill’s legacy of learning by doing was very evident in her work and that of her department. She was known to take professors and business people around Vermont, many times by train, to showcase what UVM was doing. The train car was her classroom and “she brought the classroom to the towns” (Williams, 1987). Almost all classes were in the field or in classroom laboratories and focused on the practical lives of Vermonters.

Early records dating back to 1875 indicate that the University of Kansas was the first university to offer “women’s courses.” The coursework generally focused on four areas of the home: Domestic Economy, which included household chemistry, nutrition and cookery; Shop and Home
Practice, which included sanitation practices, hygiene, and repair; Dressmaking and Millinery; and Care, which included, children, husband and the sick (Hoeflin, 1988; Shapiro, 2001; Tyzbir, 2007). The literature suggests that UVM’s Home Economics Department was similarly designed. By 1950, the curricular concentrations had changed somewhat (to meet the changing times) and included Clothing and Textile Design, Food and Nutrition, Household Education, Home Economics Teacher Education, and, several years later, Child Development (Tyzbir). As one might guess, the student body was populated solely by female students (Williams, 1987).

Food Curriculum and Food Laboratories: A History

As recalled earlier, the intent of this paper is not to discuss all aspects of the Home Economic Department, but to focus on its food curriculum. It is with this purpose that I narrow my research to the activity in the food laboratories.

Terrill Hall was built for Home Economics in 1951, and included in this structure were three experimental food laboratories: Meal Management, Quantity Foods, and Food Preparation. The Meal Management Lab was designed in four quadrants. In one corner was the 1940’s kitchen; in another, a present day kitchen (1950’s); in another was the kitchen of the future; and in the final was the kitchen for training “handicapped”
individuals to cook and eat (Tyzbir, 2007). In this Lab, students learned to cook in four different kitchen environments in order to be able to work with families in their homes or teach in schools. The Quantity Lab (previously housed in the Waterman Dining Hall) had one large kitchen to prepare the dietetics majors for work in hospitals and schools. The Lab also had a 25 seat dining area called the Caraway Café which was available to the campus and public for lunch. The third lab, Food Preparation, was designed as a food and consumer kitchen focusing on homemade meals and fine dining (Ross, 2007).

In the 1950’s, the overarching concentration (not a major then) for students interested in food was Food and Nutrition (Ross, 2007). The subject areas in this concentration were: Food Preparation; Meal Management; Science of Foods, Quantity Foods; and Food Systems Management. What I found in the old curricula was that the Food and Nutrition concentration was not what we would consider Food and Nutrition today. The Food and Nutrition graduates of the 1950’s were not only going to be dieticians; they were overwhelmingly going to be homemakers, too. In reading the final exam (1953) in Meal Planning, for example, one quickly realizes the intent of instruction. There are questions about food cost, methods and definitions (e.g., define what an appetizer, soufflé, Spanish cream are). There are questions about nutrition asking the
student to compare nutritional values of certain foods. The following question, actually difficult to answer, is very telling of the times:

4. The following is the menu for a Sunday dinner to be served in May for the Brown family, consisting of a father, mother, boy, 10 and girl, 8. They all go to church at 10:30 and are home by 12:30. Dinner is served at 1:45. Make a time schedule for preparing this meal:

   Meat (beef) soup
   Creamed Potatoes
   Fresh Asparagus
   Mayonnaise
   Molded pears and Cranberry Salad
   Orange Prune Cake
   Milk and Coffee

Other questions focus on developing menu plans for 20 buffet style. Another scenario problem asks:

6. Since the homemaker works, she has only 1.5 hours to prepare the following meals and she has an apartment range like those in the laboratory. Study the following menus and state whether each could be better planned
for using time and equipment. Make only such corrections as are necessary to this end.

Finally, questions around etiquette are asked:

a. When one leaves the table to help with the serving of food, the napkin should be left on_____.

b. The salad plate should be placed at the ___of the dinner plate.

c. Angel cake is eaten with the ____, Angel cake with chocolate sauce is eaten with____.

d. A spoon is used for eating____ ice cream; a fork or fork and spoon is used for eating ____ ice cream.

e. If the dessert is Molded Strawberry Bavarian Cream (served by the hostess) and Scotch Shortbreads, with coffee (served from the kitchen), first place the ____. then continue as follow: ______________.

f. When all the serving dishes have been removed and all covers cleared, the three things to be done before serving the dessert, in correct order, are as follows: 1. 2. 3.

g. The cup and saucer is placed from the ___side with the ___hand.

(Department, June 5, 1953)
All these questions, perhaps with the exception of the last on etiquette, required an enormous amount of food knowledge. Pedagogically, the experiential quality of their education is noteworthy. They quite obviously “experienced” what they were being asked to explain. As in Dewey’s time, the intent of instruction is indicative of the social, political and cultural construct of the era. The pre-feminist nature of their experience, however, does not diminish the use of the Food Laboratory as an instrument of cooperative inquiry and in meeting Dewey’s definition of “an experience” (Roemischer, 2006, p. 6).

By the late 1970’s, all three labs were consolidated into one “Food Lab” (previously the Food Preparation Lab), with most lab courses reformatted to lecture only. The Caraway Café was closed and the space made into classrooms and office space. The Food Lab was then made available for aspects of the Dietetics curricula, including Quantity Cooking and Basic Concepts of Food. When I asked the only two faculty who were there at the time and here now (one female, one male, in separate interviews) why they thought the labs were consolidated and aspects eliminated, the female professor explained, “In the beginning, back in the 50’s, students came in actually knowing how to cook. What they wanted was to learn how to be better managers. But later in the 1970’s, when I got here, the students were living in dorms and didn’t need
to know how to purchase food, they weren’t interested in meal planning” (personal communication). She then went on to tell me that at the same time, many of the older women faculty were retiring and being replaced by younger women (and even male faculty) with Ph.D.’s in the hard sciences with strong interests in research. At that point, “The focus on the food itself really went away and there was no point in supporting that side of the curriculum. We were about food science and nutrition” (personal communication). (Interesting to note that during this time, the Food and Nutrition concentration reversed its name and became a major in Human Nutrition and Foods.)

During our conversation, she humorously gave descriptions of the machinery that became part of the laboratory. As a young faculty member, she worked with electric contraptions like a viscosometer, which measured thickness of liquids; a Bratzler shear, which actually chewed food and measured tenderness; a pentrometer, which measured crispness; and a compressometer, which measured density of cakes and baked products. She said, “This machinery marked a sea change for the School of Home Economics, our mantra was to be objective only and sensory wasn’t any good” (personal communication).

When I interviewed the male faculty member as to why the labs were consolidated he said:
I came here in 1973 as the first male faculty member with a Ph.D. in science. I was only one of two faculty members who understood the need for research and scholarship. When I got here, most departments within the School would have been wonderful programs in a community college. They were teaching important courses that mentored students for service professions. But we were here to professionalize the work; to teach the students to create new knowledge. We were not getting into the 21st century because we were too busy justifying the past 50 years. (personal communication)

And as history tells us, the School did not survive; by 1982 President Lattie Coors dismantled the School of Home Economics, eliminating some departments and reassigning the rest to other colleges (Williams, 1987). Interesting to note again, the only department to remain in the College of Agriculture was the newly re-named Human Health and Nutrition, a title that paralleled the times as it finally removed the word food completely from its identity.

To summarize, it appears UVM’s Home Economics Department slowly destructed over a period of 20 years, starting with the foodservice contract in 1955 and continuing with several reorganizations (including
becoming a school in 1972), abrupt leadership turnover, and tremendous infighting over an elusive definition for an evolving discipline.

The School’s slow unraveling was symptomatic of other larger paradigmatic shifts in American society. Sputnik and a reactive focus on science happened in the 50’s; political tragedies and war in the 60’s; and millions of rebellious youths in the early 70’s contributed to a re-evaluation of cultural and traditional norms. To add to this decline, Shapiro (2001) points to the home economists themselves by saying:

What finally relegated domestic scientist to powerless obscurity was their inability to believe in women. For all their inexhaustible study of the subject, they almost never thought to separate woman from woman’s work: to them, cooking and housework were sex-linked commitments as definitive as childbearing. (p. 222)

All these factors contributed to the downfall of the discipline of home economics and, unfortunately, one of its casualties was Dewey’s brilliant kitchen methodology. Moreover, as will be explained in the next section, rapid industrialization also paralleled these times, resulting in new cultural, technological and political perspectives toward cooking and eating.
Industrialization and its Influence on Cooking and Eating

Up until World War II (WWII), food growing and eating were primarily regionalized. Highway infrastructure was not built until after the war, so food distribution was still regional. During WWII, lots of government sponsored research occurred in order to give the troops sanitary nutritious meals. After the war, the technology was transferred to the domestic market (Harper & LeBeau, 2003). After WWII, “[t ]he food industry found itself confronted with the most daunting challenge in its history, to create a peace time market for wartime foods” (Shapiro, 2001). This was an important historical watershed, a technological one for agricultural productivity and food preparation, as well as for the growing influence of nutritional science and government subsidy and regulation (Harper & LeBeau). The industrialized food system today means that current methods for preparing food, “are less likely to be found in cookbooks than in trade journals such as Food Technologist and Food Engineering” (Schlosser, 2002, p. 6). In a system of mass production and distribution, most industrialized food travels long distances and is either frozen, canned, dehydrated, or freeze dried (Schlosser). A large percentage of the food eaten today, especially fast food, sometimes hides technological involvement. For example, “Much of the taste and aroma
of American fast food is manufactured at a series of large chemical plants off the New Jersey Turnpike” (Schlosser, p. 7).

As I investigated, I was continually struck by the industrial food parallels to the demise of the School of Home Economics. Industrialization is defined as, “The augmentation or replacement of small-scale production by a much larger, more mechanized, production unit” (Johnson, 2000, p. 389). UVM’s decision to contract its food preparation to a corporation and eventually eliminate Home Economics seems to mark a wider shift from valuing and relying on something small-scale and local to a greater reliance on a larger, more centralized, industrialized system. Institutional food preparation and eating was but one example of this shift – but a primary and important example.

Terrill and her faculty were a smart and determined group of women who believed that the study of family and one’s place in community were critically important to civil society (Bevier, 1906). Obviously, food study was prominent in their curricula. Over time, however, the very mission of the home economist seemed to be usurped by a highly industrialized society. The home economists of yesteryear focused on the frugal use of resources and, with an ethic of individual self-reliance, focused on the wellbeing of the collective. Yet conversely, well functioning industrial capitalism required high levels of consumption with
control and authority “in the hands of bureaucracies with industrial and economic interests” (Brown, 1978, p. 13). Unfortunately, the small world carved out by the early home economist lost ground as greater emphasis was placed on science and technology for competitive success in a global marketplace, and less and less emphasis on the traditional practices and values of homemaking.

I have a sense of sadness when I think about what these older women must have felt as they witnessed these shifts, particularly as they accelerated in the late 60’s and early 70’s. As one interviewee said, “These women were Home Economists; they were used to doing with so little and not asking for anything that they were passed over!” (personal communication). As I listened, I reminded myself to be careful not to make victims of these women. She went on to say, “Don’t forget, this academic shifting was happening all over UVM at the time; in fact, Home Economics was one of the longest, most sacred holdouts” (personal communication). Perhaps I would be accused of mythologizing the Movement here, but, to me, these women and the School were a kind of beacon; a conscience; our foremothers reminding us of what is essential – that home, figuratively or literally, is important. But their voices were drowned out by the dazzle of technology and the lure of abundance (Levenstein, 1993). In one passage in Williams’ (1982) account, she
comments about student behavior in the late 60’s and early 70’s as they challenged the old traditions.

The challenge of change and adjustment to change stretched faculty imagination and endurance. Smoking in classes became accepted; dogs accompanied their owners to class, were tethered outside buildings or allowed to run free. Many found off campus housing preferable to even the very liberalized dormitory life. Two young women come to mind who were thrilled with the room in a country house. No bathroom facilities provided, but they felt this was an asset rather than a problem stating: ‘We will be having a garden in the summer!’ Others embraced vegetarianism with no concept of the nutritional balance they needed for good health. Despite administrative pressure and pleas for ‘professionalism,’ laboratory dress for food classes which had been white uniforms and hair nets for so long gave way first to informal aprons and finally ‘come as you are.’ (Williams, 1987, p. 54)

This passage poignantly illustrates the student break with tradition and, although not realized at the time, an irretrievable loss of ancestral knowledge. I am not nostalgic for the construction of another School of
Home Economics by any means. Clearly, the relegation of women to the domestic realm is exclusionary and sexist. The literature is full of commentary about role discrimination; that even when these educated women, such as Richards and Terrill, accepted their role as a “home economist,” it was only because they were denied access to the modern and academic world – the world of science, technology, and rationality, and “they believed the best way for [them] to gain that access was to re-create man’s world in woman’s sphere” (Bevier, 1906; Farmer, 1925; Shapiro, 2001; Smith, 1920). And whether they wanted to or not, their need for academic legitimacy caused them to join with the rest of the intellectual sector in “extending its systems of values as the norm for a ‘rationally managed’ society,” but in their own realm (Reiger, 1987, p. 501).

Feminist scholar Upin (1993) puts it well when she laments that, “The loss of material feminist tradition meant losing sight of the ‘overarching theme’ of the feminist, namely the intention to overcome the split between domestic life and public life,” a split which was “created by industrial capitalist” (p. 55). This is an important and rather tragic bifurcation created by a dominant industrial system. Dewey’s pedagogical philosophy of learning by doing interjects a compelling resolution to overcome this dualism within the intellectual sector,
particularly the university. Because his blended learning model of active inquiry fuses the practical with the intellectual, the individual is empowered to act with both sets of abilities. Moreover, Dewey’s timeless kitchen methodology effectively bridges the home life with the public life by creating an environment that values its unity.

The challenge then is how to revive the uniquely interdisciplinary, practical and intellectual qualities of past food curricula. Does it have a place in the institution today? Are we missing an opportunity to revitalize a cooking curriculum at UVM? In my semester long experience in the Food Lab last fall, I can unequivocally say that students are “hungry” to learn about food and its preparation. They are stimulated, motivated and enthusiastic when cooking is the vehicle to learn about other subjects. UVM's kitchen laboratory is exceptionally positioned to not only teach the scientific method, but also some of the lost traditions of cooking.

The idea of revitalizing aspects of the Home Economics food curriculum is taking hold at other universities across the country. An article from the Boston Globe (2004) delves into the educational aspects of Yale’s Sustainable Food Project (SFP), initiated by star chef and mother of an undergraduate daughter there, Alice Waters. SFP has a mission that reads: “To nurture a culture in which the interwoven pleasures of growing, cooking and sharing food become an integral part of each student's
experience at Yale” (University, 2005). “The program is so popular that the other food managers at Yale are trying to emulate by adding similar dishes in their more traditional dining halls” (Kummer, 2004, p. 13; Yonan, 2004, p. D1). Alice Waters’ SFP has students planting, cooking and eating to better understand agriculture, nutrition and culinary practices (Kummer). These trends are evident at many schools, including such places as Bates, University of California at Santa Cruz, Oberlin, University of Wisconsin, Madison, Cornell, Dartmouth, Middlebury and Ohio University (Yonan, p. 3). Although late to the party, UVM has embarked on similar coursework developed in the Nutrition’s Food Laboratory.

Chapter Four will discuss in detail my experience in the new Food and Culture class in UVM’s Food Laboratory last fall. The course was designed in an effort to create an interdisciplinary integrative environment for students to experience culture through food preparation, tasting and reflection. Using the Kitchen Lab built in 1951 and the praxis model of our foremothers, my colleague, Professor Amy Trubek, and I experimented with re-creating the Dewey Kitchen.

Chapter Summary

In this chapter, one can begin to understand why the study of home economics was important in the first half of the 20th century. Mass migration, war and a deeper understanding of the power of science and
technology forged clear career paths for women in a gender segregated society. The study of home economics at UVM, especially the study of food in its kitchen laboratories, closely followed Dewey’s kitchen methodology. The food curriculum was in most cases hands-on and situated in a problem-based learning environment. However, for many reasons, by the 1960s UVM women had more career choices and studied in other disciplines resulting in the Department of Home Economics to lose enrollments and eventually close its doors in 1982. Unfortunately, with the closing of the department, Dewey’s blended learning models, especially his kitchen methodology, disappeared from UVM and the question of how to re-vitalize this educational approach is asked.
Chapter Four

Literature Review

Student Engagement

To start this chapter, I want to frame my journey because it is important to understand how I arrived at the idea to re-create Dewey’s kitchen at UVM. As explained in Chapter One, my life experience – the way I “know” the world – has centered on the multidimensional aspects of food. This phenomenon is shared with many colleagues around the country and with some right here at UVM. We believe that food is central to our personal and cultural identities. But as I said earlier, food has been largely invisible in our academic history and when it is present, it is there with a decidedly positivistic and quantitative effort in the hopes of legitimizing it through “science.” Accordingly, today we can recognize that technology has successfully, in a sort of perverse way, removed food – as in the planting, growing, processing and cooking of it – from our life experience. As a result, we are further distanced from the traditional rituals and practices of food production. Berry (1989) eloquently reminds us “that we have become a nation of ‘industrial eaters’ who no longer knows or imagines the connection between eating and land” (p. 126). I agree with Berry and would argue that food should be more central to the human experience, particularly with young people. Moreover, in my
now long teaching career, I have observed innumerable students "hungry" for someone to connect them to this lost food knowledge. Their need to know and experience is deep down and their engagement with food intense.

I framed my cooking journey above because my experience in various kitchen classrooms, teaching vocational students, adults and children (of all ages) had allowed me to witness this innate engagement – this natural phenomenon – with the activity of cooking. This observation led me to explore the possibility of creating a similar “classroom” here at UVM.

Engaged Learning: The Movement

As discussed in Chapter Two, for Dewey, learning happens when students are engaged in an activity of interest to them, when they encounter difficulty and look for a method of coping with the difficulties, and, thus, acquire new skills in the process (Tanner, 2004). In other words, the intensity of their engagement allows, almost seduces, them into wholly participating in the experience without being conscious that they are “learning.”

Dewey would be happy to know that there is an exciting educational movement emerging across the United States on college and university campuses. According to the Association of Colleges and
Universities (AACU), this is an educational movement that goes by the name of “engaged learning.” The AACU devoted the entire winter 2005 issue of Peer Review, a quarterly journal on emerging trends in undergraduate education, to the topic. After reading the articles, it appeared that many educators agreed that “engaged learning” is superior to learning that is decontextualized, or rote, and moves us away from “frontal lecturing” and the usual instruments of textbooks, bubble exams, and grades (Bickman, 2000, p. 1). Dewey’s pedagogy connects well to this movement when he stated, “that education is not the teaching of predetermined static fact, but something integrated fully into students’ lives through perpetual interaction with the world” (Bickman, p. 1).

The question then arises as to the definition for engaged learning. Is there one? There does not appear to be a single meaning coming out of this young movement; however, Bowden’s (2005) article, Engaged Learning: Are We All on the Same Page?, is powerful in its interpretation of the concept. Hence, for this study, his analysis becomes my instrument; a taxonomy in which to evaluate Dewey’s pedagogical philosophy in the Food Lab.
Bowden (2005) effectively parses Dewey’s beliefs by separating the term “engagement” in four related, but different, categories on a learning continuum:

1. **Engagement with the learning process** - The most fundamental of all and one of just getting students actively involved. In the Lab, the novelty of preparing food in a university classroom was of great interest and immediately appealing.

2. **Student engagement with the object of study** - Here the emphasis is on stimulation of students’ learning by direct experience of something new. In the Lab, the ‘laboratory’ produced direct engagement with the food and, in using the methods of empiricism (e.g., measurement, recipe reading, data collecting, taste profiling, and report writing), students learned as scientists learn.

3. **Engagement with contexts of the subject of study** - This gives emphasis to the importance of context as it may affect and be affected by the students’ primary subject. Context adds two dimensions to learning. One is breadth - complementary disciplinary perspectives on a single subject produce a more holistic and, thus, realistic analysis; and two,
the understanding of the consequence of acting on the knowledge learned. In the Lab, the emphasis on the ‘culture’ part of the Food and Culture class asks students to relate, through cooking and eating ‘other’ foods, in order to understand and appreciate cultural differences.

4. Student engagement with the human condition - This is especially important in its social, cultural, and civic dimensions, or as Dewey would say, in building strong democracies. Bowden says that in this way of thinking, the human condition is the ultimate subject of study to which individual subjects and disciplines should be understood as subordinate. In the Lab, students over time began to understand how the preparation and eating of the food prepared is intrinsically connected to broader cultural meanings and themes. (p. 2)

Engagement to Transformation

Bowen’s taxonomy of students’ engagement with different kinds of content and with process has a clarifying heuristic purpose. Like Dewey, Bowen’s account of engagement shows that the nature and applicability of learning depends upon the student’s relationship to the subject matter. What is potent about Bowden’s continuum is that it eventually ends with what Dewey would call the “transformational experience;” the students’
ability to grow and change beyond themselves in response to what they have “engaged in” (Dewey, 1916, p. 177). Remember, Dewey thought any value criterion was always situation-specific or socially constructed. The students “changed” or “transformed” when very pragmatically, they found resolution, not to some ultimate end or value, but only to an impediment of progress. Consequently, Dewey felt that values were open to evaluation and re-evaluation, since one thing achieved opens the possibility of future novelty and change (Roemischer, 2006, p. 2).

Although he does not attribute it to Dewey, Bowen (2005), almost 80 years later, affirms Dewey’s philosophy by writing this passage:

The importance of engagement is the focus it brings to the learner’s personal relationship to learning. This emphasis is consistent with our recent appreciation that knowledge is more constructed than received, and that the primary agent of learning is the student. Thus, teaching and learning are different, and a focus on the learner is essential to the improvement of teaching. From this perspective, we can understand engagement as both the means to an end and an end in itself. Teachers strive to produce engagement as a means to learning. (p. 3)
In our Food Lab, we measured the students’ “transformation” through a rubric modeled on Bowden's four point continuum. The Rubric was our tool to “get at” what Dewey saw “happen” to his students in the kitchen environment. We wanted to capture and track each student’s transformation as they attempted to reconcile what they learned with what they previously believed. It was through their weekly Lab Reports that they demonstrated this change.

With the fundamental definition of the engagement and transformation in mind, let us move now to the concepts of age and developmental appropriateness.

Developmental Appropriateness

As discussed earlier, Dewey and his team of teachers developed curricula for students aged five to 14. They worked at each stage to incorporate age appropriate kitchen activities and progressively increased complexity along the way. Consequently, I questioned whether Dewey’s methodology for elementary students was appropriate for college-aged students. My initial response to this question was, “of course.” After all, Dewey’s methodology was developed from his experience teaching high school and he re-designed it for elementary students (Dewey, 1936). Furthermore, Richard’s kitchen methodology, used by Dewey in his Laboratory School, was also designed for high
school students and then redeveloped for elementary students (Edwards & Mayhew, 1936). Finally, and most fundamentally, The Laboratory School’s central pedagogy focus was always on student interest, not student level, and, as a result, interest always drove activity. But the question still lingered and this uncertainty ultimately led to more exploration in the area of developmental psychology.

To facilitate and yet contain my limited understanding of theoretical developmental psychology of college-aged students, I will briefly summarize five key theories that elucidate the discipline, with a focus on young adults. It is not my intention to critique these contributions, but merely to suggest how the authors’ insights help to answer the question of developmental appropriateness.

The term “developmentally appropriate” is well described in the literature. “The term evokes a vision of classroom experiences synchronized with each [student’s] maturational/experiential status so that what is presented to be learned is consistent with the [student’s] capacity to learn, thereby insuring success” (Tanner, 2004, p. 7). In understanding this concept, one realizes that capacity to learn is highly variable; subject to the situation and student interest level.

Perry’s (1970) pioneering work in young adult intellectual and ethical development noted that the college-aged students “change in
the forms of seeing, knowing and caring that transcended the mastery of the content” (p. v). Perry’s continuum of development from multiplistic and relativistic patterns to commitment within relativism plays out as college-aged students begin to see shades of gray. This leads to an increase in tolerance, in forming mature interpersonal relationships, and, as Dewey would hope, for successfully living in a pluralistic society. “At this age, students are beginning to make conscious choices to take positions, to live their values, and to continue to search for meaning” (Chickering, 1993, p. 8.)

Belenky, Clinchy, Goldberger, and Tarule (1986), in their book, *Women’s Ways of Knowing*, augmented Perry’s understanding of intellectual development, when they observed that, although similar, women students did not necessarily go through the stages the same way. They describe five epistemological perspectives that paralleled Perry’s with some important differences (Belenky et al., p. 37). Namely, women often felt alienated in the academic environment and placed more value in what they learned from relationships they had with teachers and friends and in their life experience and learning (Chickering, 1993). This observation is interesting in that 22 of the 28 students in the Food Lab were young women, leading one to infer that
the social closeness that preparing food together brings was attractive to the female students.

Kohlberg’s widely known cognitive theories centered on the moral development of college-aged students. A follower of Piaget, Kohlberg described six stages of moral development and refined a method for assessing them (Kohlberg, 1971). Each stage in the theory represents a qualitatively different and more wide-ranging system of mental organization and a different conception of right and wrong. “Progress occurs in an invariant sequence, with thinking becoming less concrete and more abstract, less based on self interest and more based on principles such as justice and equality” (Chickering, 1993, p. 18).

Interesting to note as a point of reference, Kohlberg’s work was initially based on only adolescent boys ages 13 to 16. Carol Gilligan, Harvard psychologist and early student of Kohlberg, would later go on to criticize him in her 1982 book, In a Different Voice: Psychological Theory and Women’s Moral Development. She noted that his research was biased in that he only studied privileged white men and boys. She felt that this caused a prejudiced opinion against women. She also observed that in his stage theory of moral development, the male view of individual rights and rules was considered a higher stage
than women's point of view of development in terms of its caring effect on human relationships. She found that women were taught to care for other people and expect others to care for them. “Women’s insistence on care is at first self-critical rather than self-protective, while men initially conceive obligation to others negatively in terms of noninterference (Gilligan, p. 100).

Many of the above developmental psychologists were interested in Dewey’s pedagogical philosophy. While Kohlberg was at the University of Chicago in the 60’s he commented on his admiration of Dewey’s work when he said he, “had done much to make others appreciate the ‘old psychologist’” (Crain, 1985, p. 120). Not surprisingly then, Kohlberg’s concept of moral development is similar to Dewey’s views on the subject. Dewey wrote extensively about moral development and its place in education. Like Kohlberg, he was vehemently opposed to separating moral development from the educational experience (Crain, 1985). His philosophy that learning should not be separated from activity because it separates actions from interests is fundamental here. For Dewey, “Interest in learning from all the contacts of life is the essential moral interest” (Dewey, 1916, p. 418). Like Dewey, Kohlberg (and Piaget) believed that students develop not because they are shaped through external
reinforcements, but because their curiosity is aroused. They become interested in information that does not quite fit into their existing cognitive structures and are, thereby, motivated to revise their thinking. Kohlberg referred to this as the “cognitive-conflict model of change” (Crain, 1985, p. 126). Similarly, being “moral” to Dewey was not something reserved for the virtuous few; it happened through living and experiencing.

   To possess virtue does not signify to have cultivated a few nameable and exclusive traits; it means to be full and adequately what one is capable of becoming through association with others in all offices of life. (Dewey, 1916, p. 415)

Like Dewey, Kohlberg valued the democratic process and for students to think and act critically, to discuss assumptions, and to challenge held perspectives (Crain, 1985). Moral development, then, was dynamic and evolving, starting at birth and continuing, and always progressing through collective interaction and activity.

   In our Food and Culture class, we were careful not to indoctrinate, but to guide the activity. In the syllabus, the course description clearly outlined our moral perspective or stance:
This course will use discursive and kinesthetic approaches in order to understand the complex, varied, and important ways culture makes food and food makes culture. Culture is the sum of our every day unconscious decisions, all the unreflective common sense beliefs and actions that shape how we eat, dress, pray, learn and more. Thus if we want to understand ‘culture,’ we need to experience and participate in such every day activities. In this class, cooking and eating will be our focus – a universal enterprise yet unbelievably varied and complex in what happens around the globe.

Discussions, lectures, labs and tastings will guide us in our exploration of food and culture. Along the way, we will consider food as a symbol, food as a marker of social hierarchy and individual identity, food as a part of religious and moral practices, and food as a result of environmental conditions. As part of the lab, students will learn basic cooking skills and the taste principles of several regions around the world.

Once the syllabus was presented, the students had to create their own moral and ethical meaning as they progressed through the class.
Finally, Chickering (1993) in his book, *Education and Identity*, focused solely on college-aged students, and reflects on all the theories above and furthers the research by saying that “intellectual and moral development should not be linked with a specific age;” (p. 35) that students are at different levels of development depending on their experience. He proposes seven vectors as maps to help determine where students are and which ways they are headed. His vectors serve as a kind of dynamic expression of development over time. Clearly, students are within ranges of intellectual and moral development as they age, but he recognized that students, “don’t always progress ‘up,’ but backtrack, weave and jump forward depending on the situation” (Chickering, p. 35). “In short, individuals select guidelines to suit themselves and to suit the conditions of their lives” (Chickering, p. 52).

Although deliberately truncated in their presentation, these theories help clarify concepts of cognitive and moral development. Chickering’s theory correlates especially well to Dewey’s kitchen pedagogy because it focuses on student’s interest and is, therefore, flexible in its interpretation of “level.” For example, the older students in Dewey’s Lab School were largely left to experiment on their own with teachers playing the role of facilitators and guides (Edwards & Mayhew 1936). Chickering (1993) would agree with this method because at this stage, young adults are
establishing their own identities through the trial and error of their own experience. Teaching to developmental “levels,” meaning designing specific lessons for a student 12 or 20, may not be as important as the teacher’s ability to create an environment that allows a student’s interests to take root at any level.

As I read these theories, I started to understand why Dewey liked the kitchen laboratory so much. It is a multi-aged place with an environment that is unpredictable and not well suited for predetermined outcomes. It pulls and tugs at all levels of intellectual and moral aptitude to produce the final product. Consequently, I think Dewey would warn us not to get too caught up in the chronological notion of developmental appropriateness because all ages are capable of higher ordered thinking - it just happens within the student’s timeframe. A timeframe that enables a perpetual back and forth between the concrete and the abstract that eventually evolves into intellectual consciousness and moral values (Roemisher, 2006).

**Intellectual - Concrete vs. Abstract**

I want to make a small detour here in the narrative on developmental appropriateness to define the terms concrete and abstract because it will further elucidate why Dewey’s kitchen pedagogy is developmentally suitable for college-aged students. The terms
concrete and abstract are often used as chronologic depictions on a developmental continuum – meaning young students need concretized learning environments and older students need abstract environments. Concrete means knowledge that is secure and intuitive and immediately available. Abstract refers to something which has not yet been achieved and, therefore, requires interpretation, inquiry, or some other type of intellectual work.

Paradoxically, concrete is not necessarily easy to understand and the abstract is not necessarily hard to understand. For example, in our Lab, telling a student to sharpen a knife or julienne a carrot, something seemingly concrete, was actually quite abstract for most. The majority were not able to concretize a response. Developmentally, then, the importance of providing sequencing in order for the college-aged student to concretize the information may appear “elementary” in its level, but necessary for the experience.

As the student matures in their understanding, they can take on more complex randomization and abstraction (Chickering, 1993). Hence, random-abstract methodologies, such as problem-solving activities, projects, research, and laboratory experiments, involves the highest level of student input (Roemischer, 2006). This is not necessarily linear or predicated on age, however; rather, these concepts are
methods within evolving developmental levels. Dewey's kitchen methodology incorporated both concepts – there were sequential drills mixed with abstract experiments. Clearly, the Chicago teachers had an understanding of age appropriateness when designing curriculum, but only within “fuzzy” self imposed boundaries because their overall curricular philosophy was focused on student interest. The interest drove the learning and that, in essence, drove the “level” and it is with this understanding of curricular design that our Food Lab lessons were planned.

In returning to the concept of age appropriateness, another important aspect we considered was one of developmental levels in time. We found temporal considerations were important and speculated, based on past experience, that even though our student’s cooking skills might start at an “elementary” level, they would probably advance quickly because intellectually, morally and kinesthetically, they were at the “maturity” level of a young adult. In other words, we speculated that the students would progress through the kitchen experience – moving from “kindergarten to eighth grade” in one semester – because as college students, developmentally they could. Our hypothesis was essentially correct as one of my journal entries six weeks into the semester confirmed:
The Lab experience has accelerated. Only 6 short weeks ago, the students were fumbling to hold knives, set up, and read recipes. They have moved through this awkward stage rather quickly, with most of the cutting and chopping happening with relative confidence. They are now genuinely curious to smell, taste, compare and talk about the food and its cultural origins. Almost as if each week in the semester corresponds to a year in Dewey’s Lab School, they have mastered the mechanical and are now more able to intellectually experiment.

My observation that our college students correlated week to year with elementary students is notable. For example, in Dewey’s school, the first three years of cooking instruction was focused on the individual and immediate product or end. “The teachers found that the interest in immediate results so overshadowed the steps in the process he was watching that very little use could be made, from a scientific point of view” (Edwards & Mayhew, 1936, p. 299). Similarly, in our lab the first couple of weeks of the semester, the students exhibited the same behavior just described. They were solely focused on the outcome of their own recipe; had very little interest in their partner’s comments or in
learning the “why” of what was happening and its connection to a cultural experience.

Dewey said that somewhere between ages eight and 10, a change in interest took place, and, “the thing is done with more conscious reference to technique and to what might be termed the intellectual side” (Edwards & Mayhew 1936, p. 299). We observed about half way through the Lab (week 5-8) that the students began to understand the reasons for what they were doing. They conceptualized their Mise en Place (explained later) more easily. By mid-term, the students appeared to move more quickly in their understanding of the day’s lesson. Their Lab Reports made better connections to the readings on culture and to their cooking experience.

For the oldest children in the Dewey School, the “technical” aspects of cooking became more rote, allowing for more synthetic thinking. Our method was similar. For example, we started Lesson One with an emphasis on French technique and practices. After these underlying principles were grasped, the effort in subsequent lessons became more deductive. The recipes became less defined and required more synthetic thinking. And eventually, over the semester, the logical sequence of the work formed what Dewey defined as, “simple and direct habits of thinking and acting” (Roemischer, 2006, p. 3). In other words, the practical
blended with the intellectual and created an environment that allowed
many cognitive levels to co-exist. In the end, Amy and my attention to
student interest was the barometer for understanding and adjusting level.

Based on these above observations, it is clear that concepts of
concrete and abstract, and intellectual and moral development do
evolve as one ages, but should not be “fixed” in their classroom
application. Hence, I concur that Dewey’s kitchen methodology is age
appropriate for college students simply as long as the content and
activity meets the student interests.

With this conceptual framework in mind, Amy and I designed
lessons for the Food Lab. We were conscious of the student need for
choice, starting with the choice to enroll, and then the choice to
explore topics as they arose. The power of the Dewey kitchen
methodology allowed ample flexibility within the lab environment.
Amy was wonderful at changing content as interests evolved. In
essence, we had Dewey’s model to work from, but we followed the
student lead and adjusted when necessary and our ability to
acclimate to the maturity and experience of each student was
positively received by all the teams.
Chapter Summary

In this chapter, the educational movement known as “engaged learning” is discussed and its importance in creating structure and language to articulate the transformational experience that occurs when students are able to learn through perpetual interaction with a real and dynamic problem. Bowden’s engagement continuum elucidates the stages of engagement and uniquely articulates Dewey’s ideas of student transformation.

The chapter also delves into concepts of student developmental stages and age appropriateness in relation to Dewey’s Laboratory School. The question: can college students have the same experience using Dewey’s framework for elementary-aged students? The conclusion is that because Dewey tirelessly focused on the interest of the student, his lessons and approach in the kitchen are flexible and therefore adaptable to meet the interest levels of students at the college level.
Chapter Five

Methodology

This chapter addresses the conventional components of a research design (i.e. methodology results). Essentially I created an experiment and this chapter will describe the class and the qualitative methodology used to examine the data from the experiment. I approached this case study using heuristic inquiry, and with this perspective in mind, formulated the following guiding question for my examination.

Heuristic Inquiry

Heuristic inquiry is a form of phenomenological inquiry that brings to the fore the personal experience and insights of the researcher. “The self of the researcher is present throughout the process and, while understanding the phenomenon with increasing depth, the researcher also experiences growing self-awareness and self knowledge” (Patton, 2002, p. 107).

Mostakas (1990) believes;
Learning that proceeds heuristically has a path of its own. It is self-directed, self-motivated, and open to spontaneous shift. It defies the shackles of convention and tradition...It pushes beyond the known, the expected, or the merely possible. Without the restraining leash of formal hypotheses, and free
from external methodological structures that limit awareness or channel it, the one who searches heuristically may draw upon the perceptual powers afforded by...direct experience.

(p. 17)

There are two elements in heuristic inquiry that make it distinctive within the larger theoretical framework of phenomenology. First, the researcher must have personal experience with an intense interest in the phenomenon under study (in this study, my cooking and teaching experience); and, second, others who are part of the study must share an intensity of experience with the phenomenon (the co-lab instructor and the participating students in the cooking lab).

Phenomenological heuristic research, through self-dialogue, dependence on intuition, tacit knowing, indwelling (turning inward to seek a deeper understanding or meaning of a quality or theme of human experience), and active experience allows the researcher to find "unity in hidden likenesses" (Moustakas, 1990, p. 16). The phenomenological heuristic research method emphasis on direct experience is the cornerstone of John Dewey's pedagogical philosophy and appropriate (if not synchronistic) for this study.
Research Strategy and Methods

Documentation Analysis

“Records, documents, artifacts, and archives constitute a particularly rich source of information about many organizations and programs” (Patton, 2002, p. 292). Some of my data collection is through historical public and private documents, such as manuscripts, curriculum and journals particularly centered in UVM’s Home Economics Department. I also analyzed historical documents at UVM that shed light on institutional cooking and eating practices.

Purposeful Sampling and Case Analysis

After the documentation review, I informally interviewed two faculty from the now defunct Home Economics Department who are currently active in the Human Health and Nutrition Department in order to gain deeper understanding of the pedagogical intent of the past food curricula. I also co-taught a Food and Culture laboratory in UVM’s Human Health and Nutrition Department to test an experiential teaching model. My intention, through participation in this classroom laboratory case study, was to gain knowledge of the transformational effects of Dewey’s integrated theory and practice methodology.
Data Collection

Data collection in heuristic investigation requires the researcher to gather information through ongoing dialogue. Since my study focused on 28 students’ experience in the Food Lab, the “information” was gathered through their weekly writings over a 15-week period. My “interviews” were not formal, but experiential, and over time. My inquiries were completed when the students had had the opportunity to tell their story (through the lab reports) to a point of natural closing (at the end of the semester) (Moustakas, 2000). Data was not only gathered from weekly lab reports and plotted on a rubric, but also from mid-term evaluations, end of term reflections, and my journals.

I designed a rubric based on Dewey’s and Bowen’s concepts of student engagement and transformation (See Appendix A). The lab reports, based on a standard chemistry lab report format, allowed for weekly analysis of levels of understanding in relation to the rubric. Students were given points for each submission. Ultimately, this spreadsheet allowed me to assess student progress over time, providing insights into the effect of the Dewey methodology on their learning and transformational experience.
Data Analysis

Stake (1995) described data analysis as “a matter of giving meaning to first impressions, as well as to final compellations. Analysis essentially means taking something apart” (p. 71). The first step in my analysis was organizing student lab reports to assess their experience within the rubric. The rubric was a boundary setting instrument based on Bowden’s four point continuum and designed to measure the transformational experience. I discuss the rubric in more detail below.

In heuristic inquiry, the researcher “sits” with the data and the experience and when ready, develops an interpretation that represents the common qualities and themes that embodied the experience. “The depiction includes all of the core meanings of the phenomenon as experienced by the individual participants and the group as a whole” (Moustakas, 2000, p. 52). In my case, I gathered the weekly lab reports, assessed them based on the rubric, and plotted the data on a spreadsheet. The spreadsheet represented the semester of activity in the form of 10 lessons.

The final phase of heuristic inquiry is the process of creative synthesis. According to Moustakas (1990), the researcher, now thoroughly familiar with the data and its themes, “illuminates and explicates the questions” using her intuition and tacit abilities (p. 31). “This usually takes
the form of narrative depiction utilizing *verbatim material and examples*" (Moustakas, p. 32). After the class ended, I re-read all the lab reports looking for themes in order to sort and categorize dominate experiences. Amy and I divided the 28 students into three specific categories that we believed represented ranges of intellectual and practical experience within the student population. To that end, the three categories were represented by three actual students, one for each category.

**Quality Measures**

I deliberately chose the subcategory of heuristic inquiry as my methodological approach (instead of the bigger umbrella of phenomenology) because it, “legitimizes and places at the fore the personal experiences, reflections, and insights of the researcher” (Patton, 2002, p. 108). And because I am aware that feminist inquiry challenges the larger phenomenological notion that, “one can cleanse oneself of such fundamental language-based conceptions when doing data analysis” (Patton, p. 131). I find heuristic inquiry supports, even embraces, the subjectivity in research. Clearly, however, I was aware that my subjectivity about cooking and eating, especially as a chef educator, needed to be made transparent. I needed to be conscious of the fact that I brought prior theories and assumptions about applied learning into the research relationship.
Chapter Six

Results

Food Lab Design

Professor Trubek (or Amy as I call her) and I worked together for many years at New England Culinary Institute. We developed original curricular content and design for the then new Bachelors program in Food and Beverage Management. With a small group of innovative chef faculty, we successfully created a series of courses that blended theory and practice in an undergraduate, albeit vocational setting. Several years later, Amy and I both found new jobs at UVM and, because of our past collaboration, wanted to create something similar within the academy. As it happened, I was working on my dissertation and wanted to experiment with Dewey’s kitchen pedagogical ideas and Amy wanted to use the Food Lab for her Food and Culture class. Together we designed a course that would not treat the lab as an auxiliary to the primary lecture, as was the traditional modus operandi, but would reverse the construct and create the lab component as the central learning environment, leaving the lecture as informational and dependent upon the lab experience.
Using Amy’s Food and Culture syllabus (Appendix B), we diagrammed the lessons, taking care to ask ourselves the three central questions Dewey’s teachers asked at the Laboratory School.

1. What can be done to bring the students into closer relationship with their home and community?
2. How can history and science and art be introduced so that they will be of positive value and have real significance in the student’s own present experience?
3. How can instruction in the formal, symbolic branches of learning – the mastering of the ability to read, write and have numeric intelligence – be gained out of other studies and occupations as their background? (Edwards & Mayhew, 1936, p. 26)

For each of our 10 lessons, we re-interpreted these questions by answering them at an academic level suitable for university students. To demonstrate - in question number one, being in closer relationship to one’s home and community, we designed all lessons in a very practical way that connected the student to the actual mechanics of making food. This was accomplished within the context of their reading and writing about individual and collective cultural experiences. It was Amy and my belief that tactile handling of the food, such as, using a sharp knife and learning different cuts, being able to identify the food through
one’s visual and olfactory senses, and working closely with a lab partner and the larger group would bring them into closer relationship to their home and community.

In question number two, *how can history and science and art be introduced*..., we were confident that the syllabus, films, guest cooks, and again the “art” of cooking and eating would be appropriate. In regards to the science section of the question, I used a UVM chemistry lab format (more detail later) as a basis for the empirical part of the cooking experience.

Finally in question number three, *instruction in the formal, symbolic branches of learning*..., we felt the study of culture was central to answering this question, but also worked to incorporate math skills, environmental considerations, anthropology, the scientific method, reading, and, very importantly, writing (the students were required to write a comprehensive weekly reflection in their lab report synthesizing all they had experienced in both lab and lecture).

The Food Lab, like the Dewey’s school’s kitchen, was two hours each week. We divided the students into two groups – one with 13 and one with 15 each (full enrollment) and Amy and I taught a two hour lab each week with each group. As was discussed in Chapter Two, the Food Lab has not been renovated for almost 40 years. The kitchen’s floor plan
contains eight cooking stations (with stove, sink, utensils and counter space) and is roomy. There are two cabinets with electric mixers, blenders, and larger bowls, pots and pans on both ends of the room and one refrigerator close to the demonstration table at only one end. The equipment is antiquated with much of it in disrepair (for example, no ventilation, stoves that do not light, and cabinets painted so many times they do not close or open easily); however, we reasoned the situation was not unlike many of the student’s apartment kitchens, and felt this, too, was but another practical learning experience!

Engagement to Transformation Assessment Rubric

Using Bowden’s taxonomy of student engagement, combined with Dewey’s idea of transformation, I designed a rubric for the students to use as a gauge to measure their work. The rubric was designed to correspond as closely as possible to the student’s real life experience in the Food Lab environment. My rubric was a formative type of assessment in that it became an ongoing part of the whole teaching and learning process. Table 1 depicts the Rubric in its entirety. Note both the vertical and horizontal headings. The Rubric, admittedly a one-dimensional instrument, attempted to measure the blended activity of theory and practice on a continuum over time. The vertical titles of GUM, Organization, Mise en Place, Results, and Reflection refer to their concrete work in the Lab (see
Table 2). The transformational names across the top of Novice, Apprentice, Technician and Cook denote to some extent a notion of kitchen hierarchy. Although these names are not all used in a professional kitchen, they do give a sense of an evolutionary experience. We did not use the horizontal labels until half way through the class, leaving time in the beginning for students to become comfortable with the mechanics of cooking. We were careful not to create a game theoretic sense of expectation, where students competed for ascendancy to Cook, especially before they were ready. I introduced the rubric and concept within the first week of class and focused primarily on the vertical side as it detailed expectations for the central Food Lab Report. Students received up to 20 points each week for the Reports, but did not receive a Novice, Apprentice, Technician or Cook designation until later. At mid term, we reviewed the rubric again and this time focused on the horizontal cells and reminded them of its use and application for the remainder of the semester. It was at this point that I “graded” their weekly Lab Report with one of the designations.
Table 1: Engagement to Transformation Evaluation Rubric

<table>
<thead>
<tr>
<th>Elements</th>
<th>Novice</th>
<th>Apprentice</th>
<th>Technician</th>
<th>Cook</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grammar, Usage, and Mechanics</strong></td>
<td>Writing is not clear, with little evidence of an understanding of college level grammar, usage and mechanics.</td>
<td>Grammar, usage, and mechanics interfere with comprehension of ideas.</td>
<td>Demonstrates an ability to master GUM so that reader can engage ideas.</td>
<td>Demonstrates complex writing strategies to engage readers and transmit ideas, for example use of metaphor, analogy, transitions, parallel construction.</td>
</tr>
<tr>
<td><strong>Organization</strong></td>
<td>Does not follow the lab report format, ideas are scattered, does not support evidence.</td>
<td>Follows the lab format. Ideas, though clear, are not clearly supported, evidenced or cited.</td>
<td>The report contains clear and logical progression of ideas. The organizing structure is appropriate to topic. Uses two pieces of evidence per lab report and cites appropriately.</td>
<td>Fluent and seamless organization—reader is clearly introduced to main idea, the components of the notebook flow easily from point to point, and conclusion synthesizes points. Uses multiple clear and descriptive pieces of supporting evidence and cites appropriately.</td>
</tr>
<tr>
<td><strong>Mise en Place</strong></td>
<td>Does not present a schematic for mise en place.</td>
<td>Develops a schematic mise en place but does not create a linear sequence from first to last activity.</td>
<td>Develops a mise en place schematic with a linear sequence and explains each step from beginning to end of the recipe or recipes.</td>
<td>Develops a mise en place schematic with a linear sequence and explains each step from beginning to end of the recipe or recipes. Anticipates any possible problems with timing and finishing.</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Results:</strong></td>
<td>The lab report does not convey an understanding of the cooking experience or provide empirical detail about the results.</td>
<td>The lab report conveys an understanding of the cooking experience and provides empirical detail of the results.</td>
<td>The lab report not only conveys an understanding of the experience but connects to the empirical detail.</td>
<td>The lab report conveys and understanding of the experience, connects to the empirical detail, and also refers to present and past food lab experiences and lectures of self and others</td>
</tr>
<tr>
<td>**Cooking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Experience</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Results:</strong></td>
<td>You understand the lab experiment but are not able to engage it at its most fundamental technical level or identify and connect the experience to lecture.</td>
<td>You are engaged in the lab experiment and are able through this experience to connect with the lecture topic of study. You can identify and connect with your personal experience.</td>
<td>You are not only engaged in the topic of study but are able to connect the experiment with lecture. In other words you are able to provide context to what you are learning. Your writing reflects a deeper understanding of multiple perspectives, analysis, and the consequences.</td>
<td>You are actively engaged and can identify and connect multiple perspectives, analysis and consequences. You do this through active sharing in conceptualization and building of your reflections with lab mates. Your writings reflect a culture-centric analysis with recommendations that take full account of these multi-perspectives.</td>
</tr>
<tr>
<td>**Readings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>**and Reflections</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Food Lab Report Format

The Food Lab Report provided the structure for the student Lab experience. As in Dewey’s Laboratory School, Amy and I wanted the students to understand that this class was also a practical discipline and we were interested in the application of the scientific method. In Table 2, one can review the Food Lab Report in its entirety. In order to stay true to the scientific method, the Food Lab Report was modeled after a generic chemistry lab report designed by a teaching assistant in UVM’s Chemistry Department (Vallett, 2007). However, this course was not designed as strictly deductive or solely with the empirical hypothetical approach of the hard sciences. We wanted to include interpretive qualities of the social sciences, too, and, therefore, added a reflection section to the end of the report in order to push students to make meaning out of what they had empirically learned. This addition was critically significant in that it called attention for the student to stop and think, and then synthesize the practical and the intellectual through the writing process. With this in mind, I will explain each category fully.
Objectives. In this section, Amy and I prepared no more than five objectives for the day's lesson. Like the Dewey teachers, we had a notion of the outcome in mind (e.g., the final dish) and reminded the students of previous lessons when we started the next, but like the Chicago teachers, we were less sure of how the students would get there. Examples of objectives for an earlier lab read:

In this lab students will be introduced to:

1. The role of seasoning in cooking, especially salt and pepper.
2. Cultural variations in types and amounts of seasoning.

3. Seasonality as a constructor and constraint in cooking.

Students will continue to work on:

4. Reading a recipe to organize a work space.

5. Knife skills with different types of foods.

6. Basic heating principles: boiling and sauté

*Mise en place* [MEEZ ahn plahs]. French for “everything in its place” refers to having all the ingredients necessary for a dish, prepared and ready to combine up to or prior to the point of cooking. Most importantly, the recipe must be “visualized” in all its detail. Mise en Place is about building a conceptual framework in which to operate. It supplies mental scaffolding for effective action. The students’ ability to “see” before the experiment happened was critical to their success. This section in the Lab Report was not only devoted to writing about what was going to happen, but also drawing the steps in the recipe on a separate sheet of paper. For example, in an early lab, we asked them to write, and draw how they were going to prepare for making applesauce:

Read the recipes for mashed potatoes and applesauce and come up with a Mise en Place or ‘operating procedure’ for how to go from raw product to finished dish. Who will do what? In what order? How will your space be organized?
We believed that their ability to express what they were about to undertake helped define the experience. When things did not go as planned, they were better able to appropriately deviate. Their time management, fluidity of motion, accuracy in data gathering all improved when Mise en Place was done ahead of time. Dewey concurred when he said, “The only way to achieve traits of carefulness, thoroughness, and continuity is by exercising these traits from the beginning, and see by it that conditions call for their exercise” (Dewey, 1910, p. 66; Tanner, 2004, p. 150). At the conclusion of the semester, most students said that the concept of Mise en Place was the most useful skill learned and had increased their organizational skills in other facets of their lives.

The concept of Mise en Place is conceptually a profound one and one I will discuss again later in the paper. Suffice it to say here that many sessions were spent articulating the concept and actions for a proper Mise en Place.

Pre-laboratory questions. The intent of this section was for Amy to get them to research different concepts before coming to class. If we were doing a session on French cuisine, she might ask them to research different kinds of cheeses. In the beginning, we asked them concrete questions about measurement equivalents and product identification. Later the questions became more abstract. In most cases, there were
three to four questions of which they were to choose two to answer. To illustrate, in an early lab, we asked them:

1. Find out about cooking and measurement:
   How many ounces in a pound? How many tablespoons in a cup? How many teaspoons in a tablespoon?

2. Find out about cooking measurement:
   How many cups in a pint? Pints in a quart? Quarts in a gallon? How many ounces in a pint?

3. Find out how cinnamon is grown and processed, and where it is grown.

4. Find out how cardamom is grown and processed, and where it is grown.

Results: data. In this section, the student compared their assumptions (based on their Mise en Place) to the actual results. The paired team members discussed with their partner what went right and what went wrong based on some prompting questions we embedded in this section:

In this section, you should describe the finished dish. What did it look like? What did it taste like? Did the results conform to expectations - your own, from the recipe, or from the instructor? If yes, what made it work? Was it the recipe? The
equipment? Prior experience? If no, what went wrong? Was it the equipment? Was it the ingredients? Was it lack of experience?

Results: comparison. In this section the teams turned to the rest of the teams to compare their results. They considered: How your dish compared to those of other teams? Sometimes you will all make the same dish, but at other times, you will want to compare tastes, techniques, etc. as part of the objectives for the lab. Amy and I prepared the students for this experience with careful intention. In the middle of the kitchen was a large counter. The students took their preparations, put it in a clean bowl or plate, and “presented” it to the group. The students were given a piece of paper and wrote down their station number and listed any deviations from the recipe (i.e., “We forgot salt,” or “We put cinnamon instead of cardamom in,” or “We were the team that used the Cortland apples”). With notebooks and forks in hand, the students walked around the center counter smelling, inspecting and then spooning “samples” onto their plates to taste. We then sat down together and discussed our findings.

Results: reflections. In this section, the students wrote about their experience in the lab and its connection to their life and community, prompted by questions to:
Reflect on the relationship between the lab experience and class discussions. What do you know now about the relationship between food and culture? Connect these reflections to your every day life by considering the relevance to your cooking and eating practices.

The students were asked to write between two to three paragraphs and include direct references to lab experience, as well as readings. These references could be examples, quotations, and anecdotes. Interestingly, what we often found were that most students wrote at least two pages, many times single spaced.

For me, the Reflection Section was the ultimate manifestation of the students’ progress for it was here that I watched them explain what they were experiencing. Bewildered, yet excited at first, they fumbled a bit as they tried to make sense of their new situation in the kitchen. Frustration eventually yielded to constructive dialogue as they began to calmly internalize what it was they were learning.

The Reflection section was based on Berthoff’s idea of the “dialectical notebook," In which students write on one side of the page and use the other to make later connections and observation, putting the mind in conversation with itself (Bickman, 2000, p. 3). It was our intent for the students to have an opportunity to intellectualize and, therefore,
become more conscious of their transformation through synthetic writing about their practical experience. Each week I read their reflections and as each week passed, I became more intimate with and more connected to the changes they experienced.

**Assessment Spreadsheet**

The Rubric assessed the students’ weekly Lab Reports which were then captured on a spreadsheet. Table 3 presents the spreadsheet in its entirety – the names are fictitious. On the vertical side, under each name, are a total number of points which, at the end of the semester, equaled a grade. Unfortunately, we could not follow the Dewey School’s no grade policy as UVM is a merit-based system and required numeric evidence of the student’s work. The coding system reflects student progress based on the Rubric. On the Rubric’s Y axis (vertical side), I used the first letter of each section to denote completion of the work. For example, OMPDCR – represents O for Objectives, M for Mis en Place and so forth and so on. I then added the first letter of the X axis (horizontal side) of the rubric from Novice to Cook to denote progress as well. As mentioned above, each section was worth a certain amount of points. Although designations were not given to the students until mid-term, I tracked them for this study from the beginning.
Even though Amy, as the lead professor, had to collect points for final grading, we were both more interested in how and when the student moved through designations during the semester.
Table 3: Student Notebook Assessment

<table>
<thead>
<tr>
<th>NAME</th>
<th>Chopping</th>
<th>Peppers/Onions</th>
<th>Potato/Apple</th>
<th>Ratatouille</th>
<th>Eggs</th>
<th>Soup</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXXX</td>
<td>PDR - A</td>
<td>OMPDC - T</td>
<td>OMPDC - A</td>
<td>OMPDCR - T</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#1</td>
<td>9.5/6</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Points</td>
<td>0</td>
<td>17</td>
<td>19</td>
<td>18</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>#2</td>
<td></td>
<td>10.5</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>#3</td>
<td>9.19/20</td>
<td>OMPDCR - T</td>
<td>OMPDCR - A</td>
<td>OMPDCR - T</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#4</td>
<td>9.26/27</td>
<td>OMPDCR - A</td>
<td>OMPDC - T</td>
<td>OMPDCR - T</td>
<td></td>
<td></td>
</tr>
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KEY

Points Scale
O = Objectives = 2
M = Mise En Place = 3
P = Pre-Lab Questions = 3
D = Data = 3
C = Comparison = 3
R = Reflections = 6

Improvement Continuum
C - Cook
T - Technician
A - Apprentice
N - Novice
Food Lab Weekly Routine

Each week the students were required to prepare a dish. Teamed with the same teammate for the duration of the semester, the partners were to come prepared for class having read the recipe thoroughly, drawn their Mise en Place, and ready to ask questions.

Upon entering the Lab, the students immediately donned an apron, removed all jewelry, pulled their hair back, washed their hands, and began gathering the proper utensils and ingredients for their dish. They arranged pots, pans, utensils, along with all ingredients, in sequential order for cooking the dish. The technical sequence was planned out by the lab partners. Like the Dewey School, variations in the plans were worked out by the teams and the teachers.

Again, as in Dewey's Kitchen, once Mise en Place was completed, the students and professors gathered at the demonstration table (viewing mirror above) to watch and discuss certain aspects of the recipe they were to make that day. For example, we demonstrated the proper way to cut an onion, mold a tortilla, perform a taste comparison between apple types, or smell and identify a table of South Asian herbs and spices. The students then asked questions based on their understanding of their Mise en Place.
In most cases, the six teams, of two students each, were given three variations on a single recipe, in which two teams made the first, two others made the second, and the remaining two teams made the third. This way, during the comparison testing, there were at least two dishes of the same recipe for students to compare. As in the Dewey Kitchen, the recipe “experiments” were progressive and continuous by design and each became part of the larger whole adding complexity and more questions after each lesson. As one student said at the end of the semester, “I came in here thinking I knew how to cook, I leave knowing I have lots more to learn.”

At the conclusion of the lab, teams “broke down” their stations, meaning returned unused ingredients, washed dishes, put knives back in their knife kits, sanitized counters, and put aprons and towels in the washing machine.

Food Lab Lesson Plan and Student Reflections

I have spent countless hours with my student’s Food Lab Reports. Similar to pen pals, each week I collected their work with anticipation, like receiving one chapter at a time of a good mystery. I read them, asked questions, corrected typos, praised, pushed on their insights, and then returned them to wait for their next weekly installment.
To describe the students in our lab would be to say they were a multidisciplinary group of 28 students majoring in environment, anthropology, psychology, education, business, and/or nutrition and food science. They were all between the ages of 20 and 22. One student was Latina and the rest were white of European descent. There were five male students in the group, and all but one student successfully progressed through each lesson and passed the class.

In this section, the Food Lab Lessons are described using a heuristic inquiry methodology. Dialogue is a key investigative tool in this method; therefore, in my case, the student’s voice (through written narrative) is an integral part of the exploration (Moustakas, 1990, p. 47). The weekly student writings, fully observed by the reader, evolve and through this process of iteration and trial and error they make meaning out of their experience.

I started the investigation at the beginning of the semester in Lesson One and progressed to the end of the semester by Lesson Ten. In each lesson to follow, I started by didactically reviewing the objectives of the lab, explaining the recipe, and methods and details of the process, and then moved to the student’s verbatim excerpts about their experience in the Lab. In order to detail the experience in this way, at the conclusion of the semester, I reread all 270 lab reports and compared it to the 15 week
student assessment spreadsheet to look for themes and corroborate student progress. Because there were too many students to focus on individually, Amy and I picked three students that we believed represented the larger group of 28. The three students were chosen because they represented three distinct categories or ranges of intellectual and practical experience within the student population. The students are fictitiously named Kim, Jake and Beth (names not reflective of their gender). Definition is important here: by intellectual, I mean level of experience in critical thinking; and by practical: I mean level of hands-on experience. Important to note, there were no students who came to the class with both high intellectual and high practical experience.

Before delving into the Lessons and the excerpted student narratives, let me profile the three students and the categories they represent.

- **Higher Intellectual and Lower Practical Experience**

  Kim came into the class with an understanding of anthropology, cooking, and had experienced, through travel, other cultures. Through her narrative, one could readily see that she had been exposed, through her family experience, to cultures and situations that were “different” from hers. She had been to many countries around the globe and had eaten a varied diet both in and outside her home.
Through these encounters, Kim learned to appreciate “otherness” and was, therefore, more able to engage in the Lab with a higher level of awareness. In other words, Kim was willing to fully “jump in” to the new cooking and eating lab experience.

- **Higher Practical and Lower Intellectual Experience**

Jake came to class without an intellectual understanding of food or its connection to culture. He had recently re-enrolled at UVM after taking time off. He neither traveled widely nor had he a familial experience that gave him exposure to other cultures, especially through cooking and eating. During his teens, he worked at many jobs that exposed him to different life situations and this gave him real depth in his practical abilities. It was his most recent job as a restaurant cook that appeared to help him crystallize his need for an intellectual path. Cooking different foods and interacting with staff from all over the world allowed him to examine his own prejudices and come to the realization that he needed to go back to college for the intellectual experience.

- **Lower Intellectual and Lower Practical Experience**

Beth came to the class without consciousness about her cultural experience. She had not traveled out of the United States and had no familial background that had exposed her to cultural differences. Her
arrival at UVM was her first “away” experience. As a result of all this, her intellectual and practical knowledge of food was less than her peers. During the Lab, she repeatedly labeled herself a “picky” eater as a way to deflect her resistance to tasting the food we prepared which meant she avoided or did not have the experience of connecting to the “otherness” of other cultures’ foods.

Heuristically, the students’ written accounts of their cooking experience allowed them to act as co-researchers. I was faithful to their exact words not only because the authentic voice is critical to my method, but also as a chef educator, I am aware that my subjectivity about the transformational aspects of cooking might influence my findings. Having my readers read real excerpts over time allows them to “participate” in the experience and witness the transformations without the interference of my interpretation. To that end, the narrative accounts are deliberately long and detailed, moving from the empirical to the philosophical, in an effort to capture this sense of “time,” and minimize any bias.

I did choose the excerpts, however, and each was selected from the four sections of the lab report – Mise en Place, Data, Comparison, and Reflection. Particular passages were picked because I thought they captured a compelling observation or belief that was relevant in defining
each student’s transformational experience. As mentioned, the student narratives are long, so I further bolded pertinent comments within each excerpt to provide my reader with an “abridged version” of the transformation. These excerpts, like time lapse photography, shed light on the student’s growth over the semester.

Lesson One: Introduction – Knife Skills and Mise en Place

Part one: What is food? What is culture? In this first class, the students were in a large classroom seated at small desks with Amy in the front of the room. She talked briefly about how foods are influenced by culture, biology and geography and then asked them to write about their own food experiences as a way to get them to center in their own cultural experience. In sorting the comments, about two-thirds of the students learned about food from their mothers and grandmothers. Comments like, “My cooking skills and knowledge are basic and I often use the guidance of my mother and grandmother, especially on the phone when I’m in the grocery store,” “Growing up, my parents cooked all of our family’s meals and during that process I love to observe the different techniques,” “I mostly taught myself to cook, taking some simple elements from observing my mother and begging my father to teach me,” “My dad is a chef and my mother hates to cook.” Others said they were influenced by cooking shows saying, “I'm an avid watcher of cooking
shows." "Most of what I learned is from either my grandmother or cooking shows."

Next Amy presented them with the Rubric and asked them to assess their skills and knowledge. As one would guess, we received many different answers, from, “I’m a really bad cook” to “I worked in a restaurant and have some skills.” One student said, “My specialty is scrambled eggs and baking brownies/cakes out of a box.” On the rubric, most students assessed themselves at the Novice or Apprentice level.

In analyzing the three students and their responses, Kim’s comments were indicative of her experience. She said, “I love to read cookbooks and learn about other cuisines around the world. I am not a great cook, but know the basics. I want to get precise in my understanding of seasonings, knife handling, and other techniques like sautéing and chopping.” She commented that she placed herself in the Technician category.

When reviewing Jake’s comments, he put himself as an Apprentice, saying, “I think I have the basic concepts of cooking down, but I’m still not very skilled with the organization or techniques, I still need more practice.” In response to the experience question, he wrote, “I’m a second semester freshman because last spring, three weeks into the semester, I left UVM. I thought that was the end of my schooling. I went to Lake Tahoe and lived
in a cabin and worked in a restaurant kitchen. I'm back at UVM because I want to include food, nutrition, and agriculture into my [learning] structure. I'm here because the skills I learned in California led me back here."

Beth’s responses are a little different. She said, “I’m a decent chef when cooking the foods I often eat which, as a fussy eater, isn’t a broad range of foods. On the global scale, I’m not very adventurous with my cooking." She placed herself in the Apprentice category.

Amy and I introduced the students to the Food Lab several days after the first class by preparing an “acclimation” lesson. We wanted them to learn basic knife skills and gave them all 10” chef knives, cutting boards and a pile of carrots and onions. At the demonstration table, Amy showed the students the proper way to dice an onion and batonnet a carrot with exactitude. It was important for them to learn how to hold the knives properly and to relax enough to push down and then glide their knives as they sliced and chopped the vegetables. They were nervous, yet completely transfixed by the exercise. Amy and I dressed in our white chef coats to simulate a professional atmosphere, walked around, adjusting knife holds, rearranging Mise en Place, and demonstrating proper technique again and again and again. The two hours flew by for the students and their instructors.
When I reviewed the student Lab Reports for Lesson One, they showed their unfamiliarity with the report format. The Mise en Place drawings were simplistic and missing certain ingredients. The empirical sections of Data and Comparison were not detailed enough. The Reflection section, however, was fascinating. Their awkwardness in the lab kitchen and their newness in following the Lab Report format was surprisingly understood and clearly articulated in their reflections.

As Kim pondered her first lesson she wrote,

I know I will have to get used to holding and using the knife right, but I definitely feel I have obtained some good skills in cutting uniform vegetables. I realize now that there is more of a science and procedure to cooking that I have previously learned.

I was thinking about the wasted part of the carrot and how it is silly to cut a carrot into a squared-off stick, but I also realized how fun it was to eat that cubed thing – to eat a vegetable in a very inorganic form is impressive. Take Campbell’s “chunky” soup and there they are: cubes of potatoes, cubes of carrot, cubes of
chicken. What is our fascination with turning curvy organic, food full of inconsistencies into uniform cubes and squared sticks?

Is it because people don’t want to know what their food really is?

I think there is a turn away from this way of thinking, a new culture of eaters, who want to know where their food comes from, who want to know how it’s made and who want to see all the inconsistencies in food to know what is ‘real.’

Kim is obviously excited about her first lesson in the Lab. Turning to Jake he has similar feelings.

Jake reflected:

I came to the lab thinking that I was going to show off my culinary skills, but my ego was hurt more than the three fingers I cut. The knife was a lot sharper than I expected, but once I got past that, I found the new technique was a lot easier to chop vegetables.
In lecture we were talking about what we eat and why we eat it. I feel like this lab connects to our lecture because it really shows how many of us haven’t had to chop an onion, or the carrots. We eat baby carrots that come prepackaged. If we haven’t been involved in cooking at home or had any outside opportunities, something as simple as chopping vegetables can seem so foreign to us.

Our generation doesn’t have time to cook, and we are missing out on important skills that will help us in the future.

Beth, focused on getting her station environment under control, wrote more about the lab experience itself than its connection to her life experience.

Her Mise en Place Section, she wrote:

The first step was to obtain a sharp knife, a sharp paring knife, a cutting board, a red bucket for bleach water, an apron, a large bowl, hand towels, and an onion. Remember, when working with knives to have closed toed shoes, never catch a falling knife, and always cut using the lower part of the knife rocking from the tip down.
In her Comparison section, she wrote:

Compared to the other teams, I would say that my teams’ cuts ranked amongst the most successful in the class. Some of the teams’ pieces weren’t uniform.

In her Reflection, she talked about our distance from our food and stated:

Look at pepperonis on a piece of pizza. I found it was easy to separate the act of eating the flat circular pieces from the cow that it had come from.

Observations and comments. Clearly, the students are finding their way in the kitchen. The abstractness of the practical exercises of preparing, chopping and slicing with such precision and rules had them questioning their abilities. On the Rubric, the students were clearly at the Novice level, or as Bowden (2005) said, “at a fundamental level of engagement with the learning process” (p. 2). As noted in the comments above, each student was visibly motivated by the novel activity of the kitchen laboratory and they were eager to learn more.

In their Reflection sections, I noted a movement toward the Apprentice level, or “engagement with the object of study using methods of empiricism” (Bowen, 2005, p. 2). Their nascent investigative skills were
honored as they learned comparison techniques, observation skills, and practical competence in smelling and tasting.

Lesson Two: Measuring, Mixing and Cooking a Favorite Family Recipe

As the students progressed through Lesson One, we introduced them to Lesson Two: Basic heating principles, boiling and sauté and cultural types and variations of seasoning with emphasis on salt and pepper. There were two recipes – applesauce and mashed potatoes. Amy had brought a variety of apples from her orchard for teams to experiment and compare. In the lecture, Amy encouraged them to taste different types of salt and compare them and then had them watch old Julia Childs tapes, as well as the more modern, Alton Brown on Food Network.

The students improved sequencing and organizing skills at the opening regiment of putting on their aprons, washing their hands, getting their sanitizer buckets, knife kits, and ingredients in place. They also became more familiar with their lab partner. However, they continued to struggle with knife handling, the lab format, and the dreaded Mise en Place.

The students were required to hold their knives in an exact way. Hand directly over the knife with fingers firmly gripping the sides. Their other hand had to be positioned almost at a right angle to the knife with
fingers curled under and knuckles resting against the side of the knife.

Needless to say, we continuously adjusted positions and used many band aids for minor slices and cuts in these early weeks. To their credit, even though this was a very concrete exercise, they were fixated on getting it right. The students did not understand the abstractness of Mise en Place and we received continual complaints, especially about the required drawing of the schematic. “Why do we have to draw the picture?” “What’s the point of writing about it before hand?” were repetitive refrains. We reasoned with the students by saying that we would like them to draw the Mise en Place picture for four weeks of the semester in order for them to better conceptualize their experience before class, and then only needed to write about it. Amy and I commented to one another many times on our surprise at their timidity when drawing the picture. Why was the act of drawing causing them such anxiety? Even the most able students became emotional at the prospect of drawing their recipe schematic.

In reviewing the three students, Kim began to understand the importance of her Mise en Place by writing in her Mise en Place section:

We began peeling the apples with a paring knife.
The demonstration made it look much easier than I found it to be. After I positioned my hand, it became a little easier.
While we were waiting for the potatoes to cook, we crushed the cardamom pods with the side of the knife. We tested the potatoes by inserting a fork in them and then we mashed them and seasoned them with sea salt and pepper.

Kim also started to see satisfaction and, in her Data section, she observed:

I was very pleased with how the dishes came out. Our applesauce looked and tasted very different from the applesauce I had pictured in my head that is the canned Mott’s variety.

I was very pleased with our mashed potatoes. We decided to leave them chunky instead of whipping them all the way through.

In her Comparison section, Kim declared:

What a difference in apple varieties! I was shocked at the variation between consistency and textures of the applesauces.

With the applesauce, we all used different apples and spices so I anticipated variation. With the
mashed potatoes, however, the only ingredient that varied was the salt. Still the results were surprising. My favorite was group #4 who used sea salt and heavy pepper.

Finally in her Reflection section, Kim confirms:

**Cooking with others in class has really given me insight into how cooking is a unique endeavor each and every time.** While watching Julia Child cooking show, I was inspired to try and make bread on my own. Her ingredients were so simple, just like in lab, but the results are so different. This, coupled with different varieties of a food, as we saw with the applesauce, will have an enormous impact on your finished product.

This experience highlights our dependence on, and faith in recipes. With so few people cooking, it seems recipe collection is done for more of an aesthetic purpose.

I babysat for a couple in high school who had a new house with a very large, modern kitchen and an enormous collection of recipe books. Yet, when
you opened their fridge or cupboard, there was nothing in them that required cooking.

Watching Julia’s show, it seemed that her recipe was more of a guide... this was apparent in noting the difference between Julia’s and Alton.

Kim was slowly becoming conscious of her culture through the lens of food. In each section of his report, Jake detailed his thoughts and offered solutions.

Jake started his Data section by saying:

This week we made mashed potatoes and applesauce, two things that I have never made before. I broke out in a cold sweat.

In this week’s lab, I wanted to concentrate on my technique, especially my knife skills, I also wanted to trust my palate.

I have never used cardamom in cooking before and loved the complexity that it added to the sauce.

Before the class, I never thought much about salt before. The salt that we were asked to add to our
mashed potatoes was fleur de sel. I didn’t think that it complemented the dish very well because the salt didn’t dissolve in the mashed potatoes, so the consistency was quite bland.

In his Comparison section, he said:

If I had to do this lab again, I would have a better system for tasting everyone’s dishes. I want to be able to sit down and discuss the different dishes with my classmates.

In his Reflection, Jake affirms:

There are many factors to consider when writing a recipe. **Pictures, length, details like certain varieties of food or special tools, written descriptions of what to expect, are all details that can change the outcome of a meal.**

I’m a planner, and if I’m cooking a recipe that I have done many times, I know that I can stick to the plan. **I am starting to realize that I don’t want my everyday personality and habits to reflect the person I am in the kitchen. I want to be about to try applesauce with cardamom or try a**
different variety of apple than the recipe calls for.

Beth’s Lab Report is again short and basic in its construction. She avoids her Mise en Place and skipped to her Data section where she said:

Our mashed potatoes, at first, looked a little mealy and weren’t coagulating properly. After adding extra milk, they started to look more normal and tasted very good. As for the applesauce, I prefer the taste of cinnamon to the taste of cardamom so I didn’t eat much of the applesauce.

In Beth’s Reflection, she confirms her naiveté:

The lab taught me a lot about apples. I never knew the difference between apples and what apples were used for what type of cooking.

Observations and comments. In this lab, the mise en place was still conceptually an external structure for the students and their reluctance to “draw” it significant. Amy and I received countless questions about this. Several tried to download software so they could sketch their schematics on the computer; one young woman took pictures during class, once everything was set up, and then penned in the names of ingredients to hand in with her report. Their discomfort with physically drawing a very
simple schematic, and their preference to only want to write about it, revealed a cognitive inclination that was most likely a vestige of their academic training. This was especially ironic since many students mentioned in their final class evaluations that the Mise en Place routine was of great benefit to not only in class, but in their organization outside of class.

Lesson Three: French Regional Cooking

By the third week, we noticed a change in the students. They became more organized as they became more comfortable with cooking procedures and their Mise en Place. They demonstrated the same intensity, but it was now more focused. Where they were more hesitant before, they began to appreciate the comparison part of the lab, liked tasting each other's food and receiving critique on their own preparation.

In the beginning of lab, Amy discussed French cuisine and its traditions. The French were the first to really codify cooking with remarkable exactness and we wanted the students to experience this attention to detail in their cooking. We bought small rulers so they could measure each vegetable cut (i.e., julienne, batonnet, dice, etc.) precisely. At this point in the semester, the recipes became more complex and required more steps and procedures.
We designed the lesson to teach the students the difference between slow and quick cooking techniques for vegetables; to learn about emulsions (for example, making mayonnaise); and to understand regional variations in techniques. We chose ratatouille, a braised dish of eggplant, zucchini, onions, tomatoes, peppers, and seasonings. As before, we reinforced Mise en Place, knife skills with an emphasis on uniform cuts, and reading recipes.

As in the past two lessons, the three students were learning to cooperate with their lab partners in the need for greater efficiency. Kim started her mise en place section with the comment:

> With so many ingredients and steps, the procedure for this recipe did not come as easily as the last few. We laid out two baking sheets for pressing the eggplant, a cutting board, two sauté pans, wooden spoons, chef’s knife, paring knife, twine and cloth for bouquet garni, bowls for chopped veggies and for food waste, and bleach bucket.

Our workspace was full and organized and I began chopping 1” cubes of eggplant. Meanwhile my lab partner chopped the tomatoes, a vegetable we have
not worked with into 90 degree angles then chopped them into 2” cubes.

In Kim’s Data section, she said:

The results were great! There were many steps involved and I would probably have dismissed this recipe because I’ve had ratatouille before and was never impressed. If I had made it, I wouldn’t have salted and drained the eggplant and would have left out the bouquet garni all together!

In her Comparison, she observed:

The flavors of all the groups were similar, but there were subtle differences. For example, groups #1 and #2 used more lemon than the others and this stood out.

In her Reflection, Kim said:

This week I’ve been thinking a lot about authenticity. The subject has come up in my Museum Anthropology class and I’ve discovered cooking raises a lot of the same issues. One memory that stands out in my mind was a trip I took to Italy during my sophomore year. We were on a budget and decided to have dinner at a little outdoor café in Sienna. I ordered a dish
with tortellini. It was the worst pasta I’d ever eaten. It was not cooked all the way through, frozen on the inside, and even the sauce wasn’t warm. Yet there I was eating authentic Italian food because I was in Italy!

The ratatouille we made was a French dish, but if all the vegetables we used were grown in VT and prepared here, then what? Does this authenticate it as a Vermont dish? Certainly it is local. Perhaps inspiration should be the word we more readily adopt when tempted to designate a dish authentic.

Jake started his Data section with:

I was very excited with the results of this week’s recipe. It was one of the first dishes that I’ve tried to make at home. The dish had rich, dark colors, and the three main vegetables really complimented each other. My lab partner and I only had to look at each other when we tasted the dish to know we were successful!
I could taste the hint of lemon, but I think that the detail would have gone unnoticed if I hadn’t been the cook.

The recipe this week was not as detailed as in the past, and I learned the value of having a Mise en Place and really knowing the recipe before coming in. I’m beginning to realize the value of preparing ahead of time it really does save you time and the results show in the final product.

In his Comparison, Jake remarked:

*It can get overwhelming tasting eight different dishes and trying to separate the different tastes in your mouth, but there really are different characteristics that make the dish stand out.*

Some dishes were very salty, and I found that the ones that were undercooked tended to have a lot of salt or lemon.
The different colors of the dishes were amazing. Some looked like dark stewed vegetables that would go well with whole wheat pasta and other looked like a fresh summer dish that would be served with grilled chicken - they separated into slow cooked (darker) and quicker cooked (lighter).

In Jake’s Reflection section of his Lab Report he said:

The connection I made in this lab that we have been doing in other labs as well is the cooking technique of the onions. I realized that they need to be cooked in a hot pan and allowed to break down and caramelize - that’s how you get flavor.

Our entire Mise en Place could have been different and trying to figure it out during the lab would waste time. If I were to do this lab again I would read through the recipe more carefully. In this lab, I was not really very well read and I was unprepared, and the combination left me feeling kind of lost for the first ten minutes. I was cutting the zucchini
when I should have been cutting the onion, then I had to rush to cut the onions so I would not be falling behind my lab partner.

I’m rarely around other people that cook, besides my family, and like anything else in life, you can learn so much from other people. In the kitchen I worked in CA, I was working with seven other people, all of us with very different backgrounds and techniques. I have been thinking a lot about American’s relationship with food and why we are so disconnected from our food source.

We have been talking about the concept of terroir in class and the idea that something can be unique because it comes from a certain region. In America we hear about the competition for the best French fries, the best cheeseburger, the best cup of coffee, but we rarely hear about the region that grows the best tomatoes, the orchard with the best apples, or the area that produces the best cheese. A potato is a potato, a cucumber is a cucumber, soil is soil.
I’m taking this class after being away for a semester and I’m pretty undecided in my major. This class and others classes that I’m taking makes me think about the connection between the dinner table and the garden, and in my studies I would like to bring the two together.

Beth’s report was again shorter than the other reports and in her mise en place, she noticed,

We cut the vegetables in the order in the recipe. After we started to sauté, one person finished cutting up the vegetables and cleaned as much as possible, while the other watched the food so it wouldn’t burn.

In the Data section, she noted:

Our finished dish contained caramelized vegetables. Each of our vegetables had their own distinct flavor, instead of a blended flavor like other groups. I think our dish came out well; I had never had ratatouille before so it was interesting to try such a combination of vegetables.
In her Comparison section, she said:

In some dishes you could clearly taste the vegetable oil and salt. I think that a lot of this is related to the size of the vegetable cuts, the amount of time spent cooking, and the amount of herbs and other seasonings.

In Beth’s Reflection, she confirms:

The more labs we do, the more I learn of specific dishes and foods being tied to them. Even though in the U.S. we seem to have less of this that a country like France it is still present. In Vermont for example we are known for our maple syrup and Cabot cheese. The more I learn about French culture and their local specialties the more I wish the US had something similar.

Observations and comments. In three short weeks, the students demonstrated what Dewey called the “complete act” of thought through their cooking experience. All writings reflected a genuine immersion in the activity. Like the early ages in The Laboratory School, they had been initially focused completely on their own preparation and outcome. This self-focus was evidenced in a common theme of liking their own food.
best. Interestingly, no matter how burned, over or under salted, they always preferred the food prepared by their own hands.

During this week, however, we noticed the students started to look outward and their Mise en Place showed a more conscious attention to technique and to performing multiple tasks at a time.

Lesson Four: French Haute Cuisine – Social Status

Part two: How does food reveal the social order? The French codified all cooking techniques within a hierarchy of levels from simple to complex. Haute cuisine, or high cuisine, is the name the French give to obsessively detailed and complicated dishes. In this lesson, we chose to work with the egg because we could demonstrate several French techniques.

In the Dewey’s Kitchen Lab, the students cooked with eggs and scientifically studied the effect of heat on albumen by figuring out how water temperature changed the appearance of the egg white (Edwards & Mayhew, 1936). During this lab, we wanted the students to cook eggs in a variety of ways and make an emulsion (garlic mayonnaise).

Eggs are a very common topic in all food curricula that started back in the Domestic Science Movement (Hoeflin, 1988). Here in UVM’s Nutrition and Food Science Basic Concepts of Food, students in lecture study egg structure, coagulation, and foams (Ross, 2007). For our lesson,
we wanted the students to experience how to cook the perfect omelet, hard cook an egg, and make an aioli mayonnaise emulsion.

French chefs consider an omelet the ultimate sign of cooking mastery. Amy and I arrived at the lab extra early as making the perfect omelet is not an easy feat. When the students arrived, Amy demonstrated omelet making on one of the small kitchen ranges in the Lab. The demonstration went well. We had also prepared aspic for the hard cooked eggs in order to demonstrate how to make ouef angele, a fancy egg dish considered haute cuisine. We decorated the eggs with slender pieces of chives, carrots and tarragon and then coated it with the gelatin. The students were mesmerized by our artistic creations. Finally, we showed them how to whisk egg yolks, oil, garlic, and lemon into a light yellow aioli mayonnaise. They asked questions about the recipe relating to amounts, timing, and Mise en Place and then began their work.

The students had many dishes to make that required many steps. The three student Lab Reports shed light on their experience.

Kim stated in her Mise en Place section:

Timing was everything in this lab, in order to achieve the best results, there was a very short window of time to execute specific steps so as not to overcook or undercook the eggs.
In making the aioli, we separated two egg yolks and slightly heated it and then began adding a thin stream of olive oil and whisking briskly.

We placed the half yolk side down into the gelatin and began our preparations to decorate them. I opted for a geometric design and my lab partner cut flowers out of the carrots to create a little garden picture. Professor Trubek came over and poured gelatin over the eggs for sheen and we placed them in the refrigerator to set.

In her Data section, Kim said:

I love eggs so this was a fun lab for me. The ouef angele looked lovely and was very pleasing to the eye, but I found them rather bland for eating. Their appearance led me to expect great things. However, when I bit into it, I realized that it was just in fact a hard-boiled egg with some cold chicken Jell-O on it, kind of boring and kind of strange. I am accustomed to thinking about food decorations as limited to pastries and dessert items. Yet this dish proved that
aesthetics extend beyond dessert, at least for
the French who seem to have it all figured out!

In Kim’s Comparison section she shared:

I loved the group’s who used only a half a cup of
olive oil. Their mayonnaise seemed to have an
almost vinegary flavor and it was very pleasing.

In the Reflection, Kim referred to the class reading assignment:

In Revel’s essay in The Taste and Culture Reader
(Revel, 2005) he asserts, ‘When I eat a dish
reputed to be exquisite, the name that it bears,
freighted with approbation given it, interposes
itself between my sensation and my consciousness.
I can persuade myself that the taste pleases me,
whereas a slight effort of attention would prove
the contrary to me.’ (p. 52)

In class, I was really excited to try the ouef
angele because it is French and French food is
fancy and delectable or at least I’ve been told
all my life. But it was boring.

In class, I was free to reveal my true feelings,
but if I was in a venerated restaurant or in the
home of someone important, I’d probably have said otherwise – and not to be polite. I may have convinced myself that I did believe it was good because it was French and pretty.

This sentiment works on the other end too. I mean that I often find myself convincing myself that I don’t like a food even if I think it tastes good because I think I should not be eating it. Fast food for example.

**How foods are dedicated high and low is constantly evolving.** I’m sure when it first opened going to McDonalds was considered a demonstration of higher social standing, having the extra income in order to eat out.

Kim’s honest comments are revealing as she tried to orient herself on the subject of high and low status foods. Jake has similar comments. In the mise en place section, Jake had lots to say about the omelet.

When I typed in ‘How to cook the perfect omelet’ into Google, over 200,000 results came up! The omelets have a short cooking time and we will eat them right after we cook them, so it makes sense
to make them after we are done with the aioli sauce and after we decorate the eggs.

In the Data section, he observed:

I had never made aioli sauce and I have never been a big mayonnaise fan, but I was open to the recipe because I think what has scared me about mayonnaise is that I have never really understood what it is.

The aioli sauce had a light yellow color and a creamy, runnier consistency compared to store bought mayonnaise. We left out half the oil and until we tasted it, we didn’t know if would be good (it was).

I have never decorated eggs before and liked cutting slices of carrots into small triangles something I didn’t think I would be too excited about.

Before this summer, I had never made an omelet before, then at the resort, I waited tables and my side job was making omelets. Breakfast was
buffet style, but guests could ‘build their own omelet.’ I didn’t know what to expect with a French style omelet, compared to the thick, cheesy American style omelets I made all summer.

It was light, custardy, and not browned and I ate the whole thing.

In his Comparison section, Jake commented:

It was a different kind of comparison, instead of tasting each others’ dishes, we were admiring each other’s egg artwork.

Our aioli had the best consistency the others were runnier. I don’t think it was because they added more oil, I think it was because we were more intense about mixing in the oil.

In Jake’s Reflection, he too discussed a reading:

After reading Tasting of Luxury, Taste of Necessity (Bourdieu, 2005, p. 76), I thought back to my cooking and experience during the last lab and realized how much my social status and what is expected of me affected how I acted.
I have grown up not with the struggle to find food, but of choosing from the vast amounts of food and also teaching myself discipline to not eat everything in sight. What Bourdieu said about 'one can begin to map out a universe of class bodies, which tends to reproduce in its specific logic in the universe of the social structure (p. 76) made me think about a game that we would play on a slow night at the cinema that I worked at. I would be selling concessions with a co-worker and as the customer would walk to the ticket counter to buy their admissions ticket, we would guess what they would buy. There were many factors, male or female, age, clothing, whether they were a group or a couple, even what movie they saw. A middle aged woman who looked fit would order a medium popcorn with butter and two waters, compared to an overweight couple who would usually order a medium popcorn without butter to prove a point that they were making a health choice, and then order a large Coke. A teenage girl on a date would order a small diet Coke with Twizzlers, a teenage girl with friends
would buy a large popcorn to share. A large family that looked poor would order more food than the large family that looked well-off because going to the movies was a special occasion for them and they wanted to go all out. Women always had to justify getting butter on their popcorn by telling me that they didn’t have dinner or it was for their husband or boyfriend. Carhartt, mud running hicks bought orange soda and Skittles. School teachers bought chocolates and brought their own coffee. Senior citizens brought in old popcorn bags for 75 cents refills. And college students paid with quarters and felt guilty for spending their laundry money. I remember one night as a big, rough looking man walked to the counter and I whispered to my friend, “large root beer” and I was shocked when he ordered a small pink lemonade!

We are so divided in our food choice by social status, sex, weight, but mostly everyone seems to feel guilty for eating or spending too much on food.
The 200,000 results for how to make a perfect omelet is a powerful message that even if we are divided by our social status, information and time can bring us together. **If some took the time to show the working mother that supports her family on food stamps how to cook the perfect French omelet, she could treat her family to a ‘gourmet meal at the same price that she would be cooking scrambled eggs.**

Beth began to engage in the experience. She began to open herself up to the French perspective of giving care and attention to one’s dish. She started her mise en place section with the comment:

**When I came to lab, I had a whole lay out planned; however, by cooking numerous dishes, the initial set up I had in mind did not work.** We had to wash some of our dishes because we started to run out. Though as planned, we used both sides of the counter to prepare our food, we ended up predominately chopping and preparing to cook and the other side became the site for final touches and dirty dishes.
In her Data section, she observed:

Our omelet came out better than expected. I thought that without using any milk that it would be impossible for my omelet to taste good, when it actually tasted better.

Our aioli came out worse than I expected. Never making mayonnaise before, we thought it was necessary to use almost all the oil, which I think in the end, ruined the flavor. It tasted like virgin oil and garlic.

In Beth’s Comparison section, she continued:

My omelet was the most yellow when looking at others. Our aioli looked pasty compared to the others that were quite soupy.

In Beth’s Reflection:

When making an omelet, I was convinced that the way I made mine was the best way until I made them in the lab. The methods that we used in the lab were much quicker and more efficient than the method I used.
I also preferred the taste of the omelet without the milk compared to the milk I usually use.

By preparing the three different types of eggs in this lab, the idea that food presentation/appearance is really important sunk in. I can see why chefs put so much time and effort into making their dishes look pretty. *It is also a lot of fun to take the time to decorate the food you make.*

*I am now beginning to view chefs as artists, for they can be very crafty with their creations.*

*Observations and comments.* At month one, the students began to open up and embrace the lab experience. They were all completely and seamlessly involved in their activity, almost as though they were not aware that they were in a university classroom. Their Mise en Place, Data and Comparison sections were greatly improved as their empirical skills of tasting, comparing and observing sharpen. The practical skills of knife handling became easier.

In their Reflection sections, their ability to connect the concept of *haute cuisine* and high and low foods to their cooking experience marked a breakthrough in their intellectual grasp of the content. Jake’s reflection
was especially engaging as he attempted to understand his own prejudices of the cultural differences in high and low foods.

Lesson Five: French Haute Cuisine

We continued on with our topic of French cuisine and codification by having the students make soups and vinaigrette. In the lab, we started with a basic chicken stock and vegetables and Amy and I then instructed them to make variations of each soup. In this lesson, the objective was for the students to understand how the French, through a laborious process, documented almost all of the oral cooking traditions and techniques. The French developed elaborate systems for tracing the lineages of a sauce or soup back to only five “mother sauces” (Peterson, 1998, p. 12). For example, in our lab, we had the students add a curry mixture to the basic chicken stock to make Mulligatawny soup; in another, we had them add tomato paste and garlic to make Pistou. Finally, we had them make olive oil and red wine vinegar vinaigrette. The only item we demonstrated was cutting and washing the leeks. We felt they had experience with making the vinaigrette because it was a variation on the aioli.

Amy and I continued with our emphasis on exactitude. If they were going to “experience” French culture through its cooking, then precision was critical to their understanding. The seemingly simple soup recipe proved to be quite complex because there were multiple steps using
many pots and utensils, which necessitated numerous and repetitive readings of the recipe.

In this Lab, we turned up the heat so to speak. The students were getting less guidance from us. Kim commented about the multi-steps in the recipe by saying in her mise en place section:

*It seems like the Mise en Place will continue to get more complex and hard to keep organized overtime.*

This lab was really unlike one we had done in the past, because of all the intricate cuts necessary for the vegetables.

In her Data section, she noticed:

The finished dish of the *potage julienne* tasted very good. We ended up really enjoying the fine cuts of the vegetables, because it made for even consistency of the dish.

In Kim's Comparison section, she commented on the vinaigrette:

*I thought our vinaigrette was a little oily even though we did the emulsification correctly. I tried other groups and found them better than ours, which was interesting.*
Finally, in her short Reflection section, she compared societal rules to cooking rules:

There are rules everywhere, from cooking rules to codes of conduct. Rules hold a society and maintain communities from running wild – it is the same in cooking. Rules in cooking ensure safety, precision, and good taste.

Jake commented in his mise en place section that:

Instead of putting the many vegetables in separate bowls and then running out of bowls, we put them in neat piles on the counter, but it created a small surface area to work.

In his Data section, Jake said:

I find myself worrying about these recipes before lab. I feel like they are so much more complex than they really are. After completing the lab, I look back and think to myself that it really wasn’t that hard and I could do it again much easier and more efficiently the next time.
In Jake’s Comparison section, he remarked:

Of all the soups I tried, I really enjoyed the two groups who added pistou to it - especially one in particular, which had a lot of basil.

Finally, in his Reflection:

There are so many layers in French cooking, and that is why it is so famous. And I could taste the layers in the pistou and the curry - it was nice to experience the culture through my tastebuds.

Beth started her Mise en Place section by saying:

This recipe took a long time because of the vegetable cuts, they all needed to be so uniform. We used the rulers and this helped.

In her Data and Comparison sections, Beth acknowledged:

I didn’t think that when we combined the Potage Julienne with the pistou that those two substances belonged together. It was an eye opening experience and I was afraid to taste it. But once I saw the others I realized it was fine and was eager to taste.
In her Reflection, Beth worries that she added too much garlic to her soup.

I thought that everyone would freak out and hate it – even though I stuck to the recipe and only added two cloves. Afterward, however, a friend in the class told me that she favored our soup the best and that made me feel proud.

Observations and comments. Although their practical skills were improving, Amy and I were also increasing the complexity of the labs. The Mise en Place comments reflected their anxiety as we required greater exactness. At this stage, it was our intention to hone their thinking skills through the physical repetition and increase in precision of slicing and chopping. Like Dewey, we believed that in order to improve intellectual activity, we needed to increase motor activity (Tanner, 2004).

The Data and Comparison sections showed greater awareness for what other classmates thought about their preparations. The students were mindful and took every precaution for final presentations to be just right. This concern to meet others’ expectations was an encouraging observation for Amy and me. We reasoned this new attention to outcome correlated directly to an increased investment and ownership in the process.
Lesson Six: South Asia

Part three: What makes food pure? How do religious beliefs and rules shape what gets eaten?

The students read articles and listened to Amy talk about Indian customs and traditions with a focus on the purity and pollution aspects of food. And so at the sixth week, we moved from France to South Asia. This was a two-part lab that focused on the identification of Indian spices and herbs and particularly their use in sweet and savory dishes, and in proper cooking of rice. Over the two weeks, the groups were divided – some made Boon Kichri (rice and lentils) and Lemon Rice; the others made Sambar (Indian vegetables) and Sweet Pongal, a rice dish with sugar, cardamom, cashews and raisins; and the others making the Chetinand Pepper Chicken. When we sat down together at the conclusion of these labs, Amy demonstrated how to eat with one’s right hand. Most students were uncomfortable with the exercise, even a little annoyed. They all managed to get most of the meal in their mouths, however!

In Kim’s Mise en Place, she listed her myriad ingredients:

Our ingredient list was longer than usual and included, ½ c toor dal lentils, ½ t turmeric powder, 2 c chopped mixed vegetables (we used potato, green pepper, and onion), 1 ½ T coriander seeds, 3 t channa dal, 1 ½ t cumin, ½ t fenugreek
seeds, \(\frac{1}{2}\) t black pepper, 1 t black mustard seed, 
2 cloves, 1 cinnamon stick, split, 2 red chilies, 
\(\frac{1}{2}\) c unsweetened coconut, 1 T tamarind paste 
dissolved in warm water, 1 t jaggery (Indian 
sugar), 1 T vegetable oil, 1 t whole black 
mustard seed, and 3-4 fresh curry leaves.

Since we’ve been working with onions, potatoes 
and peppers, we didn’t need to learn any new 
chopping techniques. It was easier this time not 
only because we’d done it before, but because 
there was less emphasis on perfect chops and 
complete uniformity in Indian cooking.

In Kim’s Data section, she comments:

I love Indian food, but up until this class, had 
only been exposed to it in restaurants. I found 
our Sambar to be delicious, expressing all the 
complex flavors I recognize in Indian food that I 
ever imagined I could make on my own.

For some of the dishes we have made (the omelets, 
for instance), taking too much liberty with how 
to execute the dish can have devastating
consequences. We were able to tweak this recipe according to what we saw fit, based on time constraints and taste preferences.

Our vegetables were thoroughly cooked and had absorbed the flavors of the stew. As usual I was very pleased with how our dish came out and left the lab full of good food!

In her Comparison sector, she observed:

It was interesting to compare how the cooking techniques we used compare and contrast to the Western methods we are more accustomed to.

The sambar our group and group #2 made had similar flavors, but differed in consistency and hotness. Our lentils were able to cook longer as a result of our hijacking the only mortar and pestle to grind our spices first.

The Chetinand Pepper Chicken was delicious. I don’t typically cook with meat, even though I’m not a vegetarian any longer. When I do, however, I never cook meat on the bone. I’m not sure why,
I suppose it is an aversion to cooking something that looks obviously dead. But it made a huge difference in taste – it was moist and tender.

In Kim’s Reflection section she wrote:

We are trained to appreciate, expect, and repel various flavor combinations. Our disapproval of another culture’s cooking/eating practices can translate to revulsion of those people as a whole.

We are very quick to judge foreign habits, but rarely step into the outsider’s shoes and look in on our own eating practices. In doing the reading about purity rituals and rules assigned to food consumption in India, the objects and people that would make eating impure sometimes resulting in the need to change clothes yada yada yada, very annoying. I actually got annoyed reading it because I was putting my American self in that situation and failing to realize that if I were Indian, it would be normal to me. Use a fork is normal to me and should I snag a cookie with my left hand, no big deal.
I didn’t particularly enjoy eating with my hand in lab, but it opened my eyes to the fact that this is a result of training.

Unlike French cooking, Indian cooking is less rigorous in its form. The recipes are vaguer and require more imagination from the cook. Jake experienced the lack of boundaries right away and said in his mise en place section:

There were no instructions on how to cut the vegetables, and we also had to substitute a few vegetables because some were not available.

With the frying pan, we roasted the spices and then ground them in the mortar and pestle.

In the Data section, he said:

I felt that our Sambar dish turned out very well, but I did not know what to expect. It was clear that compared to the French soup that we made last week that the presentation was not its selling point – it had a dark yellowish green color and a thicker consistency.
I have always avoided Indian food because I thought that I didn’t like spicy foods. I was brought up on a bland diet, and it was my understanding that if I could not handle mild salsa, that I should avoid any cuisine that has a chili pepper in the kitchen.

I really enjoyed our dish.

In the Comparison, Jake affirmed:

I felt the difference between the two Sambars were very noticeable. Group #2 used two chili peppers and it was spicier, but also it brought out a sweetness. I found that group #2’s Sambar gave me a more complex and moving tasting experience.

The Kerala, like the Sambar, tasted better than it looked. Unlike the Sambar, the Kerala didn’t have a sweet flavor, and the spices were not as overwhelming as the Sambar dish.

I usually end up bringing the plate to my mouth and shoveling the rice in with a spoon. Mixing
the rice with the Sambar and the Kerala and using my hand made eating the rice a lot easier. Feeling the food adds another element to the tasting experience. I was noticing details and really paying attention to what I was eating. I don’t know if I would ever totally convert to using my hands, but for this dish and this tasting experience, I would leave the fork at home.

In his Reflection he noted:

In lecture, we were asked what makes something pure and what makes something polluted. In our culture, it isn’t as obvious to us as eating with only our right hand or having a developed caste system, but we do value purity and order.

Today in America we lack religious order, but we still have a structured society.

We consider our food pure if it comes in a cardboard box and is sealed in plastic. I remember a couple of summers ago a woman was buying produce from the farm stand I worked at
and asked if there was any lettuce without dirt on it.

By creating this society that doesn’t see the carrots in the dirt, that leaves the waste at the end of the driveway, and has most of their food cooked behind closed doors, we think of our food as pure but we are confused.

I think many of us are overeating because we don’t know who we are so we eat food that we don’t know anything about. An empty stomach can be detected, but a hungry soul is harder to see.

Beth’s Mise en Place was similar to the above entries, but she added some additional observations:

We worked very well this time. We prepared the potatoes, green beans, and carrots first, since they had to cook for about 20 minutes. While we were waiting for that to cook, we blended the coconut, peppers, cumin, ginger, and buttermilk into a paste. After the vegetables were done cooking, we added more buttermilk, peas, and the paste and mixed them together over a low heat.
We left the dish on low heat until the class was ready to share dishes. Before serving, we quickly mixed in another splash of buttermilk.

In Beth’s Data section, she stated:

Our dish had perfectly cooked vegetables. This exceeded my standards as we had previously been either overcooking or undercooking our vegetables.

The flavor was not something I cared for. I’ve never had Indian food, so I didn’t really know what to expect in the aspects of taste.

I really dislike the taste of coconut whether it is fresh or artificially flavored, which may have contributed to why I disliked the dish so much. In other words the taste of our dish did not meet my standards even though we did everything right technically.

In her Comparison, she continued:

Compared to the other two groups that made Kerala Aviyal, our vegetables were the most cooked. I really did not like the taste of the Kerala
Aviyal. It was very hard for me to stomach. Two bites were all I could manage.

I wasn’t a fan of the Sambar either.

I didn’t mind the flavor of the chicken, however, the texture of the chicken thighs made the taste unenjoyable. I think I would have enjoyed the flavor if a chicken breast had been used as opposed the thighs.

I am a fussy eater when it comes to my meats; if there is any fat or fatty texture I am unable to eat it without gagging.

Finally, in Beth’s Reflection:

The method of eating all of my food with my hand was awkward. Yes, in the US we have some food that is appropriate to eat with your hands, like French fried or potato chips. However, when it comes to eating a full meal, it is rare one ever eats it with their hands only.
In our culture, as a toddler learns how to feed themselves, it is normal to eat everything with your hands and it is okay to make a mess. However, signs that you are maturing and becoming more sophisticated in our culture means being used to utilizing silverware. I felt very dirty getting food all over my hands.

Since Indian culture only allows one to eat with their right hand, it was even more difficult to break food down into smaller pieces using only one hand. There was nothing about the process of eating with my hands I liked. I eventually had to go get a fork because I couldn’t handle it anymore.

Observation and comments. By midterm, the building and layering of experience from previous weeks culminated and released a floodgate of great observations. The foreign qualities of cooking and eating Indian food – the rich colors, pungent aromas, and tastes – elicited powerful comments in all sections of the Lab Reports. The Mise en Place, Data, and Comparisons were almost fully internalized.
In the Reflections, all students, some further along than others, began to question their status and practices within their own American culture. The Lab’s multi-dimensional facets for learning about the world helped them “engage with the human condition” and they inched their way toward Cook on the Rubric (Bowen, 2005, p. 2).

Lesson Seven: South Asia

As previously mentioned, we continued the Indian cooking lab in this lesson. We started to give them at least one recipe a week that we transmitted orally. I demonstrated Raita by spooning the yogurt into a bowl, chopping the tomatoes and cucumbers, roasting the spices and mixing it all with fresh herbs. As I made the dish, I gave them the measurements verbally and they wrote everything down quickly. As mentioned above, some groups made the Sweet Pongal, while others made the Boona Kichri (rice and lentils), and others made Lemon Rice. There was one spice, called asafetida, also known as devil’s dung or food of the gods depending on your persuasion, that is, ground into white powder from the dried sap of the same plant. It has a very pungent smell and was an optional addition to the lemon rice.

Because we had been talking about caste systems and how levels ate in accordance with their stations, when we sat down to eat, Amy notified the untouchables to sit at one end of the table and the Brahmins
to sit at the other. Needless to say, many of the students were visibly
disturbed by this action.

The students’ Lab Reports were packed full of wonderful
observations this week. Kim wrote a long, six page lab this time and
started with her Mise en Place. She said:

We began with the sweet pongal because the rice
required cooking and the riata was more or less
assembling. We crushed the cardamom seeds with
the side of our chef’s knife. We placed the milk,
rice, dal and cardamom in a sauce pan and turned
the heat to medium high.

Then we began to work on the raita. I heated the
griddle over medium high heat and after a minute
or so added the cumin, mustard seed, and chile.
I tossed the spices in the pan while they
brown. I found the smell and color change was
the easiest way to determine if the spices were
done.

The rice took longer and to resist ‘hovering’ and
removing the lid every few minutes to check it,
we decided to prepare the cashews and raisins for the pongal. We browned them in the ghee.

In her Data section, Kim said:

I was surprised when the pongal did not conform to my expectations. I had anticipated it being creamier, in taste and appearance, and less sweet. It was very tasty, however.

I found the cashews gave a nice earthy contrast to the sweet rice and raisins. The cardamom provided mysteriousness to the dish, and uncommon flavor in Western cooking.

I really liked how this lab broke down some barriers we have upheld for a long time in American cooking, such as rice not constituting a meal and strong spices and rice belong to savory dishes. The Indian cooking we did in class challenges these preconceptions casting a new light on rice and all it can be!

I did enjoy the pongal, but I loved the raita. Yogurt as a condiment is another idea that
challenges Americans’ notions of where food belongs. When I first traveled to Europe, I was blown away at how amazing their ‘regular’ yogurt was compared to ours. Now I appreciate the ones we have here in New England.

In Kim's Comparison section, she looked at all the other rice dishes and observed:

The most surprising tastes came from the Boona Kichri. The dish looked dry and bland, I mean it just looked like lentils and rice. The flavor was shocking. You could see pink undertones in #1’s dish as they used more chilies than #3. The cinnamon and cloves added a richness and complexity where I expected dry earthy flavors.

The lemon rice was also very good. I can see why it is used at weddings - it is so festive. I don’t think the rest of the class liked it. The asafetida brought out the lemony flavor of the dish.

In her Reflections Kim wrote:

In reflecting on my own experiences and interactions with migration, I can definitely
agree that food penchants and cooking practices linger long after other cultural institutions have been abandoned. Why does food persist? Food offers utility in this readjustment where customs such as language, dress, and schedules may only deter successful integration. But in the privacy of our own homes, we can revert to the comfortable flavors, tastes and textures of home. Smells, with the incredible power for sending us back to other times and places, fill in the empty places left by absence.

Nearly every time I have been a guest in someone’s home who hails from a different culture, they have made some sort of effort to introduce me to their culture through food. I recall one morning in the home of the sister of my friend Jamal from Palestine. For breakfast, her husband decided to have a ‘cultural lesson.’ We ate seite e za’tar bread dipped in olive oil and then a mixture of thyme, salt, sumac, and sesame seed. It was filling and hearty, but very foreign.
We can think of migration as paralleling random mutations in Darwin’s evolutionary theory, causing unconventional changes leading to new ‘species,’ or cooking habits.

Kim is obviously an anthropology major with a clear understanding of the cultural nuances and her insights are well-grounded in the discipline. Jake, not as literate in anthropology, makes some fascinating observations as well. He, too, wrote volumes about the session and in his mise en place section described what he did:

The focus was more on learning new cooking techniques and using ingredients and spices that are not used in everyday American cooking.

While I was browning the lentils, my lab partner heated the spices for the raita. We set half the onions aside, added the rice, the browned lentils, and the spices and cooked for three minutes, and then we added the water and brought the dish to a bowl. While this cooked, we combined all the ingredients for the raita and cleaned our station. When the rice and lentils
were done, we added the rest of the onions and salt.

In his Data section, he recapped some thoughts:

Our results were influenced by factors similar to past labs, such as being prepared coming into class with prior cooking knowledge, *in class* instruction on cooking techniques, but this week our results for one of our dishes was influenced by our ability to follow oral instructions.

I was more skeptical about the raita than any other recipe we’ve made. I have the typical American image of yogurt in my head, and the thought of adding tomatoes and cucumbers to something that I had added bananas and granola in earlier did not appeal to me.

I realized that I have a sweet diet of fruit, bread, and apples. The raita was just what I had been craving without even knowing it. I really appreciated the plain yogurt as almost a carrier for the texture of the vegetables and the spices.
A complexity to the dish that I noticed was the contrasting tastes of the cucumbers and the tomatoes, something that I had never really paid attention to.

I am a visual learner and this dish was a success because many of the things that I would stumble on in a written recipe were answered in this oral recipe.

The rice and lentils took a little longer to cook then we predicted so we were not able to try the dish before setting it down for the rest of the class. I was nervous that it was going to be undercooked, but I thought it turned out great.

If I made the lentils and rice again, I would cook more onions and possibly add another cinnamon stick.

In Jake's Reflection, he confirmed:

The raita dish was a good example of how recipes can still vary even when someone demonstrates how to make it. I varied in taste with some floating
in yogurt others just coated - some with lots of chilies, others with not much.

I tried the lemon rice dish, and I feel bad saying that I could not tell the difference between the one that had asafetida and the one that didn’t.

The Boona Kichri was by far my favorite dish, and I liked the other groups’ better than ours because you could really taste the cinnamon and cloves. When we compared cooking techniques, they said their cinnamon had been cooking at the bottom of the pan and had turned brown and ours had not.

I’ve never had rice pudding before so I did not know what to expect. I enjoyed both samples, but the one that was moist and had a sweet syrupy look seemed to carry the jaggery flavor and made the dish seem less ‘ricey.’
In Jake’s Reflection, he recognized that:

Food is the last thing to go in migration, but land is the first thing to go, and with the land goes so much of the meaning of what that food is. It is hard for Americans to understand, because we aren’t growing our food and most of our festivals and traditions are not connected to the land.

I am fascinated by cultures that still rely on agriculture for their livelihood and that have long embedded history and customs with their crops and their land. If ‘cooking is where nature meets culture’ (Ray, p. 47), then what happens to the food when part of that is lost?

What is the meaning to the final dish when you relied on Rachael Ray for your culture and Hannafords for your nature?

Migrating cultures can adjust. They can substitute brown sugar for jaggery, yellow heirlooms for a Beefsteak tomato, or pasteurized
skim milk for goat’s milk. In doing this, they are losing the original taste, meaning and their culture. They can carry the seeds, but they can’t bring the soil and agriculture, and a large part of the culture is lost.

Somewhere in my life I decided that I wanted to be taught a skill, and that I would rather have a degree in welding than in biology. I have been fighting with myself for these last months on whether I wanted a college degree at all, and I haven’t even tackled the dilemma on what I should major in. This class has taught me a lot about myself, from my learning style, to what I enjoy learning about and the balance I need in my life.

Three credits of my life should be in reading, in class discussion, and stretching my mind, and one credit should be in learning new skills such as cooking. It has become clear to me now that I want to go to school, and making that decision has lifted so much anxiety off of my everyday life and I’m able to focus on other issues.
My ‘migration’ still continues, but I can carry these recipes and skills that I have learned in this class wherever I go.

Beth’s Report was deeply insightful. She started her Mise en Place section and said:

I forgot that we would be cooking a second dish, which the recipe was given to us orally. I initially intended to utilize both halves of the counter to make the Boona Kichri solely. However, once we received the second recipe, we decided to split the dishes and one made each.

In her Data section, she notes:

We started off lightly burning our lentils for the Boona Kichri, this was not how I expected to start off. However, I was surprised by how the darker colored lentils gave our dish a really nice color in the end, but it was the dominant taste and slightly ruined the taste. It is amazing how the preparation of one ingredient can alter the flavor of the entire dish.
Our raita came out fairly sour. I didn’t know how it was supposed to taste never having it before. However, compared to the spiciness of lab last week, it was a nice refresher!

In her Comparison, Beth declared:

We started off by tasting the raita and the lemon rice. I tried our raita, which, had just the 2 chili peppers for a little flavor and I tried #3 that decided to grind up the pepper. I liked the #3 better than ours because they blended the pepper and it took away the sour flavor.

To finish the meal, we ended with the sweet pongal; this was my favorite dish we made this week. I tried #5 and #2 and #2 had a more sugary taste. This was due to the fact that they added more sugar than #5. Theirs was also a lot creamier. #5 had a sweeter taste, even though they used less sugar. It also appeared that they had more raisons and oil added to their dish.

In Beth’s Reflection, she clearly observed:

In thinking about migration, I can’t help but think about traveling. I feel that when Americans
travel, they tend to travel to ‘Americanized’
tourist friendly areas and don’t really get a
real feel for different cultures. We expect
other countries to have similar practices and eat
similar foods.

I feel in order to get a real feel for a country,
you must go to a non-tourist area.

I often feel displacement when eating at other
people’s homes. I am very picky when it comes to
what I eat, yet when I am out of my comfort zone,
I tend to eat things I don’t like and try to mold
my action to fit in with the place I am in, in
fear of offending someone.

I usually prefer to go to a place that I am
familiar with because it’s comfortable and I know
I like the food.

Though this class has forced me to try new
things, I still am not that adventurous in my
eating.
Observations and comments. By Lesson Seven, it was clear that the empirical sections of the Lab Report were second nature. They had become comfortable with the practical aspects of cooking. Their Mise en Place was no longer an issue of angst, their knife handling was better, and cooperation with one another notably improved. The Data and Comparison sections were full of observations using careful vocabulary to describe their palate and olfactory experiences.

This new found confidence allowed them to subordinate the practical skills of cooking to make more multifaceted connections between themselves and other cultures in their Reflection sections. The students were digging deeper, including multiple perspectives, as the simple act of cooking brought their honest reflections to the surface. Instead of struggling with the practical skills, they now began to struggle to understand culture and their place in it. This important movement to intellectualize what they were practically experiencing is evident in their above passages.

Lesson Eight: South/African American

Part four: How does where you come from shape what you eat now? “You are what you eat,” is an old adage and in this lesson, we wanted to enlighten the students on food migration and its effect on
American culture. In this lab, Amy and I deliberately became vaguer with recipe instructions. Instead of giving the students measurements right next to ingredients, we wrote down ingredients only. The dishes we planned used all of the same spices and herbs from previous week, but in different configurations. Again, we divided the students into groups and instructed some groups to create a Vegetarian Orange Rice Pilau, others to make a Chicken Curry Stew, and everyone to prepare a Moroccan Carrot and Pepper Salad.

We were now more than halfway through the semester and I noted some group fatigue. Perhaps because the labs were no longer novel or of academic pressures outside of class, Amy and I decided to invite guest tasters. We invited individuals with authentic connections to the food we cooked for the rest of the semester. We also adjusted the lessons. Following the Dewey Lab teachers lead, we gave the students more freedom in their food preparation. If they wanted to change aspects of the recipe or even make something different, we let them experiment.

Our guest taster this week was a professor in the Counseling department at UVM. She is a native of Kenya and an excellent cook. Two weeks before the class, we asked her to send us the recipes for the chicken and rice dishes she planned to prepare. She wrote back and said she had no recipes; they had all been orally transmitted from her
“aunties” over the generations, but that she would try and write them down. She did write recipes, but without any measurements. Amy and I thought this was fine as we were trying to get the students to develop their intuitive cooking abilities.

When our guest professor arrived, she did not demonstrate any technique, but talked to the students about the recipes. She brought with her her famous “red curry” found only in Kenya. She relayed to them a migration story about Great Britain’s arrival in Kenya, after their colonization of India. The British planned to construct a railroad from the head waters of the Nile to the west coast and brought Indian workers to perform the work. The Indians stayed in Kenya and greatly influenced the Kenyan cuisine with Indian curries. Ironically, Kenyans today believe curry is part of their own ancestral heritage.

The professor, a very calm, organized person, had done her best with the recipe instructions. But as the students started to cook, she became visibly agitated. They were not executing the recipe as she had anticipated because her recipes were too vague. Where Amy and I walked calmly around the kitchen adjusting and monitoring, she moved quickly, grabbed ingredients, or a bowl, or a frying pan and attempted to show correct technique. She admonished one group for not mixing the rice in a folding manner and grabbed the bowl away, stirring it correctly
and lightly scolded another for not chopping their carrots small enough. The stressed teams just stared blankly. Finally, Amy and I took her aside and explained that the students were not seasoned cooks; they made mistakes all the time; that we never expected perfection; and that our intention was to have fun and let the situation unfold naturally. By the end of the class, our previously agitated guest professor laughed and joked with the students and commended them on their wonderful tasty dishes. After class, she came up to Amy and me and bowed. She said that never, in all her years of teaching and counseling, had she felt so out of control. She said, “This experience has made me reassess my teaching practices. The atmosphere you have created is truly remarkable and I have learned much today.”

The students were remarkable in this lab and continued to grow in their experience. In Kim’s Mise en Place section, she acknowledged the lack of recipe definition:

> Despite not knowing specific measurements for ingredients in this lab, I wasn’t that worried. Just make it up as you go along! This lab turned out to be my favorite so far.

Once we listened to [the guest professor’s] story about the dishes, and she had walked us through
the chicken recipe, I immediately realized that some aspects of this dish went against my cooking intuition. We started by placing the skinned chicken thighs on large, hot sauté pans without adding any fat. Yet once the chicken began to brown I saw how much sense this made because the chicken does have a lot of fat of its own.

After adding the vegetables, our next step was to begin infusing flavor with spices by adding the red curry. (I made the dish the following night and its flavor was no where near the depth of complexity as it did in class because we used the Kenyan curry and I used the common yellow blend found in supermarkets here.

For the salad, we decided to slice the carrot lengthwise and then cut small slivers horizontally so I was making little half moon shapes.

After the chicken had cooked for about another 10 minutes, we added the tomatoes, which we had
small-diced. [Our guest professor] suggested we add a half-cup of water or so to help break down the vegetables; as it cooked out, it would create a thickened sauce.

The [guest professor] also brought with her the fiery hot chili powder that her family makes and we added a little of this as well.

For Kim’s Data section, she commented on her dishes.

Our chicken was moist and tender and absorbed the flavors of all the spices.

In the States, we are very accustomed to cooking meat and vegetables separately and serving them as complimentary dishes. As [the guest professor] explained in the beginning, it is economical and time saving to combine nutrient requirements into a dish such as this one.

The cilantro was essential for both adding a fresh burst of flavor to deeper, smoky aromas of the meat and stew, and also for its bright color as a garnish.
In Kim's Comparison section, she wrote:

> With every meal we cook in class, I realize how many seemingly insignificant decisions that go into a dish ensure each and every time the same recipe will come out slightly different. We were all given the same ingredients, but this lab was liberal in the sense that we were allowed lots of leeway in how we balanced those ingredients.

> One group’s pilau was a more vibrant yellow and another’s was duller, more brownish tinge.

> The carrot salad I also enjoyed very much. What I most enjoy about this class is finding new ways to combine everyday ingredients so it is as if I am re-discovering carrots or onions for the first time.

In her Reflection, Kim commented:

> Globalization is a new way to talk about the movement of people and ideas around the globe.
When we did the dietary recall exercise in class, I was amazed that nothing I had eaten in the past 24 hours was native to North America. Dairy, grapes and cattle are not native to North America.

How people use food to define themselves in foreign places is extremely interesting, especially when that food shifts from simply defining a people to defining a place. As [our guest professor] explained, when Indian workers were brought to Africa to construct a railway, they brought with them their culinary traditions. We referred to the dish we made in class as Kenyan, yet many of the spices were used originated in South Asia, and the peppers, tomatoes and chilies in the New World.

Jake wanted clarity in his Mise en Place from our guest professor’s lesson and wrote:

This week’s recipe did not have many instructions, so we had to make sure that we know the recipes before we came into lab in case we had questions for the guest cook. Before I came
to lab, I wrote down any measurements that were not listed in the ingredients, but that were mentioned later on in the directions. I also wrote down any questions that I had; for example, if three and a half glasses of water was actually cups of water.

Once the oil heated, we added the onions, garlic, and red curry (at least I thought it was), the pilau mix, and the salt and mixed the ingredients in the pan. Then we added the rice and were ready to let the rice cook with the spices, but [our guest professor] came by and said that we should be adding the vegetables.

We ended up not being able to fit the vegetables and then had to transfer everything to another pan.

In the Data section, Jake said:

This week we were able to taste other dishes before the final tasting, and it wasn’t until we were comparing other dishes that my opinions of our dish really came out. In each recipe, we
misread a part of the recipe that turned out to be pretty crucial to the final taste.

I noticed that our dish did not have the yellow, curry color that the other dishes had. A couple of times while we were cooking, [our guest professor] stopped by and asked if we had added the red curry to the dish, and I had to tell her each time that I had added the curry powder. I didn’t realize that I had added the red pepper powder (very red in color) instead of the red curry powder (very yellow in color). Our dish was a different color. It still tasted good.

The error in the salad was that the recipe said to add salt to taste, but we must have had some measured salt in a dish left over, and ended up adding about two tablespoons of salt. I didn’t realize we did it wrong until we again did the comparisons. I liked it anyway.
I liked the appearance of our salad, it was a nice combination of French, uniform cuts and the bright, yellow curry.

In Jake's Comparison section, he goes on to say:

Since we had no recipe, some groups thinly sliced the carrots and peppers, while others just peeled the carrots and made thick, round slices.

Some groups garnished the dish with parsley and added pepper for presentation.

Jake’s Reflection, he wrote about the movie watched in class on the Columbian exchange of food.

Many of the classes that I have taken and books that I have read have touched on parts of the Columbian exchange and its influence, but the movie we watched this week made the point that food and agriculture is the center and power of any civilization.

Today, we think that the most powerful country is the one with the most guns and the largest government, and we like to forget that even with
all this power, we are still at the mercy of nature.

Beth’s Mise en Place section starts with:

After finishing the cuts for the pilau, we moved on to cutting up the vegetable need for the salad.

I was impressed at how quickly the spices cooked. Since the recipe was so vague on how long to cook the spices, I had to use my judgment on when I felt it was done.

In her Data Results section, she said:

Though we got off to a slow start, both our dishes came out better than I expected. In the beginning, I was chopping the carrots too big for the pilau and, therefore, I felt stressed when I had to go through and chop them all down to smaller pieces. I was concerned we would run out of time with this setback; however, once the carrots were done we sped through the rest quite quickly.
I felt we added too much salt to the pilau and it masked the spiciness of the dish. I feel when making a native dish, it is important to try to obtain a similar flavor, rather than covering it up with salt.

In Beth’s Comparison section, she wrote:

Some people had small cut vegetables, and others like us had longer and thinner cuts. I also noticed that some of the groups that prepared the chicken decided to add some of their red peppers to their salad. It added a sweeter flavor. I also noticed when comparing our salad to #6 that though they didn’t add any red peppers, their salad still had a sweeter taste.

I tasted the chicken curry of groups #6 and #8. Group #6 stood out more to me because theirs definitely had more pasty consistency and also tasted much spicier than group #6.

Finally, in Beth’s Reflection, she noticed:

In this week’s lab, I learned that salad does not always mean there is lettuce or some type of green involved. When I read that we were doing a
salad and saw there was not lettuce, I got confused. It made me realize that in our culture, we are accustomed to eating our salads with lettuce/greens, when in other cultures, this may not be the norm. It made me realize how naïve I really am about the food practices outside of my culture.

I also noticed that though we have been using the same spices for the last few weeks, the flavor of the dishes change. I have found the smaller and more ground up the spice, the more powerful the flavor and the less time a spice spends in the dish, the less flavor.

Though I find it very uncomfortable to eat certain type of dishes with my hand, I think it would have been an interesting experience to eat the stew and salad with our fingers.

I think this would have taken me further out of my comfort zone.
Observations and comments. The guest professor created an interesting teaching dynamic for Amy and me. Her initial need to control every facet of the student activity offered a perspective on our own roles as teachers in the Food Lab. We realized that the apparently chaotic nature of the activity we had created in the lab was actually a group of very organized and engaged students. Our carefully designed Lab Report had created a structure that allowed students the freedom to experiment, but within rather precise boundaries. This insight reinforced our ability to play the role of facilitator; to watch, listen and ask questions because in essence, for us, the student interest drove the activity. For Amy and me, this laboratory method fostered not only this ability to self-reflect, but an independence of thought. It asked us to understand as much as possible about the learning situation, and to respond to student activity primarily in light of that understanding. Interestingly, when an observer in the Laboratory School pressed Dewey about the apparent chaos of his kitchen lab, Dewey’s response was to defend it not as the optimum learning situation, “but as a necessary phase in learning how students learn” (Bickman, 2000, p. 2).

Lesson Nine: South/African American

In Lesson Nine, we continued our migration cooking experience and followed from African slave route to the southern part of the United
States. We invited a Middlebury College guest professor/taster, an authentic southerner from Tennessee, and prepared a traditional southern feast of greens, fried okra and cornbread.

In the demonstration, Amy identified some of the ingredients. The students handled the collard greens and compared them to the mustard greens. Many in the group had never seen okra; and when she sliced the okra open to reveal its mucous-like inside, they were slightly repulsed. When I showed them the salt pork with its thick layer of blanched hide sitting atop a thick fatty piece of meat, they erupted with revulsion!

The students prepared two different kinds of corn bread - one savory (no sugar) and authentically southern, and a sweet New England version. They boiled collard and/or mustard greens with salt pork and made with either fried okra or okra Creole with tomatoes and corn. Our guest professor had helped with the recipe development, but was not a “cook” like the previous professor. He walked around, lightly advised, but mostly talked about his experience growing up in the south.

Kim started her Mise en Place section by remarking:

**Although this lab required us to make three separate dishes, utilizing three separate techniques, sauté, stew, and bake, I found it to be the easiest lab we’ve done thus far to organize and execute.**
We began by stemming the greens, placing them in the saucepan with 1 C of water and the salt pork, turning it on high and covering. Once this had come to a boil, we turned the heat down to medium and low and left it. No timer was necessary because ideally we would have, according to Tom, cooked the collards for 10 hours!

Once we creamed the butter and added the sugar, I added each egg one at a time, fully incorporating the first before I add the second. When the mixture was light and fluffy, we added the flour mixture. We stirred to combine dry and wet ingredients. The cornmeal was added last and folded in as opposed to the vigorous stirring needed to cream together the other ingredients.

When the oil began to ripple, we added the chopped onions for the Creole. I turned the heat down slightly and let it cook, stirring frequently for about fifteen minutes. When they were tender and caramelized, we added the okra
and cooked it for 10 minutes. Once the okra had begun to soften, we added the tomatoes and corn and let the Creole cook on medium heat for fifteen minutes or so.

In Kim’s Data section, she continued:

Going into lab, I was wary of the Creole recipe. My mom is from the south, so I grew up eating fried okra, but I had never had it another way because of the suspicious texture. Because we cooked the okra initially on high heat, I believe this dried them out a little. The flavors were fabulous.

I tried to tell myself before class that I would probably like the true Southern cornbread better than the Yankee version. Yet this was not the case, I thought our Yankee was awesome. It was cake-like, sweet, dense, but fluffy.

The bright yellow color, I assume a result of the generic corn meal we used, conformed to my expectations of what cornbread should look like,
as opposed to the duller, grainier appearance of the Southern recipe.

As for the collard greens, I think this will be my first lab experience where I will say I was not thrilled with the results. The greens were bitter, but that is not what bothered me. They reminded me of cheap road food I’ve had while traveling in the south. Because they are cooked so long, they take on a brownish hue and don’t look fresh either.

In Kim’s Comparison section, she compared the three Creole dishes:

Despite having only a few simple ingredients the three creoles had very different flavors. I think these differences can be best attributed to cooking times.

We cooked our onion for a long time, about 15 and 20 minutes, before adding the okra. This gave our dish a distinctly sweet flavor and darker color than the others.
I noticed that both other groups who made the Creole used more than one tomato and this gave theirs a more stew-like consistency, whereas ours was drier more of a stir-fry.

I did not dislike the Southern cornbread, but its savory flavors did not mesh with my ideas associated with the name cornbread. Perhaps if it had been called something different, I would have liked it more thoroughly.

I did prefer the mustard greens to the collard greens, but I had basically the same opinion of them. I found their flavor more appetizing, but the first groups’ that I tried had not been washed well enough and I bit into crunchy sand. After that I wasn’t really interested in trying every group’s greens.

In Kim’s Reflection, she talked about migration and access:

Many of the recipes we’ve made in past lab originated overseas, in France, in India, and in Kenya. However, these dishes did not always seem exotic in that they utilized many of the same
ingredients we have grown accustomed to in our ‘total access’ world.

This past week when we learned that we would be cooking with okra, the class reacted negatively with fear, trepidation, and disgust. Okra is technically foreign, originating in Africa.

Okra is steeped in the African American cooking traditions of the American South, a culture that few, in any of the members of our class, have ties to. In this way, we see how cultural practices mediate the transit of foods and recipes even when the physical barriers of transportation become almost nil.

It could be argued that okra, with its somewhat slimy interior, just didn’t gain popularity because people didn’t like it. Yet, we can more readily explain these preferences as food serving as a link to one’s cultural identity. Often people adopt food preferences when they are ready to tell others something about themselves.
A clear example of this is vegetarianism/veganism. By choosing a meatless diet, you are aligning yourself with others who choose the same, in essence associating with a certain lifestyle that carries other implications besides simply, ‘I don’t eat meat.’

Northerners’ apprehensions in trying Southern foods probably go much deeper than something negative when they heard okra. We can cite a long history of animosity between the North and the South and this may explain why foods and tastes have not so easily moved across the Mason Dixon line.

It is quite interesting that this relatively short distance, but wide cultural gap, would make us more inclined to try foods from around the world over ones found right here in the USA. Jake started his Mise en Place by explaining his process: My lab partner and I made the authentic southern cornbread, the collard greens, and the fried
okra. When we came in, we set up our cutting board, our knives, our bleach bucket, our sauté pan to fry the okra, and a pot to boil the greens. We collected our ingredients from the center table and sat down for our instructions.

We chopped the okra into small, one inch pieces and set them aside. In a plastic bag, we added a \( \frac{1}{4} \) C of cornmeal and \( \frac{1}{4} \) C of flour. In a heated sauté pan, we added vegetable oil and also the okra pieces in the plastic bag and coated them with the mixture.

In his Data section, Jake talked of the opportunity to cook with the guest professor:

My partner and I were privileged because we were guided through most of our recipes by our visiting, authentic southern cook. We made the authentic southern cornbread and our fried okra followed [our guest professor’s] grandmother’s recipe rather than the one that was written out for us.
Even though I knew that the cornbread that we made was not the Yankee cornbread that I am used to, I was still expecting to taste something sweet. It came as a kind of shock when the cornbread tasted more like polenta than cake, but after the initial surprise, I was able to accept and enjoy it.

The fried okra was not slimy and did not remind me of my last okra experience. I think by substituting half of the cornmeal for the flour, it made the mixture stick to the okra better and created a sweeter, fattier taste.

I rarely let myself enjoy the taste of fat, and throughout this taste experience, I would stop any thought that have been drilled into me about fat and just enjoyed this authentic, southern meal.

I realized that you can make a tough skinned, slimy pod taste good by knowing how to cook and add flavor to it. In this lab, I learned how
another culture adds flavor to food, and I have never really noticed that when I cook at home, I do not have a technique for adding flavor to food.

In Jake's Comparison section, he compared the cornbreads:

I found it hard to compare the Southern cornbread and the Yankee cornbread because they tasted so different and it was hard to imagine that they both could be considered cornbread. In the Yankee, I had to use my imagination to taste the corn, compared to the Southern bread where I could feel and taste the corn.

This was mentioned by many in the class, but I think the Yankee could have had half the sugar and still tasted good.

The okra Creole dish was my favorite in this lab. I preferred #6 Creole because it was sweeter and had a pleasing texture and appearance compared to #4. Group #4 added Tabasco sauce and I thought it masked the taste of the vegetables and was too hot.
The difference between our fried okra and other group’s okra was pretty extreme due to cooking techniques. While we thickly sliced our raw okra, other groups blanched the whole pod, coated them in cornmeal, and fried the pod whole. I could see how okra has gotten the reputation of as slimy and stringy because those are the words that I used to describe the okra that was fried whole.

I made myself acknowledge and accept this mouth feel, and decided that I still like the okra, but I preferred the okra that we made.

In Jake’s Reflection, he had a legitimate question about his food experience.

The truth is, if you are traveling in search for something untouched and authentic, the preformatted ideas you have and the search itself destroys the authenticity.

So how do you have an authentic food experience as a traveler? I guess the only way to do it
would be to arrive at a house unannounced just as the family is sitting down for dinner.

We are able to buy avocados and strawberries in January. I think we are moving so fast and so is our food that we sometimes forget to stop and experience the authentic moments that do occur in our lives. In lab this week, I was taught how to fry okra from a true, southerner who was taught by his grandmother.

I remember ordering a sandwich in Wales and finding three leaf clovers instead of lettuce. In Iceland, my cooking partner was from Italy, and even though he was a grown man, whenever we cooked, he would talk about his mother’s cooking and how much he missed it. I think we need to capture these moments, whether they are taste experiences or environmental, and try and move away from contrived or created authentic experiences.
Beth’s Mise en Place spoke about her cornbread experience as well:

The cornbread was easy to prepare and took little time. When stirring, I intended to get all the lumps out and through that, you had to stir until everything was perfectly smooth. This was not the case with cornbread. I was corrected. I was unaware that there was any such thing as over stirring until this lab.

Beth’s Data section, she commented:

Our lab went surprisingly fast. My partner and I have the rhythm down now and we usually zip through preparations and such. I was surprised that our dishes came out exceptionally well. I was impressed with how little stirring the cornbread needed to mix in all the ingredients.

Since we were given the option to leave our okra whole or chop it into little pieces, we decided to chop it into smaller pieces to fry. I feel like this gave our okra the chance to absorb more flavor and cook quicker.
In Beth’s Comparison section, she observed:

The first thing I noticed when looking at all the dishes, were the different colors. Some like ours were dark green, almost brown color, and others were still bright green. I think this had to do with the amount of each leaf type.

When comparing the Creole stews, I noticed that #8 had a nice blend of flavor, with a slight dominant onion taste. #6 had a strong tomato taste, and it was obvious their vegetables had been steamed longer.

The biggest difference I noticed in the fried okra was the size – was it left whole or was it diced. Our diced dish was crisper and had more flavor.

The cornbreads tasted completely different too. We made the Southern stone ground and I found that ours was very grainy and flaky. It was much more bitter. The Yankee was more of a dessert while ours would be better with a meal.
Finally in Beth’s’ Reflection, she commented that:

The meal we prepared in this lab was my favorite thus far. I think it is a combination of we were moving toward more familiar means of preparation and combinations of tastes. More ‘Americanized’ dishes are what I am used to eating.

I have never had any of the dishes that we have prepared prior to the lab. However, since fried foods with a lot of fat and/or salt are common in the US, it is that that I found most familiar. We had a nice combination of salty, sweet, and spicy.

This idea of food availability and seasonality became prevalent to me in this lab. These dishes were common in the South because this is the type of food that was available.

The idea of food based on class stuck out to me also. I hadn’t thought about the stone ground cornbread and okra being considered slave food
until we had to sit in different parts of the classroom afterward. If it weren’t for slavery, the United States wouldn’t have been introduced to okra at all.

Observations and comments. The students understood African slavery and migration of food by cooking their way there. At this point in time, the Mise en Place, Data and Comparison sections were flawlessly executed. They behaved like well-ordered chefs in their ingredient gathering, preparation, knife handling, and presentation of final dishes.

Their Reflections revealed a seamless ability to connect their experience with the experiences of others. No doubt, Kim and Jake intellectually understood cultural identity and struggle with it before they signed up for our class. However, cooking, tasting and then describing soul food gave them context to experience southern culture and a small bit of the African-American experience. Surprisingly, Beth came to class without much prior knowledge of southern culture, but through the cooking activity, changed her viewpoint. Her final comments were oddly encouraging as we watched the light bulb go on and she began to appreciate cultural differences.
Lesson Ten: Mexican Cuisine – Corn, Identity and Myth

Lecture topic: Comida vs. Alimento. In this final lab, not only did we have a guest Mexican cook and UVM professor from the Anthropology department, but the Burlington Free Press crew attended to capture this most unusual college “classroom.” We continued the lessons of migration and focused on Mexican cuisine. Our recipes, with a focus on new world ingredients, consisted of making different kinds of corn tortillas and their toppings of black bean and tomatillo salsas. With photographers nearby, the professor demonstrated how to mix the masa harina (corn flour) with water to make the tortilla dough and then how to press them by hand and in the tortilla press. He then went over the heated comals to lightly toast the tortillas. He also showed them how to make variations of the flat tortilla by folding up the edges for a memela and in a triangular pouch for a tetela. After he blended the salsas and allowed the students to taste the mixtures, they were off to their stations.

For one of the readings, Amy instructed the students to read excerpts from Esteva’s and Prakash’s (1988) provocative book, Grassroots Postmodernism, in anticipation of the Mexican food lab. These authors make a distinction between the concept of comida, the meal shared within one’s community; and alimento, literally to eat without connection to land, family or self. They posit that the modern individual self is created
as much by the food s/he is fed from birth, as s/he is by the schools books, cars, and other manufactured “goods” produced. They state that when industrialized societies enter their local grocery stores, dining halls or restaurants, buying goods from any and every part of the earth, motivated solely by the desire to get the best return on the dollar, they have become what Berry called “industrial eaters” (Berry, 1989, p. 126; Esteva & Prakash, 1988, p. 29). “Industrial eaters are disconnected from the most basic human act: the communal breaking of bread” (Esteva & Prakash, p. 52). The guest professor explained that women in the Oaxacan pueblo he just visited made fresh tortillas three times a day. He said it was a long deep tradition and implied that, “You loved your family.”

For this lab, the students were not required to complete a full Lab Report. Amy asked for the Reflection Section only and asked them to comment on their lab experience and answer the question – Did the students' experience of culture in the labs make a difference in their learning?

Kim notes the difference between alimento and comida:

The dichotomy Estevez establishes between comida and alimento introduces interesting issues surrounding poverty, affluency and the modern consumer. Implicit in his distinction between the
two worlds where foods are experienced is an economic division.

I have always associated Mexican tortillas with the flat, usually flour based wraps found in the grocery store. I was very excited to make authentic tortillas in class; I expected them to conform to my idea of tortillas, only to taste better. My first surprise in lab came when [our guest cook] made the demo tortilla and it was much smaller than I imagined. Their smell, texture and color were also much different than anything I’d tasted before, even in good Mexican restaurants.

This tortilla recipe also demonstrated the importance of oral transmission of knowledge. Had I tried to make tortillas simply from reading a recipe, as opposed to watching [our guest cook] demonstrate, I never would have been able to achieve the same results.
I also think it is important to note here that a cooking show could not have replaced the experience of watching someone in person – I will never forget how to make tortillas after listening to [our guest cook’s] presentation and making them myself right after.

We would not likely find the American poor making the tortillas, salsa, or bean paste that we made in class. These dishes require time and energy inputs, the opportunity costs of which may be lost hours of wage pay.

A newfound interest in comida as opposed to the unknown alimento is not surprising. The food we eat becomes a way to wear our politics on our sleeve, and participating in these campaigns is often reserved for the wealthy and educated. Finding time for comida in America’s market economy should not be reserved for the rich with time and energy to invest in food as a hobby.

When Kim answered Amy’s final question about the lab experience, she summarizes:
The experience in this class would definitely not be the same if we did not have the lab component. How could we have a class about food and culture without actually cooking and eating food? I learned so much just about taste and technique that I would never have understood without the lab experience.

It was so interesting to see how everyone’s experience differed in lab. Everyone had the same recipes, but with a few changes, either in ingredients or in technique, the dish could be so different.

It was such a complete learning experience that I will never forget. Memories are matched with food; what I learned through this food experience will stick in my head like oatmeal. In fact, it may actually be impossible to forget what I learned. What a great feeling.

Jake opened his Reflection and commented:

If I lived in Mexico and I was making tortillas three times a day, after a few years, I would
start to wonder if there was an easier way. My American mind would think that instead of every household making tortillas three times a day, why doesn’t the best tortilla maker get paid to make tortillas while the rest of us invest our time into other things like basket weaving or corn growing.

Even though this is basic economic structure, it doesn’t factor into things like mothers wanting to make their own tortillas for their family and the joy they receive from seeing their family sit down together three times a day to eat their own homemade tortillas.

[Our guest cook] said that there was no one way to make a tortilla, and that the amount of attention that you put into rounding the ends and flattening with your hands expresses how much you love your family. It’s interesting comparing the ideology to what we were taught at the beginning of the class with French cuisine. I felt more uncomfortable and uptight making the French eggs
and soup, but in the Mexican cuisine, I felt more freedom to move around and mess up a few things.

In answering the question about the practical experience in the lab, Jake responds:

I have drilled into my head that I need to be taught a trade, to learn a set of skills that I can apply when I leave school. I feel that I could always read a set of books, but I cannot recreate the setting of being an apprentice to a skilled professional. I do not know where I came up with these sets of ideas, or why I'm having such a hard time accepting that I want a liberal education.

I have found that this class combined the two sets of learning, and I feel like I am leaving the class with improved cooking techniques from other cultures and for every day use. This class has been the most diverse academic class I have ever taken. I have learned cooking skills, taste skills, groups skills, along with all the knowledge about food and why we eat the things we eat. We were able to understand and experience
the cultures by the food they eat, which besides actually living with another culture is one of the closest ways to understand another culture.

In Beth’s final Reflection, she commented that:

When first going into lab, I felt that our tortilla making process was going to be stressful. During the demonstration, I was convinced that our tortillas wouldn’t be round enough or that we would burn them for leaving them on the high heat too long. However, I found the process quite easy and enjoyable.

Beth then talked about what she has learned:

With cooking class, I have learned to be patient. If things don’t go exactly how you plan for them to go, you just have to make adjustments and move on. I’ve also learned that every type of food takes different amounts of preparation, ingredients combination, and different cooking times.

I have also learned that even if you are making the same dish, some of the times differ. Therefore, I have learned to be patient and
didn’t get impatient when working in the lab this week.

The making of tortillas in lab, I can relate to the idea of comida because we were making enough tortillas to feed ourselves, but we were also making extras to share with others during the lab experience. I can see why the Mexicans relate to foods such as corn tortillas to their soul because it is such a big part of their life.

In answering what she thought about the practical application of the lab, Beth summed up her experience and said:

I don’t think I would have gotten as much out the class, had there been no lab. In lecture, we could have discussed different cultures and cultural processes, but I wouldn’t have had a real understanding of it. By using different techniques, and cooking different cultural dishes in the lab, I feel like I got a better sense of the cultures we were learning about.
Now that the lab is over, I feel that I have a better understanding of cultures outside of the US and their cooking practices.

I’ve learned that what is familiar and common practices to me as a US citizen is not the same elsewhere. I really never took the time to think about how different practices were around the world in terms of food. From the lab, I now have a greater appreciation for food and have realized how lucky the US is to have such a broad range of foods and cooking styles. With just the lecture, I would not have grasped these concepts.

Overall, I think the lab was very beneficial and it would be hard for me to imagine the class without it, seeing the lab as a whole was a very fulfilling and worthwhile experience.

Observations and comments. These final Lab comments revealed the students’ cumulative understanding of the material synthesized from their practical work in the kitchen laboratory. Each student Reflections revealed that their intellectual journey was richer and their memory more lasting as a result of the practical experience of working with their hands.
Although I will discuss each student transformation individually in the next section, I wanted to take a moment to comment on Beth’s journey. Beth represented about a third of the students in the class. She came to class with an unwittingly xenophobic view of the world. Her Lab Reports, particularly her Reflections, were starkly ignorant of other places and cultures. However, Beth was metaphorically “stirred” to cultural awareness by the lab and it was unlike anything she had previously experienced at UVM. Her final comments give testimony to Beth’s slow, but important, transformation.

These final Lab comments revealed a cumulative understanding of the material gleaned from their practical work in the kitchen. Each student’s intellectual journey through the class was made richer and deeper as a result of their innate interest in using their hands. Dewey called hands-on activity a “thinking tool” (Tanner, 2004, p. 155). Although I will discuss each student individually in my conclusion, I wanted to take a moment to comment once again on Beth’s transformation. Watching Beth’s slow transformation, I am convinced that had she been able to move through class without the food laboratory experience, she would not have changed, however slight, her narrow perspective on culture.
Chapter Summary

In this chapter, 10 cooking lessons are presented followed by student lab report comments about the interaction with the lesson. The students studied food and culture as a topic within a kitchen laboratory using Dewey’s kitchen methodology as a guide. The hands-on focus of the class required clear practical instructions coupled with a theoretical underpinning suitable for a college level course. Over the 15-week long semester, one can witness each student’s transformation as s/he cooks and learns within this stimulating lab environment.
Chapter Seven
Creative Synthesis

Findings

Dewey defined transformation as reconciling a past belief with a new experience. One “changed” on a continuum from what was, to what now is. It was Dewey’s hope that we would “change” for the good of all human kind becoming more tolerant, participatory and pluralistic. My goals for this project were not quite that lofty. It was my intention to test a pedagogical framework and for Amy to teach about connections between food and culture. However, along the way, the students did transform into more mature thinkers. They did change previous perceptions. Their practical cooking experience gave them depth in their intellectual and emotional understanding of the material and, I dare say, they became better global citizens.

In analyzing each student’s transformation on the Rubric, I initially placed Kim at an Apprentice level early in the semester, but she soon moved to a Technician, and by mid-term was engaging at a Cook level. Her intellectual ability to think and write like a Cook did not happen until she had had enough practical experience of cooking like a Cook. In my opinion, it was the practical “act” of cooking that changed her previous perceptions – much more than her exemplary, but almost automatic,
ability to intellectualize the readings and lecture. For Kim, her theoretical “fusion” with the concrete practice of cooking and eating was the key to sharpening her “thinking” skills. Her repeated comments about the thrill of immersing herself into each new culture’s cuisine by handling tools and practicing methods of preparation visibly enriched her experience. In the end, her abstract thinking was made clearer and this new found clarity facilitated her transformation.

Jake started the class as an Apprentice. Because he had kitchen experience, his practical skills were better than average. His intellectual foundation was adequate, but, because he had not valued it previously, was fragile. Jake hovered at the Apprentice level for several weeks and then moved to Technician by mid-term. His writings were starkly insightful and his insatiable need to understand the kitchen work propelled him to Cook level soon after mid-term.

Jake’s transformation was directly related to his ability to learn with his hands. If ever there was a more perfect example of Dewey’s pedagogical position, it was Jake’s experience. Jake eschewed the intellectual process – in his lab writings, he craves the practical experience and wrings his hands at the lack of it in the academy. Fascinatingly, it is through his practical experience in the Lab that Jake finds his way to an appreciation for intellectual knowledge. The blended learning model in
the Lab opened him up to “wanting” the theoretical and, as a result, he transformed.

Beth came to the lab as a Novice. She stayed a novice until mid-term when she moved to an Apprentice. Interestingly, Beth’s intellectual resistance began to melt away by the sheer repetition of the practical experience. Over and over, Lab protocols required her to touch, smell, chop, stir, cook, and taste “strange” food. Eventually, she was not comfortable with her own excuses for not participating. Her writings reflected her slow, but steady, acceptance and understanding of what it meant to be “other.” By the end of class, Beth admits that she would never have forced herself to intellectualize about another culture if it had not been literally “put in her mouth.” In the end, she transformed from “very resistant” to “less resistant” as a direct effect of her physical engagement in the practical process.

My findings are consistent with all 27 of the 28 students (one student did not progress because of personal problems). Remarkably, in each of the three categories, the transformational experience is similar. When asked if the lab focus made a difference in their understanding of the material, a collective and unequivocal response of “without a doubt” was heard. I think the reason this unanimous view resonated so positively was because the students had had little previous college experience of
“learning” in a contextualized environment. The novelty of cooking in a university classroom while learning about culture was unprecedented. Almost as if the words contextualized learning environment is cheating, I had one student say with some guilty pleasure, “I feel like I am playing.” The kitchen experience did indeed create an atmosphere of play, but why does playing feel out of place in the academy? In support of more play in the classroom, philosopher and educator Lipman (1988) captured a definition of play by stating that:

In play – whole-part relationships are more immediately available to the student than in story: for the latter to work, keeping the students attention while the “sequentialized” events of a story unfold is achieved through pictures and even momentum. The fragmentizing approach to teaching is simply one which neglects play for the sake of story: the final result is textbook instruction and fragmentational testing processes – the story is actually missing! (p. 64)

The connection between play and story is important. To Lipman (1988), play is what happens when students react to the whole story. Play is the active space where the individual, through circular, back and forth motion, arrives at resolution (p. 65). In other words, play allows for a sort of self-regulation; to control the pace of one’s own cognitive and learning.
Perhaps it felt like play because we used food and novel instruments as our learning tool. The students certainly enjoyed the atmosphere, but I am not convinced that was all. I think it felt like play because we conducted the class more like the Dewey Lab where student inquiry was paramount to the lesson and not deadened by prescribed outcomes. We allowed them to pursue their interests within careful boundaries created by the Lab Report, and to them, this freedom to explore felt like play. We came to class with a sharp awareness of plot and story line, but we were never sure where the actor's “play” would take us, and that was the point.

Results and Implications

What is fascinating about my research is that it implies that cooking can be a potent methodology for a range of classroom topics. This emerging view within the larger body of research surrounding Dewey’s pedagogical theory of learning by doing is an important addition to the literature in experiential education and food and society.

In analyzing my results, I would like to offer three observations as to why our particularly Food and Culture class was so successful and of important educational value at UVM and potentially at other institutions of higher learning.
First, the Food Laboratory Report was instrumental to our success. The repetition of the Mise en Place, Data analysis and Comparison created a “laboratory point of view” in that it provided rules, order and discipline for the lab activity. Additionally, the Reflection section provided space for the intellectual part of problem solving. This critical addition to the otherwise empirical Lab Report allowed us to blend the practical with the intellectual in one central document. The Lab Report protocols reinforced intensive practice while simultaneously allowing the students control of the intellectual methods required for personal mastery of the practical skills. Students learned practical rules and how the rules shaped the interaction with food. The Lab Report created a discipline for thinking and learning.

Second, the teachers were highly skilled both intellectually and practically. Amy and I were competent experienced teachers with a clear sense of our curriculum as a cumulative process. In addition and very importantly, we were both seasoned cooks and had traveled extensively. Consequently, we were able to vertically integrate themes and ideas from one lab to the next because our comfort with the subject matter and pedagogy.

Finally, the Food Laboratory is the best possible framework for experiential learning. Cooking engages students at an almost instinctive
level; the smells, sounds, sights, touches, and tastes overwhelmed and excited their senses. The constant action and required involvement left no student unnoticed – everyone participated. Additionally, the Food Lab and the study of food have uniquely integrative attributes that covered a broad range of student interests. Our lessons required them to integrate data and analyze information from a wide variety of disciplines, from agriculture, literature, and nutrition to economics, biology, ecology, political science, and history.

These three factors contributed to our success, but also demonstrated how food and cooking can be at the center of a unique pedagogy that provides distinct opportunities in multidisciplinary domains at UVM and at other universities across the country. I would be remiss not to mention some potential impediments in using the UVM Food Lab or other higher education kitchen classrooms, so let me discuss some of them next.

I start with emphasizing my first two points above regarding the Lab Report and qualified teachers as these two variables were critical to our positive results and without them we would have been less successful. Importantly, the design of the Lab Report, the central organizing document, reinforced a blended learning methodology by firmly holding both the empirical and theoretical focus together. For example, the only
other food course in UVM’s Food Lab is empirically based (in the home economics tradition) and several students who had taken the class commented that it was rote, mechanical and uninteresting. Clearly, in this situation, if the Lab Report only focused on theoretical ideas, the discipline of the practical and empirical reinforcement would have been equally missed.

Similarly, without teachers versed in both practical cooking skills and intellectual rigor, the flexible nature of the lesson implementation would not have occurred. In order to benefit from the adaptable characteristics of the Food Laboratory, the teacher must possess a comfort level with the cooking process. A professor could certainly teach a course in the food lab at UVM, or at other institutions, without cooking skills, but, like the Dewey School, would need to be co-taught with someone with an expertise in the area. For example, if a professor wanted to teach students about the environment through the food they prepared, but had no cooking skills, teaming with a professor who did would be a synergistic experience for both.

Finally, another challenge to the successful conducting of a class in the Food Laboratory at UVM or at another university, perhaps less tangible is the professor’s pedagogical fortitude to stay true to the Dewey methodology. First, there would need to be an understanding of Dewey’s
philosophical underpinnings or reasons why using the kitchen to teach about the world is unique and relevant, and then the ability to defend it to the rest of the academy. Without a certain amount of resilience, I am afraid the more powerful teaching paradigms in the academy would quickly undermine the effort.

Clearly, the Food Lab as classroom is not appropriate for all subjects but I urge us to think about its application in all disciplines. Even hard sciences need to consider the opportunity as the California Institute of Technology did in a recent article when it announced that it is bringing cooking into a six week course for some of its engineers (Technology, 2007). Another positive sign is that many schools are starting to teach about food across disciplines however few seem to be not pulling the coursework into the kitchen. In reviewing the 500 page Agriculture, Food and Society Syllabi and Course Materials 2003 Collection from hundreds of campuses across the country, I did not see any courses that offered a blended learning model - all were offered solely in a lecture format (Deutsch).

Nevertheless, despite the above challenges, there are ample opportunities to pursue more interdisciplinary coursework in a Food Laboratory or campus kitchen. Food, its preparation and consumption, is at the very core of our existence and anyone who has taught a course
focused on food quickly learns how profoundly the topic resonates with students. Since food is an interdisciplinary subject, it lends itself to a wide range of courses and, more importantly, a variety of student populations, such that one can frame problems to address many needs and interests. Whether our experience with the students in the Food Laboratory is generalizable for other coursework is not completely clear; however, the positive impact our learning experience had on 27 students certainly lends itself to more exploration.
Chapter Eight

Conclusion

UVM’s intersection between Dewey’s legacy, his distinctive kitchen methodology, and the pioneering efforts of the women in the Food Lab, put the institution in a unique position to be nationally recognized for its cooking pedagogy. That is, if we choose to embrace our heritage, our experiential roots, and re-tool certain courses and curriculum to meet this claim. The learning model we developed uniquely incorporates a mix of techniques and approaches suitable for a wide spectrum of applications here at UVM and at many other institutions of higher learning around the world.

When Dewey was testing his pedagogical philosophy in Chicago, he was not building a place for teacher training or designing a psychology. He was testing holism – the idea that every subject should be taught as an aspect of a greater whole and what was learned was relevant. Over the years, the mind-body dualism that Dewey did away with in his school have persisted in higher education where the ancient prejudice against handwork has prevailed: “When schools are equipped with laboratories, shops and gardens, where dramatizations, plays and games are freely used, opportunities exist for reproducing situations of life,
and for acquiring and applying information and ideas in carrying forward of progressive experience” (Dewey, 1916, p. 191).

Sadly, when thinking of adding concepts of “play” to coursework within the academy comments, such as lacking in rigor, anti-intellectual, even too vocational, seem to resonate. Conversely, when colleges and universities have succeeded in creating experiential coursework, in some cases, it is externalized through separate offices or in internships or summer programs off campus. This separation, or tidy compartmentalization, from the “real” intellectual work of the academy, perpetuates an obsolete notion of learning. Quite paradoxically, it can sometimes create graduates with weak thinking skills, precisely because they have had no hands-on experience. Today’s students will face the responsibilities of freedom in a complex, dynamic world that does not organize itself neatly into academic disciplines; they need preparation for participation in democracy, as well as economy, on a global scale.

There are emerging signs that several colleges and universities are rising to this challenge however. As mentioned in earlier, there are several colleges and universities in the United States who have embraced and developed engaged learning environments, many through food study.
One example at Yale University that has captured the imagination of undergraduates and built upon the university’s commitment to nurturing informed, responsible citizens is the Yale Sustainable Food Project. This experiential learning program brings food from the Yale garden to the Yale dining halls. The Sustainable Food Project is a laboratory for extended, sensory learning. As a result of the project, there is now a one-acre farm on campus – a launching site for accredited academic courses, informal workshops, and campus events highlighting food and agriculture. Through such activities, the project supports both hands-on knowledge of plant biology and careful long-term thinking about the relationship between economics and ethics (Yale, 2005).

Moreover, the project has fostered new avenues of academic exploration at the university. Student term papers, senior theses, and doctoral dissertations have explored the program’s potential role across disciplines and its impact on the local economy. There has been a marked increase in courses related to food and agriculture in disciplines as diverse as biology, psychology, forestry, history, and political science (Yale, 2005).

UVM has a special opportunity right within its grasp to claim Dewey’s legacy. Cooking and Food Study are ripe topics for
experiential design. I propose the learning model we developed connect the University farm, dining halls and food labs for a potent and complete sequence in understanding the interdisciplinary nature of the food system and its application to our society. We should introduce this model in problem based learning environments in as many disciplines as possible.

Over 30 years ago, President Jon Howard of Lewis and Clark College, a small liberal arts college in Oregon, was quoted as saying, “I see no reason to surrender to general forces or bad habits in society. The old canard about colleges - that they are always the last to practice what they teach - I’ve always deplored that. It seems to me that this college has a moral and professional obligation to apply something when we know it is right” (Manning-Anderson ,1976, p. 44).

On UVM’s President’s webpage, President Daniel Fogel combines the mission statement and values with aspirations to not only be a “distinguished institution with a proud history, but to have abiding concern for environment, health and liberal education” (Fogel, 2005). There are other equally strong commitments to social justice, diversity, innovation, ethical decision making, and finally to the land-grant commitment to share knowledge with the community, locally and beyond. All of these goals are ideal areas in which to
create interdisciplinary curricula, especially about food. Cooking pedagogy uniquely creates a learning environment that teaches us how to cooperate with and engage in our natural world and communities, and, in effect, create thriving democracies. Berry (1972) agrees: “What universities, at least the public-supported ones, are mandated to make or to help to make is human beings in the fullest sense of those words – not just trained workers or knowledgeable citizens but responsible heirs and members of the human culture” (p. 77).

At the conclusion of the last lab, our tortilla making professor, flushed from cooking and instructing, turned to Amy and me and said with sheer revelation, “What I saw in the students today is why I take them to experience Oaxaca. I didn’t think it was reproducible, but it happened here in the UVM kitchen.” Cooking thickens our experience, so let us cook more together as we envision our future.
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## APPENDIX A

Engagement to Transformation Evaluation Rubric

<table>
<thead>
<tr>
<th>Elements</th>
<th>Novice</th>
<th>Apprentice</th>
<th>Technician</th>
<th>Cook</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grammar, Usage, and Mechanics</strong></td>
<td>Writing is not clear, with little evidence of an understanding of college level grammar, usage and mechanics.</td>
<td>Grammar, usage, and mechanics interfere with comprehension of ideas.</td>
<td>Demonstrates an ability to master GUM so that reader can engage ideas.</td>
<td>Demonstrates complex writing strategies to engage readers and transmit ideas, for example use of metaphor, analogy, transitions, parallel construction.</td>
</tr>
<tr>
<td><strong>Organization</strong></td>
<td>Does not follow the lab report format, ideas are scattered, does not support evidence.</td>
<td>Follows the lab format. Ideas, though clear, are not clearly supported, evidenced or cited.</td>
<td>The report contains clear and logical progression of ideas. The organizing structure is appropriate to topic. Uses two pieces of evidence per lab report and cites appropriately.</td>
<td>Fluent and seamless organization—reader is clearly introduced to main idea, the components of the notebook flow easily from point to point, and conclusion synthesizes points. Uses multiple clear and descriptive pieces of supporting evidence and cites appropriately.</td>
</tr>
<tr>
<td>Mise en Place</td>
<td>Does not present a schematic for mise en place.</td>
<td>Develops a schematic mise en place but does not create a linear sequence from first to last activity.</td>
<td>Develops a mise en place schematic with a linear sequence and explains each step from beginning to end of the recipe or recipes.</td>
<td>Develops a mise en place schematic with a linear sequence and explains each step from beginning to end of the recipe or recipes. Anticipates any possible problems with timing and finishing.</td>
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</tr>
<tr>
<td>Results: Cooking Experience</td>
<td>The lab report does not convey an understanding of the cooking experience or provide empirical detail about the results.</td>
<td>The lab report conveys an understanding of the cooking experience and provides empirical detail of the results.</td>
<td>The lab report not only conveys an understanding of the experience but connects to the empirical detail.</td>
<td>The lab report conveys and understanding of the experience, connects to the empirical detail, and also refers to present and past food lab experiences and lectures of self and others</td>
</tr>
<tr>
<td>Results: Readings and Reflections</td>
<td>You understand the lab experiment but are not able to engage it at its most fundamental technical level or identify and connect the experience to lecture.</td>
<td>You are engaged in the lab experiment and are able through this experience to connect with the lecture topic of study. You can identify and connect with your personal experience.</td>
<td>You are not only engaged in the topic of study but are able to connect the experiment with lecture. In other words you are able to provide context to what you are learning. Your writing reflects a deeper understanding of multiple perspectives, analysis, and the consequences.</td>
<td>You are actively engaged and can identify and connect multiple perspectives, analysis and consequences. You do this through active sharing in conceptualization and building of your reflections with lab mates. Your writings reflect a culture-centric analysis with recommendations that take full account of these multi-perspectives.</td>
</tr>
</tbody>
</table>
APPENDIX B

FOOD AND CULTURE
SYLLABUS

Instructor: Dr. Amy B. Trubek
Office: 251 Carrigan Wing, Marsh Life Sciences Building
Office Phone: 656-0833
Email: amy.trubek@uvm.edu
Days: Discussion - Tuesdays and Thursdays 11:00-12:15
Lab – Monday 1-3pm and Tuesday 9-11am
Location: Terrill (Lab 3rd Floor, Discussion 2nd Floor)
Office Hours: Tuesday 1:30-3:30pm and by appointment

Course Description: This course will use discursive and kinesthetic approaches in order to understand the complex, varied, and important ways culture makes food and food makes culture. Culture is the sum of our every day unconscious decisions, all the unreflective common sense beliefs and actions that shape how we eat, dress, pray, learn and more. Thus if we want to understand “culture,” we need to experience and participate in such every day activities. In this class, cooking and eating will be our focus – a universal enterprise yet unbelievably varied and complex in what happens around the globe.

Discussions, lectures, labs and tastings will guide us in our exploration of food and culture. Along the way we will consider food as a symbol, food as a marker of social hierarchy and individual identity, food as a part of religious and moral practices, and food as a result of environmental conditions. As part of the lab, students will learn basic cooking skills and the taste principles of several regions around the world.

Course Evaluation and Expectations:

I expect professional standards of behavior in the classroom. Cell phones and pagers should be turned off. Chronic tardiness is not acceptable. You are expected to come to lab and class every week, and if you are sick you need to contact me directly. Any missed labs will require that you make it up and if you miss more than one lab you will not pass that portion of the course.

I expect participation from every student. The class is organized to promote dialogue and interaction. When you are in class and in lab you need to participate. I will be following all the lab teams to make sure there is full participation. Seize the day. I also intend to have
conversations during class and will call on people during discussions as well.

**All readings must be read completely before class.** I will be leading class discussions and organizing in-class activities as much or more than I will be presenting lectures. We will have much better and more meaningful discussions if everyone comes in prepared. If you don’t understand a reading, bring in a list of questions – we can use them to begin our discussions.

**I do not accept late assignments.** If you hand in a reflective essay or lab report late, you will be marked down 1 point for every day the assignment is overdue. You can email me assignments as attachments or hand them to me in class.

All writing assignments should be typed and submitted in 12 point Times New Roman font, double spaced, with 1” margins.

All assignments need to satisfy the standards of academic integrity. **Plagiarism (not attributing other people’s ideas, arguments or phrases properly)** and **cheating** will result in a failing grade.

**Assessment:**
Class Participation: 10%
Notebook: 60%

- 12 reports/reflections (due every Friday at noon) You can hand them to me in class on Thursdays or send them to me via email at amy.trubek@uvm.edu. Each report will be assessed using a rubric; you will be able to get up to 20 points per report.

Lab Practical: 10%
Final Project: 20%

- A portfolio or short essay synthesizing discussion and lab experience that can be submitted anytime between December 7 and December 14.

All of the work for your class should be kept in a **three-ring binder**. This includes all your hand-outs related to lab, recipes, any extra readings, and all your lab reports. You should bring your binder to every lab and class; it will contain all the accumulated knowledge and experience we will be building and drawing upon over the course.

**Part One: What is Food? What is Culture?**

**Week One:**
Tuesday 8/29 Introduction
Thursday 8/31 On being omnivores
Read Chapters 1 and 2 in Everyone Eats

**Week Two:**
Tuesday 9/5 Food: When Nature meets Culture
Read Chapters 3 and 4 in Everyone Eats
Thursday 9/7 Biology and Environment: The Human senses and food.
Read Chapters 5 and 6 in Everyone Eats
Read Chapter 2 in The Taste Culture Reader
Report #1 due

Week Three - Culture in Practice
Tuesday 9/12 Cooking – linked to domesticity, a cultural skills
Read: Excerpt from Goody, Cooking, Cuisine and Class
Thursday 9/14 Cooking as a professional activity
Read: Excerpt from Trubek, Haute Cuisine
Report #2 due

Week Four - Culture in Practice
Tuesday 9/22 Discourse of Food
Read Chapters 7 and 8 in Everyone Eats
Read: Chapter 3 and 3a in The Taste Culture Reader
Thursday 9/24 Cookbooks and Cooking Shows
Read Ferguson, Accounting For Taste, pp. 149-165
View Julia Child and Alton Brown shows
Report #3 due

Week Five: Culture in Practice
Tuesday 9/26 Food from a Place – how do boundaries get determined?
Read: Chapter Chapter 12 in Everyone Eats and excerpt from Sidney Mintz, Tasting Food, Tasting Freedom
Thursday 9/28 Food in a Place – exploring goût du terroir.
Read: Chapter 25 in The Taste Culture Reader
Report #4 due

Part Two: How Does Food Reveal the Social Order? How Does Food Make the Social Order? The Case of France
Week Six: Cuisine High and Low
Tuesday, 10/3 Taste and Cuisine
Read: Chapter 4 in The Taste Culture Reader
Thursday 10/5 The high and the low
Read: Chapters 5 and 6 in The Taste Culture Reader
Report #5 due

Week Seven: Codification
Tuesday 10/10 French haute cuisine as professional code
Read: Excerpt from Haute Cuisine, Chapter 23 in The Taste Culture Reader
Thursday 10/12 Other culinary codes  
Read: Chapters 13, 14 and 22 in The Taste Culture Reader  
Report #6 due


**Week 8:** Purity and Pollution  
Tuesday 10/17 Dirt and Disgust  
Read excerpt from Mary Douglas *Purity and Danger* (introduction, chapters 2 and 3)  
Thursday 10/19 Hinduism  
Read Chapter 10 in *Everyone Eats*  
Read Chapter 14 in *The Taste Culture Reader*  
Report #7 due

**Week 9:** Diet and Disease  
Tuesday 10/24 Humoral Theories  
Read: Albala, *Eating Right in the Renaissance,* Chapter 2  
Thursday 10/26 Contemporary Theories  
Chapter 9 in *Everyone Eats*  
Chapters 1 and 2 in *The Migrants Table*  
Report #8 due

**Part Four: How Does Where You Come From Shape What Eat Now? The Case of the United States**

**Week 10:** Exchanges - Plants, Dishes, Ideas  
Tuesday 10/31 Plant and Animal Exchanges  
Chapters 11, 12 and 13 in *Everyone Eats*  
Excerpt from Raymond Sokolov *Why We Eat What We Eat,* Chapter One  
Thursday 11/2 The New World and Old World  
Excerpt from Raymond Sokolov *Why We Eat What We Eat,* Ingredients for Change  
Report #9 due

**Week 11:** Race and Ethnicity  
Tuesday 11/7 The Melting Pot  
Read: Excerpt from Raymond Sokolov *Why We Eat What We Eat,* Revolution Now and Chapters 35, 36, and 37 in *The Taste Culture Reader*  
Thursday 11/9 Assimilation or not?  
Read: Chapters 4, 5 and 6 in *The Migrant’s Table*  
Report #10 due
Part Five: What if the World is Your Oyster? How Is Globalization Transforming Food? Culture? The Case of Mexico

Week 12: Comida versus Alimento
Tuesday 11/14
Read: Esteva and Prakash, Grassroots Postmodernism, Chapter 3.
Thursday 11/16
Read: Excerpt from Jeffrey Pilcher, Que Vivan Los Tamales
   Report #11 due

Week 13: Myth and Movement
Tuesday 11/28 Corn as Life
Thursday 11/30 Corn as Commodity
   Report #12 due

Conclusion: How Do We Reflect on Our Food Memories, Experiences, and Expectations?
Week 14: Memory
Tuesday 12/5 Read Chapters 31 and 32 in The Taste Culture Reader
   Lab Practical
February 1, 2007

MEMO TO: Cynthia Belliveau, EdD
FROM: Gale Weld, Research Review Administrator
SUBJECT: CHIRBS 07-108 “Recreating the Dewey Kitchen in Higher Education: An Integrative Experiential Study”

According to federal regulations, certain types of research activities are “exempt” from formal Committee review and approval. University policy, however, requires that all projects which involve human subjects be submitted to the Committee office for at least an informal review.

Following such a review of your project, it has been determined that it qualifies for exemption under Section 46.101 of the Federal Policy for the Protection of Human Subjects. Please find attached your project exemption certification.

It is University policy to require all research to be conducted in accordance with the Belmont Report, which sets forth ethical principles for research involving humans as subjects. A copy of this report is available on our website under Rules, Regulations, and Guidance.

Submit any proposed project modifications which affect human subjects for review prior to implementation (i.e. surveys, questionnaires, changes to on-line interventions, etc.). Modifications may affect the original determination of exemption.

Where consent forms are being used, you will find an IRB stamp on the signature page of the form with no expiration date. It is recommended that consent forms and any information sheets clearly describe the nature and possible risks of the research. It is also recommended that the following contact information be provided:

“You may contact Dr. [....], the investigator in charge of this study, at [.....] for more information about this study. If you have any questions about your rights as a participant in a research project you should contact Nancy Saltsaker, the Institutional Review Board Program Director at the University of Vermont at 802-656-5040.”

Thank you for contacting us.
The University of Vermont
COMMITTEES ON HUMAN RESEARCH
SERVING THE UNIVERSITY OF VERMONT
AND FLETCHER ALLEN HEALTH CARE
WEB SITE: www.uvm.edu/irb

RESEARCH PROTECTIONS OFFICE
OFFICE OF SPONSORED PROGRAMS
245 South Park, Suite 900, Colchester, VT 05446
Telephone (802) 656-8040 FAX (802) 656-8041

Protocol Exemption Review and Determination

CHRBS#: 07-105
Pt: Cynthia Beville EdD

Recreating the Dewey Kitchen in Higher Education: An Integrative Experiential Study

The IRB has determined that the above protocol meets the exemption criteria as indicated below under 45 CFR 46.101(b).

☐ Exemption #1: Normal Educational Practices and Settings
Research conducted in established, or commonly accepted educational settings, involving normal educational practices, such as
(i) research on regular and special education instructional strategies, or
(ii) research on the effectiveness of, or the comparison among, instructional techniques, curricula, or classroom management methods.

☒ Exemption #2: Educational Tests, Surveys, Interviews, or Observations
Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observations of public behavior, unless:
(i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and
(ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation, or deals with sensitive aspects of the subjects' own behavior, such as illegal conduct, drug abuse, sexual behavior or the use of alcohol.
*Note: This exemption does not apply to research involving minors except for research involving educational tests or observation of public behavior when the investigator(s) do not participate in the activities being observed. All other research projects with minors require IRB submission.

☐ Exemption #3: Identifiable Subjects in Special Circumstances
Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observations of public behavior that is not exempt under exemption #2, if:
(i) the human subjects are elected or appointed public officials or candidates for public office; or
(ii) Federal statute(s) required without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

☒ Exemption #4: Collection or Study of Existing Data
Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that the subjects cannot be identified, directly or through identifiers linked to the subjects.

☐ Exemption #5: Public Benefit or Service Programs
Research and demonstration projects which are conducted by or subject to the approval of the [Federal] Department or Agency heads, and which are designed to study, evaluate, or otherwise examine:
(i) public benefit or service programs;
(ii) procedures for obtaining benefits or services under those programs;
(iii) possible changes in or alternatives to those programs or procedures; or
(iv) possible changes in methods or levels of payment for benefits or services under those programs.

☐ Exemption #6: Taste and Food Evaluation and Acceptance Studies
Taste and food quality evaluation and consumer acceptance studies, if:
(i) wholesome foods without additives are consumed or
(ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food and Safety and Inspection Service of the U.S. Department of Agriculture.

Assurance number for University of Vermont and State Agricultural College: FWA 00000723
IRB Numbers: IRB 00000485, 00000486
(Fletcher Allen Health Care Assurance number: FWA 00000727)

This exemption is effective for the duration of the project UNLESS modifications are made that affect the original determination of exemption.

Institutional Signature/Date: Gale A. Weld 2/1/07
Name and Title of Official: Gale A. Weld
Research Review Administrator
Subject: RE: Exemption Certification / CHRRS 07-108
From: Gale Weld <Gale.Weld@uvm.edu>
Date: Thu, 01 Feb 2007 16:49:36 -0500
To: Cynthia Belliveau <cbellive@uvm.edu>
Return-Path: <Gale.Weld@uvm.edu>
Received: from whistlepig.uvm.edu (whistlepig.uvm.edu [132.198.101.206]) by penguin1.uvm.edu
(8.13.7/8.13.7) with ESMTP id 111Lna9s9m0110065 for <cbellive@pobox.uvm.edu>; Thu, 1 Feb
2007 16:49:36 -0500
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(8.13.7/8.13.7) with ESMTP id 111Lna7T10500477 for <cbellive@uvm.edu>; Thu, 1 Feb 2007
16:49:36 -0500
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Message-ID: <45C26070.8070807@uvm.edu>
Organization: UVM
User-Agent: Mozilla Thunderbird 1.0.2 (Windows/20050317)
X-Accept-Language: en-us, en
MIME-Version: 1.0
Content-Type: multipart/mixed; boundary="-------------09070008020240300040405"
X-PureMessage-Version: 5.2.1.279297, Antispam-Engine: 2.4.0.264935, Antispam-Data:
2007.2.1.135432

Dr. Belliveau:

Please find attached your exemption certification for your project
entitled, "Recreating the Dewey Kitchen in Higher Education: An
Integrative Experiential Study".

This project meets the Exemption #2 and Exemption #4 categories.

This exemption is effective for the duration of the project UNLESS
modifications are made that affect the original determination of
exemption.

This will serve as your copy unless otherwise requested. Please
print the attached documents for your record.

Good luck with your study.

gale

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Gale Weld
Research Review Administrator
Research Protections Office
University of Vermont
245 South Park, Suite 900
Colchester, VT 05446

Phone: (802) 656-5040
Fax: (802) 656-5041