Farming and education: an interview project advocating for farm-based education

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Farming and Education

An Interview Project Advocating for Farm-Based Education

By

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This thesis is meant to inspire educators to value farm-based education in which farming and education come together in experiential, inquiry-based learning. This work defines and outlines farm-based education and its benefit to students and addresses the need for farm-based education. The benefits of farm-based education are revealed in interviews with three farmers and farm educators from two different farm and educational organizations in New York, research into other farm-based educational sites, and the personal experiences of the author. The author views farm-based education primarily from the theoretical perspectives of Erik Erikson, John Dewey, and Richard Louv; however, I have incorporated other advocates and practitioners as well.
ACKNOWLEDGEMENT

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There Was A Child Went Forth

There was a child went forth every day.
And the first object he look'd upon, that object he became,
And that object became part of him for the day or a certain part of the day,
Or for many years or stretching cycles of years.
The early lilacs became part of this child,
And grass and white and red morning-glories, and white and red clover, and
the song of the phoebe-bird,
And the Third-month lambs and the sow's pink-faint litter, and the mare's
foal and the cow's calf,
And the noisy brood of the barnyard or by the mire of the pondside,
And the fish suspending themselves so curiously below there, and the
beautiful curious liquid,
And the water-plants with their graceful flat heads, all became part of him.

- Whitman, Leaves of Grass, 1900.
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I. Introduction

This paper seeks to make a case for the growing importance of farm-based education. We live in a world in which most of us – adults and children alike – are alienated from our natural surroundings. Most people spend most of their time indoors, in denial of the news constantly thrust upon us: Global warming! Climate change! Drought! Hunger! Obesity! There is an endless list of crises, it seems, and change seems hard. However, as educators, we the have the opportunity to make changes. It is my goal to inspire educators to become involved with farm-based education because of the many benefits it can provide in re-establishing our links to the natural world, build community, and increase awareness of our inter-dependence with the natural world. Farm-based education provides experiential learning and offers children the opportunities for sound emotional and physical health.

Research for this thesis includes interviews with three farmers/educators who have dedicated their lives to preserving the tradition of farm-based education. I interviewed John McDaniel, the Educational Director of Manhattan Country School, Jack Algiere, Four Season Farm Director at Stone Barns Center for Food and Agriculture, and Jennifer Rothman, Programs Director at Stone Barns Center for Food and Agriculture. During our conversations they reflected on their experiences and educational philosophies. Two model farm-education programs, The Manhattan Country School Farm (MCS) in Roxbury (the Catskills), New York and Stone Barns Center for Food and Agriculture (SBC) in Pocantico Hills, (the Hudson Valley), New York, are explored. I am fortunate to have worked closely with all three individuals when I worked at and visited both organizations. From my visits and interviews, I learned why they each value farm education and why they have chosen to teach farming skills to children. I am grateful to the farmers and educators I interviewed for their commitment to farm-based education for young children.
Although I was not able to personally observe farm-based education programs across the nation, I engaged in research of these programs, and have included these farm-based educational organizations in the Resources section at the end of the document.

In farm-based education, children gain hands-on experience doing purposeful work on a farm. Purposeful work offers children meaningful experiences to connect with the natural world. Such a connection experienced at a young age can positively affect their upbringing and understanding of life. There is a direct reward when children learn to care for a piece of land over time. They develop passion, character, perspective, and patience. Through the responsibilities they take on when gardening and farming children can develop a strong work ethic.

Sidney Morris, an experienced all-purpose educator, as he calls himself, is a learning facilitator, and ambassador of The FARM Institute, a teaching farm in Martha’s Vineyard, Massachusetts. He explains the responsibilities at the core of farm-based education:

Farm-based education works like other good forms of education, the best being engaging and experiential. Doing real farm work with real responsibilities is something most people tend to get excited about. Granted, there are chores that can be tedious, but those present the teaching opportunities for delving into underlying principles and structures, the kind of information that doesn't transmit well as a lecture. The work of a farm involves biological complexity and miracles at every turn. Questions arise non-stop and can provide the most energy for curriculum delivery. The student is propelled by individual motivation -- the most potent driver of successful learning that has ever been invented.

(S. Morris, personal communication, January 29, 2014)
A. My Own Background: What Led Me To Develop This Study

This study grew from experiences in nature that occurred many years ago when I was a child. During the summers my family resided in the mountains of Montana. I would walk around the lush valley and feel a deep connection to plants, animals, and the natural world. I remember noticing dew droplets of water on the thick green blades of grass each morning. I was surprised at how I could expect to see the dew every summer’s morning. I marveled at how each day nature was engaged in its cycle. I may have picked up on these cycles because they were a new phenomenon to me, a child from the city. I did not have the awareness yet to see the subtle cycles of nature amidst the concrete. Or maybe I was attuned to observing the natural environment. After many years these magical summers ceased and I have yearned for this kind of connection ever since.

With my interest and passion for farming, I’ve brought nature into the classroom and brought children out into the world. I’ve found that students learn just as much outside the classroom walls as within them. For example, a child can best experience the concept of conservation by visiting the woods with a nature guide who will teach the child about interdependence within the ecosystem. Children need exposure, experience, and quality time spent in the environment for it to be meaningful. Early positive experiences in the natural world can inspire children to become good stewards of the land who will protect the planet in the future.

B. My Teaching Experiences

When I taught at a progressive school in Manhattan, the school formed a food partnership with a farm upstate. This kind of partnership is known as Community Supported Agriculture (CSA). CSA customers pay ahead for weekly deliveries of seasonal goods such as fruits, flowers,
meats, eggs, and vegetables (Pogash, 2014). With an abundance of vegetables delivered to school each week, we explored different ways of cooking them. I developed a yearlong curriculum dedicated to the connection between farm-studies, food, and education. My students became experts at reading and understanding the math and science components of a recipe, fell in love with the school’s farm we visited, and became passionate about health and cooking.

One day, we received an overload of peppers. I put the peppers out on the table for the children to draw and observe. They observed the peppers with enthusiasm and made keen observational drawings. They were curious to know what was inside the peppers, so I cut them open exposing the seeds for all to see. The inside of the pepper fascinated the four and five year olds standing around the table. “The seeds!” they said. “What do they feel like?” I asked. We opened them on the table for further investigation. Then the children wanted to plant the seeds to see if a pepper plant might grow. “Schools must be a place where children are not only involved in responsible work, but are encouraged and helped to understand and order their world through the full use of their senses, their feelings, and their intellects” (Cohen, 1972, p. 35). The children took responsibility for the care of the plants and food that we grew in the classroom that year. We made and explored a variety of foods that enlivened our senses. My interest in farm-based education was furthered as a result of this yearlong study.

In addition, I taught a cooking class at Manhattan Country School (MCS) - a private, progressive school in Manhattan which has a farm campus upstate. My goal for this class was to help children slow down and learn about different ways of life, especially rural life, through cooking food. What is it like to cook together and then sit down and share the bounty? It’s an incredible communal event! The children became fully involved with the whole process of preparing and enjoying the meal. In the Cultural-Immersion cooking class, we cooked foods
from a different country each week using seasonal ingredients. I wanted to connect the ingredients with the seasons to benefit the children learning about seasons and crops at the MCS farm. It seemed to help them understand the connection between food and its natural source. In addition to cooking, we read literature related to the country we focused on, listened to regional music, and enjoyed eating together. I’ll never forget the day I taught about India. We made chapati (Indian flatbread) and talked about where the flour came from. We played an Indian raga, laid traditional cloth on the tables that were pushed together, creating a communal seating design, and shared bread together.

**C. My Farming Experiences**

In further pursuit of my own farm-based learning, I recently completed a flower and herb farming apprenticeship at The Stone Barns Center for Food and Agriculture. As an apprentice at Stone Barns, I learned about the growing, cultivation, production, and planning of an herb and flower farm using sustainable practices. I tracked the flower sales for the full growing season, and ran the day-to-day operations in the herb drying room. I also managed the education component of our garden by organizing and leading daily chores with farm camp in the summer, and school groups in the fall. I led a teacher-training workshop for twenty-five educators that offered strategies to integrate farm and garden-based education into their classroom and school programs.

In addition to my time at Stone Barns, I’ve had several other significant experiences working on farms. One of my most valuable experiences came while I was living in Boulder, Colorado when I worked at Frog Belly Farm maintaining a goat dairy. I was intimate with every facet of this operation, from hand-milking goats, to occasionally slaughtering them for meat. The farm had a small CSA of about 30 shares. As part of this CSA, I facilitated the bottling and
distribution of goat milk and set up the market for CSA members to pick up products. I also worked with farmers in the field by harvesting vegetables to sell at market and helped run the market booth. I planted vegetables, made soil amendments, gardened, and helped in the greenhouse. In addition to goats and produce, the farm also raised chickens, which I was responsible for.

Teaching and farming are my passions. I am fortunate to have gained skills and training in both of these fields. I am dedicated to a future in farm education. In my tenure on various farms, I have gained valuable knowledge that I can, in turn, pass on to others. I enjoy working with plants and animals, and sharing the knowledge of the farm with children and their teachers. I have fostered strong relationships and meaningful experiences by teaching and by working collaboratively with a community of farmers and educators.

My time as a teacher and my studies at Bank Street College have taught me about the importance of inquiry-based learning. Inquiry-based learning involves seeking knowledge through questioning and observation. The following experience of working with food from the farm illustrates inquiry-based learning. One day a child asked, “How is salt formed?” I thought about it. I didn’t know. As a class we began to research and experiment with salt. [Our] “Search for meaning and understanding [had begun]…we utilized the right to speculate and ponder, and the pursuit of inquiry which is the basis of all genuine learning...” (Cohen, 1972, p.12). I learned firsthand that children learn through doing, through asking questions, and seeking answers. The wonder of questioning is the foundation for learning. Farm-based education offers children the chance to question and wonder with tangible and purposeful inquiry. As educators it is our responsibility to respect the children’s questions and utilize them as teaching opportunities.
D. Developmental Framework Applied to Farm-Based Education

The influential educational theorist, John Dewey, focused on the responsibility of the educator in determining the best environment for their students’ growth. “A primary responsibility of educators is that they not only be aware of the general principle of the shaping of actual experience by environing conditions, but that they also recognize in the concrete what surroundings are conducive to having experiences that lead to growth” (Dewey, 1938, p. 40). He also emphasizes the importance of the adult’s role in providing guidance to the learner.

Dewey delivered *The School and Society Lecture* in 1899 when he was the Director of The Laboratory School, which came to be called The Dewey School. He expressed a new idea of education as experimental, child-centered, and intended for the purpose of reforming society (Dewey, 1959). This lecture was widely read and heavily criticized. He said, “Those of us who are here today need to go back only one, two, or at most three generations, to find a time when the household was practically the center in which we carried on” (Dewey, 1959, p. 36). Dewey values the home as a center-point for community and as a place for hard work. He values what we would consider country living or living off the land, and the preservation of rural skills based on using animals and their products to make what was needed. All of that hard work builds character, Dewey states:

Practically every member of the household had his own share in the work…We cannot overlook the factors of discipline and of character-building involved in this: training in habits of order and of industry, and in the idea of responsibility of obligation to do something, to produce something, in the world. (1959, p. 36)

When children are motivated to learn, properly supported by an adult, and engaged in purposeful work, they are well on their way to broadening their knowledge. “We cannot
overlook the importance for educational purposes of the close and intimate acquaintance...with
nature at first hand, with real things and materials, with the actual processes of their
manipulation, and the knowledge of their social necessities and uses” (Dewey, 1959, p. 37).
Purposeful work brings children’s willingness to help and their desire to learn together. The
children are the meaning-makers who direct their own learning while the adult guides the
process.

An example of an adult who guides the learning process for children is Sidney Morris
who inspired children to train a pair of water buffalo (oxen) to work the land. He trained 5th and
6th graders from Brooklyn, (children who were originally afraid of chickens) to work the 2,500 lb
oxen on a piece of farmland. He inspired confidence to communicate with the animals, and
helped them to override their fears.

I started a program for raising and training our two Jersey steers, Zeus and
Apollo, to become working oxen. I got to share this in our "Whippersnappers"
program with both summer kids and inner city school kids who come in the
spring. There is something very magical about a pint-sized 10 year old girl, or
even a strapping teenage boy who both start out afraid of animals and are
transformed after just a few hours into confident ox drovers who enter into a
relationship with two very large horned animals and work together with them as a
team to get the farm work done. (S. Morris, personal communication, January 29,
2014)

The well-known psychologist Erik Erikson created the theory of psychosocial
development of human beings. In his famous book, *Childhood and Society* Erikson identified
eight stages of development, beginning with Trust vs. Mistrust, from birth to eighteen months, to
Integrity vs. Despair occurring at the end of life. The most applicable aspect of this child development theory to early childhood and childhood education occurs between the ages of six and eleven, which he characterizes as “Industry vs. Inferiority” (“Erikson's Psychosocial Stages,” 2014). He theorizes that when children have the opportunity to be productive and industrious they begin to develop confidence and a sense of pride in their accomplishments. Conversely, if they do not have this opportunity, they can begin to develop feelings of inferiority. When children become conscientious and productive, they are capable of performing increasingly complicated tasks. They strive to master new skills, increasing their sense of mastery and accomplishment, of self-worth, and meaning. Farm-based education creates countless opportunities for children to learn new skills and master complicated tasks, a perfect match for this age range.

It is vital for children at this stage to be challenged and trusted to step beyond the scope of the known. The key factor at this stage is the adult who encourages the learning child. The psychologist Lev Vygotsky posited the concept of the “Zone of Proximal Development” in which new knowledge is built upon previous knowledge with support from an adult (Vygotsky, 1978). This “scaffolding” from the adult helps to position the child to continue learning. The adult supports the child and is present and positive when responding to the learning child.

For instance, a farm-based educator guides a student to identify plants by encouraging her to build from what she already knows. The child knows that a plant with a square stem is in the mint family. When she comes across a plant and cannot recognize it, the educator can remind her to look for identifying characteristics, such as type of stem.
II. Farm-Based Education

A. What is farm-based education?

Farm-based education involves children and adults partaking in hands-on learning in the sun, rain, wind, snow, in any kind of farming system. Students can do seasonal chores with livestock or learn about propagation of seed, and how to prepare a bed for planting. Children develop systems thinking, higher-order thinking skills, and an awareness of the interdependence of all living things. They apply their knowledge and skills while working on a farm. Examples of farm-based lessons can be found in Appendix B.

“Farm-based learning encompasses programs, activities and projects in which the farm is the foundation for integrated learning, in and across disciplines, through active, engaging real-world experiences that have personal meaning for children, youth, adults and communities” (“Garden-based learning,” 2013). Children grow their own food and gain awareness of the social and economic aspects of our food system. By working with the land to grow food, the conversation about food access becomes part of their consciousness. The farm is the perfect platform for teaching across the curriculum and for integrated learning to occur.

The benefits of farm and garden based learning are extensive and include increased nutrition and environmental awareness, life skills, social development, and personal and mental development. Academic skills, particularly in science and math are strengthened through hands-on experiences that enrich the classroom curriculum. Studies indicate that students who engage in garden-based learning gain more positive attitudes about environmental issues and perform significantly higher on science achievement tests (“Garden-based learning,” 2013).

Shelburne Farms, in Shelburne, Massachusetts, is a leading provider of farm-based education. It administers The Farm-Based Education Network (2006) to inspire, promote, and
nurture farm-based education. Shelburne Farms seeks to “cultivate a conservation ethic for a sustainable future which includes…collaborating with educators, schools, and other partners to learn from each other that we can transform education and extend our impact around the world” (Shelburne Farms, 2014). Shelburne Farms is an example of a progressive and successful organization that is equal parts production farm and educational facility. Shelburne Farms has researched farm-based curricula connected to the Common Core State Standards of education finding that, “if teachers design standards-based curriculum that is focused on big ideas, and provides students with place-based examples to explore through projects and service, students will be able to transfer their knowing to new situations, and solve complex, real-world problems” (Hoyler, N.D.).

Life Lab in Santa Cruz, California is another leading garden and farm-based education organization. It has offered programming for both children and adults since 1979. Gardening offers a wide variety of learning opportunities for children. For example, when children engage in mapping and planning a garden, they use mathematical and complex thinking skills. According to Life Lab, “a school garden when used well can be a vibrant context for bringing learning to life. When we teach botany at Life Lab, we work with students to harvest various plant parts: roots, stems, leaves, flowers, fruits, and seeds” (Life Lab, 2013). They then use the harvest to make a snack. Children use their tactile senses and enlarge their vocabulary by describing parts of the plants and by describing their experiences. Life Lab has created an abundance of garden-based lessons for educators in their book, The Growing Classroom.
B. Why do farming and education work well together?

As an Early Childhood Educator, I remember reading the book, *When Autumn Comes* by Robert Maass to my pre-school students. I started a discussion about the importance of wood after pointing out a picture of a stacked woodpile in the book. I was surprised to realize that my students did not know why wood was important when preparing for winter. They really didn’t know what wood was for or where it came from. I explained to the children some uses of wood and where wood comes from.

I realized then that there was a difference in what the children in the city and in the country were learning. This was a moment that shed light on the nature-deficit disorder that Richard Louv defines in his book *Last Child in the Woods*. He notes that quality time in nature is NOT a priority in our urban and suburban schools and communities today. Louv points out the distinction between just going out in the woods and going out in the woods with an awareness of what is around you. Louv believes that the lack of quality exposure to the natural world affects a child’s attention span, and contributes to ADD and ADHD. He says, “I believe the concept--or hypothesis--of nature deficit disorder is appropriate and useful as a layperson’s description of one factor that may aggravate attentional difficulties for many children” (Louv, 2005, p.100).

Yates’ (2011) research states that in 2007, 9.5% of children aged 4-17 were diagnosed with ADHD. This study was comprised of more than 400 children and linked their play settings and the severity of their symptoms. They found that children who regularly play outdoors where there are trees and greenery have milder ADHD symptoms than children who regularly play indoors.

Louv also writes about bonding with our families and community through experiences in nature. “We have such a brief opportunity to pass on to our children our love for this earth, and
to tell our stories. These are the moments when the world is made whole. In my children's memories, the adventures we've had together in nature will always exist” (Louv, 2005, p. 316).

When children have farm experiences early on in their youth, be it digging in the soil, petting a ewe, sweeping the barn, or taking in the vastness of the landscape, they experience something that can change their lives. Reverence for nature can be taught through working outdoors with the guidance of an experienced peer and/or knowledgeable adult, and is passed from generation to generation.

C. United States Cultural History and Farm-Based Education

Connecting children with farm-based education is essential at this time when our culture has become so disconnected from the production of our food. Just a century ago, most Americans lived on or near a farm. Today, most Americans live in urban or suburban areas and have little idea where or how their food is produced. Rural residents of the United States now account for just 16 percent of the nation's population, the lowest ever. In comparison, the population share of rural America in 1910 was 72 percent (Praise, 2011). The departure from a predominantly rural lifestyle has diminished the essential bond between children and nature. Simultaneously, children are deprived of the opportunity to learn the skills related to rural life. My intention as a farm-based educator is to bring back into practice our culture’s forgotten skills.
III. Interviews

In order to deepen my understanding and gain more insight into farm-based education, I felt it was important to talk directly with farmer/educators about their experiences. In each of these interviews, I sought to uncover the inherent values that motivated them to be not just farmers but farm educators for children. I have added several photographs I took of MCS students, which I am granted permission to use. I have also included personal photographs of my time at Stone Barns Center, which I have permission to use. (See Permission Forms.) I have compiled additional photographs from both organizations in Appendix A. The technology I used to interview was an application on the iPhone4 called Audio Note. This application allowed me to record our conversations, which I later transcribed. The interview excerpts are directly sourced from our recorded conversations.

Part I.
The Manhattan Country School Farm

(MCSF sheep) (MCSF sheared sheep wool)
Augustus and Marty Trowbridge founded the Manhattan Country School in 1966. They set out to create an independent school where diversity, equality, and social justice were the guiding principles. They were inspired to create this school by the ideas of Dr. Martin Luther King Jr. and the Civil Rights Movement. Today they have a 180-acre working farm, which is integral to their curriculum, and a sliding scale tuition model allowing real diversity in each classroom. In addition to the working farm in the Catskill Mountains, 150 miles from New York City, their main campus is located in Manhattan, near Central Park.

Students live on the farm for increasing amounts of time starting in second grade continuing through eighth grade. All the children partake in a rotating schedule of chores including: tending the gardens, caring for the animals (chickens, cows, pigs, and sheep), and kitchen prep. They also learn to weave, go hiking, and study traditional and contemporary life in the Catskills. In order to graduate 8th grade, students are expected to demonstrate skills learned on the farm as well as in their classroom.

The Manhattan Country School Farm was created to be an educational farm, not a production farm with an educational component. The students work together to make the farm relatively self-sufficient by using farm products for food, fuel, and clothing. They also study nature, both in the wild and on the farm, and learn about and practice environmental conservation (Manhattan Country School, 2014).

Augustus Trowbridge eloquently writes about the experiences he hopes young students will gain at the Manhattan Country School Farm. “Children will come to know firsthand the seasons, the elements, the designs, and the economics of nature. Hopefully, as they grow older, they will gain both a rich measure of self-reliance and a strong awareness of the interdependence of life” (Trowbridge, 2005, p. 81). Farm–based education provides the perfect training ground
for developing self-reliance, interdependence and confidence. I visited the MCS farm to see it in action. I kept a journal of my visit.

**My Journal at Manhattan Country School Farm**

*April 17, 2013*

*My first day began with warm greetings and welcomes from all the third grade children, teachers and farm staff. I was given a warm plate of food and gingerbread cake, and was introduced to everyone. John McDaniel, the Educational Director told the students that I was a teacher who would be visiting and observing for the week.*

*After the meeting, I ran outside and put on my vest and hopped in the rusted out wagon being pulled by the tractor. On board were many children and two farm educators, Ed and Kathy. What a day! Here we are riding up the bumpy road, the kids are popping up and could pop out any moment. We were riding to go fetch the old sap buckets now that sugar-mapeling season is over. The children unhook the buckets from the trees, dump out the sap, and load the buckets and lids into crates in the truck. Each child worked hard to remove the buckets. Following directions was a challenge for the kids. Some didn’t collect the lids and left them on the ground. Others had to learn how to stack the buckets. Others put the lids in upside down.*

(Farmer Ed & MCS children)  
(Kathy driving us in the tractor)
They were learning to see more clearly how to carry out and complete a task properly. At the same time they were learning about sap and its role in the life of a tree. Instructors asked: What does the tree make? What does the tree use the sap for? The children learned that the sap in the tree comes from the ground. The roots soak up the sap; it runs up the trunk of the tree all the way to the top leaves. Or all the way to the top branches providing nutrients for the budding leaves and entire tree. Then the children were asked what is the sap? It’s sugar that gives the tree life. It also converts the Co2 to O2 purifying the air.

The children were having so much fun. One little girl told me over and over how much she loved farming. Another girl told me she misses the animals when she’s in the city. The children are coming of age learning how to take care of these animals. I saw the children work really hard doing their chores today.

I saw children being taught the proper way to sweep. A child carried a bucket of water that was too heavy for her. Would she put the heavy water back and take less or would she just go all the way to the trough and lift it herself? She chose to keep going straight to the stall. I helped her a little by lending a hand. The chores were a joy. There was a list of chores on the wall and the order in which they were to be done. One child said, “I can’t, I can’t” while she was carrying the heavy bucket. But her “I can’t” was only belied by her strength.
I reflected on what I saw at MCS and thought about the majority of children and young people whose lives are sedentary and mostly indoors. In contrast, I looked around at all of the activity going on. All the children were working on tasks, each of which was important to the accomplishment of a common goal. I felt sad to think that children and young people are being deprived of opportunities to be engaged in this kind of hard work.

Farming develops a willingness to do new things, things that you wouldn’t ordinarily do because they may be difficult and strenuous. Building one’s strength while performing chores is satisfying. Persistence, perseverance, commitment, being uncomfortable—and staying with the task are all part of this experience.
Farming offers practical opportunities to teach basic skills such as mathematics. One of the early chores the children did was feeding the cow. They weighed and combined the correct proportion of grains and offered feed to each cow. They milked the cows by hand and then measured the total amount of milk produced per cow per day. The children also groomed the cows, mucked out their stalls, spread fresh cedar shavings, brought clean water, and swept the barn, all before breakfast!

Other children collected eggs from the chicken coop, fed the pigs, and gave milk to the cats. Another group of students set the table, swept the dining room, cooked meals under the supervision of the cooking teacher and then all-children, teachers and farmers-enjoyed a meal together. The whole community of students operates this working farm each and every day during their stay.
John McDaniel has worked at the Manhattan Country School Farm for twenty-four years and is involved in many facets of the farm. He is the Educational Director, Nature Studies/Environmental Educator, and directs the program.

**Interview with John McDaniel, April 17, 2013 at the MCS Farm in Roxbury, New York**

**Were you raised with experiences in nature or farming? How did you become inspired to do this?**

*It was my grandfather that always had the garden, took me fishing, and appreciated the simple things in life.*

If so, can you talk about any memories you may have about being a kid in nature or on a farm. What sticks with you from then that you bring to farming now?

*Growing organically. My grandfather farmed and gardened organically in the 50’s and 60’s. He didn’t even think about it. It’s funny; he worked for DuPont but he wouldn’t use a chemical fertilizer. He just mixed compost and manure. I remember 3, 4, 5 different kind of tomatoes that he grew for their unique qualities and uses.*

**What do you value most about farm and nature education for children?**

*Having time with children while weeding or walking through the woods, often leads to a conversation that may never have seen the light of day otherwise. They let their guard down. The fortunate thing here is that we get to know these kids since they were 7 years old. The specialness of the place makes them feel comfortable and safe.*

**What do you see the children from the city needing to learn from the farm?**
They learn a new way of negotiating the world. Here things are put into a tangible, hands-on context. Because of their experiences at MCS they know how to listen. There is shared empathy. There may be children who are leaders in the classroom while others struggle socially or even academically. At the farm, roles change. A child who struggles may now become a leader. An experience like this can be transformative for a child.

**What do you think is the foundation of a good education in the early years of a child’s upbringing?**

It’s essential to allow kids to feel safe in making mistakes. I am very much an experiential educator I believe: “If you tell me I forget, if you show me I’ll remember, if I do it I understand.” I know a lot of people who in theory or academically can describe something but they don’t really understand it. I think that’s the key with kids, they need to make the connections from being told to doing.

**Now what about the rural communities?**

That’s the frightening thing. There are very few farms left. Unfortunately the public schools in rural areas don’t celebrate their rural culture. They talk about all these cultures and forget about their own very deep traditions. In most schools, children will study the rainforest and they’ll raise pennies to save an acre of rainforest but they haven’t studied the forest outside their window. I see it with my own kids. There are fabulous fields and ecosystems around the school. But, you never see the kids exploring them. They’ll be in the playground. The stream runs and you can hear it, but it’s not talked about. Every once in a while there might be a stream day or an ecology class. But that should be ongoing and even kindergarteners should be out there all the time.

**How do you think we can get schools more interested in the natural world? The experience of stopping and looking…**

It has to start with teacher education. I know teachers who love the outdoors but don’t even consider it as part of their classroom.

**What will the students take away with them when they are finished here?**

Interdependence and the ability to make educated decisions about their life. Very few of our graduates return to the farm physically. But we know they return to the farm all the time. How and where and when do they return to that inner farm? We hear from them how powerful the farm was and how much they love the farm. We say come back, and see us but life is happening. I kind of resign myself to knowing that they return to the farm all the time. It’s all so personal.

**Reflection**

It is apparent that the many MCS students must feel a sense home in nature that began with their time at the farm. John McDaniel mentioned with tears in his eyes that his former students have told him that they return to their “inner farm” with reverence. It is apparent he has
given so much to the MCS children over the quarter century that he has worked for the school. The students take risks they wouldn’t normally take because they feel safe at the farm. They get to move, work and live on the farm, and feel a sense of accomplishment and satisfaction in their daily activities.

(MCS student with a piece of moss she discovered)

McDaniel also talked about how MCS children know how to listen. Listening is an essential prerequisite for learning. Manhattan Country School emphasizes the importance of listening from a young age. They learn how to wait before speaking in order to hear what another has to say. I recall during my observations from my visit at the farm how attentive the children were during their meeting times. John and other educators took turns to facilitate discussions and agendas for the day. I was surprised by the composure and listening skills the children displayed.

Manhattan Country School is a small school with progressive ideals. The farm provides an intimate experience of community. In the words of their founder, “The farm provides our
children with the most important experiences they share in their years at MCS. It is there that they live together and extend their relationships to dimensions that a day-long program cannot contain” (Trowbridge, 2005, p. 310).
Part II.
Stone Barns Center for Food and Agriculture

Stone Barns Center for Food and Agriculture (SBC) in Pocantico Hills, New York was founded in 2004. Its mission is to “increase public awareness of healthy, seasonal and sustainable food. Train farmers in resilient, restorative farming techniques. Educate children about the sources of their food, and prepare them to steward the land that provides it” (Stone Barns Center, 2014). The land was originally owned by John D. Rockefeller Sr.; his son John D. Jr. built the stone barns in 1930-31 as a dairy operation. The dairy ceased operations in the 1950s. David Rockefeller inherited the land and buildings and donated them to create the non-profit Stone Barns Center for Food and Agriculture. The farm is now a four season 80-acre farm. It uses restorative farming methods to grow a wide variety of vegetables, flowers and herbs. There is a livestock component that includes chickens with a processing facility, pigs, turkeys, geese, and a large herd of sheep. The pasture rotation includes a few head of beef cattle during the summer.
months. They also keep bees. The produce and livestock are sold publicly at market and at the farm store and are used by the Center’s award-winning partner restaurant, Blue Hill at Stone Barns, which is on-site. Stone Barns Center is a working farm with several educational components. There is a farmer-training program called The Growing Farmers Initiative (GFI), an educational program for visiting school groups, and programs for the public at large.

I had the opportunity to work with Program Director, Jennifer Rothman, when we developed a garden-based lesson that I then taught to twenty-five teachers. I witnessed Rothman’s ingenuity in running the education programs. Prior to Stone Barns Center, Jennifer Rothman served as Vice President for Children’s and Public Education at The New York Botanical Garden. Rothman majored in Biology and Environmental Science, has an MA in Museum Education, and worked as Education Director and Interim Director of the Palo Alto Junior Museum and Zoo.
Interview excerpts with Jennifer Rothman, May 14, 2013.

How is the mission of Stone Barns connected to education?
Stone Barns is looking to change the way America eats and farms. There are several aspects to how we do this. On a visit to the farm, students are seeing what farming looks like, what it means, and the kind of work that’s involved. I think people don’t necessarily know what happens on a farm. It’s not part of most of our day-to-day culture. If they’ve had experiences on a farm then they might be advocates for a better food system.

We have several programs to school groups: one is a winter program with middle and high-school students. We harvest spinach and collect eggs and then we make a frittata with spinach and eggs. I think they are always a little surprised with how easy it is. We also write the recipe out while we’re waiting for the frittata to cook. They each go home with that recipe. We also do a cooking program with third graders in the fall, winter, and spring. They harvest salad greens, take a tour of the farm, collect eggs, and then go into the Blue Hill kitchen, roll pasta and make a seasonal pesto. Then also make a seasonal dessert crumble. When they sit in the Blue Hill private dining room, they have a lovely meal. It’s amazing how their whole personality changes when they sit in this room. We put one place setting out and then they set their own place. We talk about the kind of conversation you might have at a table, what to do if you don’t like something, and waiting for each other’s food to arrive.

What are children learning here at Stone Barns Center?
One of the local school’s third grade visits three times throughout the school year. The first visit is an overview of the farm; they then focused on compost, then on bees, and pollination. Some of the programs we offer have a cooking component. We will harvest spinach and then do a cooking class. We do that in the pastry kitchen or the Blue Hill kitchen and then they sit down for a meal. Our farmer apprentices do a lot of our teaching. I like students to meet apprentices I want them to see what real farmers look like. They are not necessarily the stereotype of a straw hat and plaid shirt. They come from a wide variety of backgrounds.

What are Stone Barns educational goals? How do you meet these goals?
We are at an interesting time. We’ve been open now for almost 10 years. I am in the midst of developing the next three-year strategic plan for all of the educational programs. The educational goal reflects our mission: changing the way America eats and farms. For each program area we are developing a theory of change to help us achieve our mission. We have a lesson plan for each program we offer and list the goals and the objectives that we will use to meet the goals.

What are the greatest strengths of your program?
The activities are authentic. There is something about the authenticity of collecting eggs that are going to the restaurant or going to the cafe. I think the kids feel some sense of empowerment; it wasn’t like we made up something for them to do. The same thing with transplanting. There’s a level of care. We say, “This has to get done. These are going to grow and we are going to sell this at the market.” I think the kids feel that they really have a stake in the success of the farm.
What are the challenges?
There are some times when kids just want to dig, water plants, explore, and get their hands dirty. So I asked for a bed that was just soil for them to dig in. There aren’t always areas that are available for that kind of exploration.

What approaches/models/philosophy of education do you use?
My goal would be to be more inquiry-based. Have a framework for what we would like the kids to get out of their visit. But then let them discover some of these things on their own. I am a fan of always having a chore and a farm journal or some way to record their observations. I think observation is important; my background is more in science than it is in farming. Kids don’t know how to observe anymore. I would like to recommend recording and looking very closely at what they see.

Is there anything that you would like to change going forward in terms of making more school partnerships?
We reach 8,000 kids a year. I would rather have a smaller number like 500 to provide a richer and deeper experience for them.

If you were to have 500 kids, how would the program shift?
We would schedule them with seasonal visits, spring, winter, and fall. I would make sure there was a cooking component to all visits.

I asked Jennifer if she thought it would be beneficial to have a farmer or farm educator visit the classrooms of the visiting students prior to their trip to the farm. She replied in the affirmative.
I would want them to have interaction with a farmer and do farm chores each season. The farmer or educator comes to their classroom first to help them think about what it might be like and what to expect at the farm. It’s good to have met the person who is going to be leading the group. If they come back a second time to the farm, the visit is more valuable.

What are the most important skills for children to learn these days?
Observation is the most important skill. It’s the foundation of science and is an essential part of inquiry-based learning. I think that its something that needs to be taught. Farmers constantly need to observe the ecosystem around them. For example, health of the crops, disease, weather, when to seed, plant, transplant, harvest, cover crop etc.

Reflection
I was impressed by Jennifer’s emphasis on observation. Everything one does on a farm stems from observation. I love her idea of children keeping an observation journal while experiencing the farm. The children make the experience their own through observation, recording, and reflecting.
Jennifer emphasizes the authenticity of the tasks performed by the children and of the interaction between the children and the farm apprentices who are teaching them. Stone Barns Center encourages their apprentices to teach children throughout the course of a regular farming day. On some days, apprentices will educate 3 groups of 10-12 children for 20 minutes each.

The Stone Barns educational team is dynamic and adaptable. They communicate daily with the farmers about what’s happening on the farm. The educators then plan a valuable farm experience for the children who visit. As Jennifer hopes, the children do leave the farm with the experience of being in a beautiful place and with the excitement of new learning.

When reflecting on my time as an apprentice, I remember teaching a garden-based lesson on clearing out a crop. We had a bed of chamomile that was at the end of its life cycle, having been harvested three times. I gathered a group around the chamomile bed and began the lesson by cultivating their reverence for this plant. I sat down on the earth, kneeling beside the plant and picked a stem of chamomile flowers for the children to explore using their senses. I shared with them the qualities and uses of chamomile. I told them that chamomile is a safe herb that has been used medicinally for centuries as a calming and relaxing herbal tea. I reminded them of the famous Beatrix Potter classic, *Peter Rabbit*, whose mother gave him chamomile tea when he had a tummy ache.

The children began to appreciate this plant and asked many questions about it, including how chamomile tea is made. I showed them the tool used to harvest the chamomile flowers. Then I told them that the chamomile was ready to be pulled up from the ground as it was finished with its life cycle. The children gasped. “No!” they said, “You can’t kill it.” They were sad to take the plants out of the ground. I explained that we had gotten a lot of use out of the chamomile, three harvests, and now needed the bed space to plant other crops. We would seed
more chamomile in a different spot in the garden. We talked about the reasons for crop rotation. Then we got up and together pulled the chamomile out of the bed from the roots. This was a meaningful learning experience for all of us. As they were finishing, I let them know that packaged chamomile tea, harvested from this very spot was for sale in the farm store.

The children are often the best helpers for getting big jobs done in the garden. If we have to clear a bed of plant material we can count on the children to be up for the challenge. They often enjoy each moment even if there is strenuous work and heat to deal with. The children work hard and play hard at Stone Barns Center and in turn get a lot out of their time there.

Another example of teaching in the garden was when we harvested the herb tulsi, (also known as holy basil.) The group of children got on their knees, bent over the large tulsi bed, and listened to the sounds of honeybees drinking the sweet nectar. The children experienced the garden viscerally and asked lots of questions. I then harnessed their curiosity by teaching them how to harvest the tulsi plant and use it as a medicinal tea.

One day, my sister Alicyn, brought her class of fourth graders to the garden and I led them in a garden-based experience. I began by talking about the garden while I assessed their level of garden-based knowledge. They knew a lot already and showed reverence for nature, which made them a captive audience for learning more about plants. We potted up some calendula seeds that we grew in the garden. They brought the potted seeds back to their classroom. The seeds grew into beautiful plants.
(Calendula growing in 2” clay pots, Fall 2013)

Then I taught them about honeybees, herbs, and the whole process of growing plants and drying them for tea. Later, they took some quiet time to observe in the garden. They used watercolors to paint a flower or garden scene of their choosing. It was special to witness my sister bond with her students outside of her regular classroom. After their visit, they made me a beautiful book, eloquently written and illustrated about their day in the Stone Barns Terrace Garden with Farmer Rebekah. It was a gift to share my love of farming and my passion for teaching with my sister’s students and with the many students who came through the farm last season.

Stone Barns Center offers children a variety of ways to connect with the land. In Appendix C there is lesson plan called, *How to Plan a School Garden*, which Jennifer asked me to write. I have been fortunate to educate school groups, camp groups, and teachers during my apprenticeship on the farm.

During my tenure at Stone Barns Center, I had the privilege of working with Jack Algiere the Four-Season Farm Director. Jack Algiere was the first employee at Stone Barns Center where he began in 2003, cultivating a unique and thriving farming community. He offers expertise to
young farmers while managing the farm. Jack was approachable and available throughout the entire growing season for questions of all kinds. I often spoke with Jack about farm-based education and found we had a lot in common. We agreed that farm-based education offers us the opportunity to build community, re-establish our links to the natural world, and increase our awareness of the inter-dependence of all living things. Talking with him also gave me further insight into what he values in farming and in life.

Four Season Farm Director, Jack Algiere, oversees the cultivation of over 200 varieties of produce year-round on 6.5 acres of outdoor fields and gardens and in a 22,000 square-foot minimally heated greenhouse as well as the Center's extensive landscape and compost operations. He experiments continually with innovative growing methods and seed varieties and is integrally involved in training beginning farmers. Jack graduated from the University of Rhode Island with a degree in turf management and horticulture. Before Stone Barns, he worked as a greenhouse manager for a family-owned nursery in Rhode Island, a park ranger in Costa Rica, restored and managed olive orchards in California, and developed an organic CSA program in Connecticut. (Stone Barns Center, 2014)

He was most generous in sharing his knowledge with me and the following are some excerpts from our conversation.

Interview excerpts with Jack Algiere, August 31, 2012

I know you were raised on a farm in Rhode Island. Can you talk about any memories you may have about being a kid on the farm. What sticks with you from then that you bring to farming now?
I grew up with chores. I carried two buckets of coal in and out of the house every morning. I fed all the chickens, pigs, and goats, mowed the fields, and did all kinds of power equipment work as soon as I could reach the pedals. I worked with my dad all the time. Part of running a piece of equipment was knowing how to take it apart and put it back together.

What do you value most about farming?
To continually guide and learn from experience. It doesn’t matter how much you study farming, unless you farm and mess up constantly, you’re not a farmer. That’s what a farmer does.

What do you think are most important skills needed to be a farmer?
Problem solving is important. You have to be able to let go of things that don’t work like you planned. Problem solving is being able to bring in what you learned in your life.
How do you teach reverence to children?
You spend a lot of time outside with them because it allows them to interact in nature. It allows them to understand that insects, squirrels and plants have a will and a sense. They are not just inanimate things outside of them. Having the kids be outside is good. Exercises in community are helpful.

What is important to teach children?
How to reason. We really need people to learn to reason, problem-solve, and navigate. Complex thinking is really why I love this work. Everyday’s different. It’s complex working on a farm. People don’t see that a farm takes part in conservation. My job is to take care of this piece of land.

What do you think about conservation?
Conservation is really important. People don’t understand that farming, if ecologically practiced is a form of land conservation. It’s good for the land to be used. I’ve been working with the Rhode Island Land Trust by talking with the older generation of landowners about having ecological farming practices on their land. It is interesting to hear their memories of farming. The old paradigm is the hardships and burden of farming that they tried to escape from. I have been listening to them and at the same time exposing them to what farming is today. Farming is a working organism with multi-faceted parts, a system that is an opportunity to grow food and build community. It is a life giving force and the opposite of a burden but a gift when practiced properly.

Reflection

Jack is a deeply inspired human being who cares about passing on the farming tradition to the next generation of farmers and educators. He believes that farming is a process of learning and that with learning come mistakes. Mistakes are a part of living and from them you learn how to adjust and problem solve. One needs to learn how to solve problems when setbacks occur. Farming offers so many opportunities for children to try, fail, try again, think of solutions and succeed.

Here is one example of Jack’s problem-solving abilities. Recently we needed to move the upper hoop house (a movable greenhouse) to the opposite side of the garden in order to rotate crops. The house was stuck and we were having trouble moving it with the tractor. All of a sudden, the hoop house frame started to crack as we pulled it. If the ground were to get wet and
muddy, the tractor and hoop house could slip and endanger all of us. Jack was persistent in attempting different solutions. First he put a wooden bar across the front to reinforce the frame. That wasn’t strong enough, and the front frame still caved in. We dug under the sides of the house, putting poles in for leverage. It still wouldn’t move. He added another beam and diagonal side beams to reinforce the front beams. It started to rain. We waited. When the rain let up we tried to pull it again and it moved!

(Jack Algiere tilling the beds before moving the hoop house.)

Jack demonstrated how much patience problem solving may require. This is one small example of the many skills one needs to operate a farm on a daily basis.

I have deep respect for Jack and his efforts to convince long-standing landowners about the importance farming their land. Jack is trying to preserve farming in his hometown in Rhode Island by inspiring landowners to be open to the idea of making their lands accessible to farmers. He says that farming is an excellent type of land conservation when done sustainably. Having a piece of land sit untouched is not the only form of land conservation. Protecting land from development is important and bringing farms to communities is a way of insuring that the land
will be protected as an agricultural site. Farm-based education depends on land access and without land, teaching possibilities are limited.

Jack is working to develop community by preserving and creating more farms. He uses his community development skills at Stone Barns Center to bring people together. Jack serves as a mentor for all of us young farmers new to this field. He teaches us how to be in community and what community is for. In turn, we take these values of community, problem solving, patience, and perseverance into our own lives and to the lives of the children we teach.

CONCLUSION

As we listen to the news about global warming, or about political corruption, how can we inspire and instill in the next generation respect, understanding, and obligation? Farm-based education offers one solution, one possibility that can help shape a positive future. Educating children to experience the natural world guides them in the ancient order of things. They will learn to protect and preserve the environment that they have learned to love and respect.

Farm-based education has the capacity to build community as it increases our awareness of the interdependence of all things. Children make boundless gains when involved in learning through doing in the garden and farm. Principles of progressive education are founded on the philosophy of “learning through doing.” As John Dewey said: “Give the pupils something to do, not something to learn; and if the doing is of such a nature as to demand thinking; learning naturally results” (1916, p.154). There is a direct reward when children care for a piece of land and animals over time. They develop passion, character, perspective, patience, and a work ethic through the responsibilities they take on when gardening and farming.

Teacher education must encompass a farm-based curriculum component so that teachers
learn how to connect their classrooms with farms and gardens. Teachers themselves need to experience the natural world and learn to view it with reverence in order to inculcate these values in children. Through discussions with my colleagues, I have found an overall positive response to the idea of teaching teachers about farm-based education. Educating teachers first is essential because of their influence on children. The future of agriculture, health, conservation, and our well-being depend on the preservation of the natural environment. It is my hope that future generations will become stewards of the land and orient their lives to protect and nourish the natural world.
References


Erickson’s psychosocial stages summary chart. (2014). Retrieved February 1, 2014,

http://psychology.about.com/library/bl_psychosocial_summary.htm


A. Resources for Educators

Stone Barns Center For Food and Agriculture, Pocantico Hills, NY  www.stonebarnscenter.org

Shelburne Farms, Shelburne Vermont  www.shelburnfarms.org

The Farm-Based Education Network, www.farmbasededucation.org

Life Lab Organization, Santa Cruz, California  www.lifelab.org

The FARM Institute, Edgartown, Massachusetts  www.farinstitute.org

Hawthorne Valley Farm, Ghent, New York  www.hawthornevalleyfarm.org

The Common Core State Standards:  http://www.corestandards.org

The Farm School, Athol, Massachusetts,  www.farmschool.org


B. Recommended Books for Teachers and Young Children


Appendices
Appendix A.
Photographs from Manhattan Country School and Stone Barns

Sheep at MCS Farm

Animal husbandry at MCS Farm
Education at MCS Farm

Mathematics in the barn

Community by campfire

Nature exploration at MCS Farm

MCS student finds wild mushrooms

Wild Mushrooms

MCS student disassembling sap bucket
Farming at Stone Barns

Flower delivery at Stone Barns
Appendix B.
Farm-Based Curriculum Unit for Educators

A FLOWER STUDY

1. Planting flowers in an urban environment
2. Honeybees
3. A trip to a flower farm
Planting Flowers in an Urban Classroom ~ Lesson 1

Setting  This lesson plan is intended for an early childhood classroom, Kindergarten or First grade with children five - six years of ages.

Background The children will engage in basic gardening activities for the first time. They will grow three kinds of flowers from a seed in their classroom. Flower types: Mexican sunflower, butterfly weed, and dahlia. All three flowers are native to Mexico.

Unit Learning Objectives
• Children will learn the four essential elements that plants need to survive. (This is part of the common core for science standards.) Air, Water, Fire and Earth
• They will learn how to take care of flowers, why they are important and how they are used.
• Children will begin to comprehend importation and exportation of goods (13% of flowers are grown in the US) and the positives of supporting local agriculture
• To broaden their view of farms in this country and their purposes
• Experience graphing and measurement of plant heights through non-standard units of measurement, (unifix cubes) standard units of measurement (ruler)

Lesson Learning Objectives
• To identify the parts of a flower

Lesson Materials/Tools
• Soil, pots, 3 types of flower seeds, watering can half full of water, ruler, unifix cubes, graph/chart paper, journals, pencils
• (All of these materials can be modified to suit the individual school’s needs. If these resources are not available, parents can ask for planters to be donated or pots can be made from milk cartons cut in half, old coffee cans and jars. Seeds can be purchased from seed catalogues and delivered to the classroom or bought at a local hardware store in the spring for a low cost.)

Preparation all materials on tables so ready to plant after circle discussion: Prepare chart paper for discussion

Activity/Meeting/Discussion: Each of you will plant your very own Mexican sunflower, butterfly weed or dahlia flower. We will keep these on the windowsill and take care of them every day.

Thematic Question ~what do plants need to survive? Have the children guess and make a drawing of this concept for them to visually grasp Air, Water, Soil, Sun. Let the students know that they will each keep a journal of the growth progress of the flowers and rotate taking care of all the flowers for the class. (Promoting teamwork, flexibility and responsibility) Create a watering calendar if the children are motivated/organized by a visual watering

Whole Group Discussion Activity Hold up a real flower and let the children smell it. Play a guessing game of the names of the flower parts. Point to the parts of the real flower and then transition to a diagram of a flower with all the parts clearly labeled. This is the stamen (point) it usually has a filament, which is the stalk and the anther, which is right here on top. This is where the pollen comes out of the flower, through the opening of the anther. Next we move down to the sepal. Before the flower blooms, the sepal encloses the entire flower and protects the delicate parts of the flower like the petals. I’m sure most of you have heard of the petals, but what is the
purpose of the petals? The petals are usually bright colors to attract bugs like bees to collect the pollen. The nectar is where the nectar is made, this is used to make honey. The carpel is this long structure here in the center of the flower. The carpel contains the stigma the style and the ovary. The stigma and the style is where the flower receives the pollen. The ovary holds the ovule or the seed of the flower.

**Planting Activity:** Ok everyone! Now if you return to your seats, I will give out the cups which all contain soil and you will each plant your very own Mexican Sunflower, Butterfly weed, or Dahlia flower. There is a bag of seeds on each table and you will each take two seeds and plant it in the soil. The students will then take about fifteen minutes to plant their seeds carefully as teacher walks around and help students.

**Key Words & Steps to use for instructions:**
1. Fill pot with 3/4s full of soil
2. Gently press into pot
3. Water the soil lightly
4. Press in 2 seeds only ½ into the soil- gentle fingers
5. Sprinkle a little water
6. Place on windowsill

**Clean Up**
“Ok everyone stay in your seats and look up this way. You will each keep a journal of the growth of your flower. I would like you to write in your journal every single day for a whole month. Each day there will be time to check our flowers, observe, and record the data in our journal. We are going to keep the cups on the windowsill so they all get enough sunlight. While we are writing in the journals and drawing what we notice we may also water your flower as well if needed.

**Questions & Reflections**
Why did we plant three different types of flowers?
Which flower do you think will grow to be the tallest/shortest/medium height?
Make predictions as to how long you think the stalk will be. Measure the stalk with unifix cubes and graph our predictions. Compare growth rates as the growing continues.
Talk about responsibilities and any questions the students may have. Make the chart for the watering schedule. Have the child whose day it is to water report on the health/needs of the plant. (They will learn through the process when to water and when not to water and report that information as well.)

**Curriculum Extensions**
1. *Introduce Seeds:* A pack of wildflower seeds is great for a medley of flowers will come up. The children can identify them from their leaves or colorful petals once in full bloom.
2. *Sprouting Lima beans* in the dark is a great science experience to see the roots burst out of the lima beans. After the lima beans grow roots the children will draw the roots and then plant them in a planter, as the lima beans will grow long and nicely. They may even need to make a trellis. Strings can be tied to the ceiling and attached to the window box for the lima shoots to climb up. This can be a beautiful addition and change of environment for the classroom!
3. *Seed Dissection/Direct Observational Study:* After sprouting the seeds and looking at the roots that emerged from the lima bean, inspect lima beans and identify the bean parts when looking through a magnifying glass.
4. The book, *A Seed is Sleepy*, by Dianna Hutts Aston is a great book accompanied with this lesson. There is a part of the book that has a large diagram of the seed parts that is useful for understanding where parts such as the root originate from the bean.

5. Mathematics- Counting/Sorting with seeds

6. Bulbs: A previous experience in the winter, the children planted an Amaryllis bulb, tracked its growth with a chart and enjoyed the bulb during the coldest of days.

**Literature Resources:**

“Miss Rumphius” By Barbara Cooney
“Counting in the Garden” By Kim Parker
“The Reason for a Flower” By Ruth Heller
“The Carrot Seed” By Ruth Krauss
“The Garden of Happiness” By Erika Tamar
“Planting a Rainbow” By Lois Elhert

**Websites about Flowers:**

http://colquitt.k12.ga.us/sunset/missrumphius.html#Activity (To accompany “Miss Rumphius”)
http://aggie-horticulture.tamu.edu/wildseed/photoalbum.html
http://aggie-horticulture.tamu.edu/wildseed/perenniallupine.html -Lupines
http://www.nps.gov/plants/color/gallery.htm -Celebrating Wildflowers by State
http://landscaping.about.com/od/galleryoflandscapephotos/tp/flower-pictures.htm
www.cnps.org California Native Plant Society

**Websites about spring:**

http://www.apples4theteacher.com/holidays/spring/short-stories/ Short Stories
Honeybees: Exploring the Anatomy of a Honey Bee ~ Lesson 2

Setting
This lesson plan is intended for an early childhood classroom, Kindergarten or First grade with children five - six years of ages. This lesson is given in the spring because this is a time of year when the field honeybees will leave their hive to drink nectar and collect pollen from fresh budding flowers.

Background
This is the first time many students in this class will be given tools such as magnifying glasses to analyze and observe an insect specimen. The students do not have previous knowledge that bees make honey by collecting nectar and pollen from flowers. This is the first time any of these students explore the anatomy of a bee. They do not yet know the body parts- thorax, abdomen, compound eye and so forth. The children are familiar with body parts such as: legs, head, eye, and stomach. The children have all participated in basic gardening activities (Lesson 1) where they grew three kinds of flowers from a seed in their classroom. (Mexican sunflower, butterfly weed and Dahlias. The students are learning to use a gentle touch with their peers as well as with any living thing in the classroom.

The children observed some budding trees from outside the playground fence, breathed in the fresh air, and noticed some bees flying around. Some of the children were afraid and ran away from the fence and others stayed close noticing that the bee was busy working on a flower. The sight of the bees on the flowers sparked the beginning of study and inquiry about bees. The teacher will let the children know that they are going to have a chance to be scientists and study a honeybee’s body parts.

Unit Learning Objectives
• For children: To understand what a honeybee is and why bees are important in the world. To learn what they eat, where they live, what they do and make. By asking questions, gathering data, and assessing their information about their environment, children will learn about honeybees and their role as pollinators and honey makers.

Lesson Learning Objectives for Children
• To observe and investigate the body of a honeybee and in turn reflect/compare with human body parts.
• To explore by using senses: sight, smell, touch, sounds
• To make predictions about what certain body parts are used for
• To connect the study of honeybees with the current spring season.
• To identify body parts from a picture as well as from a model and or the insect itself
• To build with clay the three sections of a honeybee: head, thorax, and abdomen.
• To expand the child’s vocabulary and awareness of a honeybee’s anatomy

Lesson Materials
A model of a bee or several real, dried, non-living honeybees, magnifying glasses, colored pencils, trays for the bees to be observed on, photograph close-ups of a honeybee. A blank worksheet of a honeybee’s anatomy without labeled parts for the students to fill in later in the unit, clay formed in balls, and a jar of local honey.

Tools
Clay, notebook, teacher’s notebook, pencils, magnifying glass
Gather scientific books on Bees that are age appropriate for the students and place in a basket. Collect some storybooks such as The life and Times of the Honeybee by Charles Micucci.

**Preparation**
- Set up two tables with magnifying glasses, colored pencils, a bee on a tray for each table and photographed honey bee image cards on the side for after the first hands-on discovery.
- Third table will have six balls of clay in front of each chair.

**Whole Group Discussion**
- Short group discussion about the plan of our bee study
- The children discuss using gentle touch, taking turns with the magnifying glasses, speaking in whisper voices so all can observe, and what they might notice about the bee. The teacher asks the students to stand up and they sing and move while singing the song, *Head Shoulders Knees and Toes*. As they sit back down, the teacher asks, I wonder if a bee has a head, a shoulder, a knee or a toe? What kinds of body parts do you think a bee has? Next, the teacher directs the children to observe the honeybee with gentle touch. They can draw with colored pencils at the first two tables and can then make a model of a bee at the clay table. The teacher asks if the children have any questions and they then make their choices one at a time as the teacher facilitates the formation of small groups.

**Activity**
- As the children observe the bee, the children notice the head, the huge eye, and its legs. Conversation about the eye and how bees see in ultraviolet light may come up. “Let’s count the legs to see if it’s an insect right?” Someone says “one, two, six, yep, it is, it’s an insect alright because it has six legs!” “What is this part and that part here?” The children are looking and asking so many questions! If possible the teacher has a notebook and is recording some of their questions for further/future study.
- The teacher also responds with valuable questions such as where do you think the head could be? Take a look at your own head- is it at the top or bottom of your body? (Spatial awareness/kinesthetic approach) Instead of giving them the answer the teacher aids the children in their own discovery. Is it the same or different with a honeybee? The children will naturally compare their own anatomy with that of a bee. After the children have spent 5-10-15 minutes in observation they can choose to continue to observe and sketch the body of a bee in their notebooks. At the clay table children see close-up images of a bee body and together they name some parts. Out of clay the children decide to build a hive. Some children roll the clay and make legs. Other children make the three parts of the body and realize that it can’t fly without its wings. “How many wings does the honeybee have?”

**Clean-up**
- The children and teachers put the materials away with care, wash hands and come back to the circle for a short reflection before recess, when they play outside for a short time and run around.

**Reflection and Questions Students May Have**
- “Pick one thing you would like to share that was exciting for you in our bee study observations.”
- The students may be so excited to actually touch a bee! They may describe what it felt like to hold a bee or that at first they were scared but they tried something new and liked it. That the magnifying glass really worked and the bee became so large and that it was the first time they ever used the tool. Some students may also reflect that the bee was too small to see. Another might say that they learned about different body parts of a bee. The teacher can help the children
be aware of how their own body parts are similar to the bee’s anatomy. We can talk about similarities and differences between humans and arthropods.

**Curriculum Connections and Extensions**

1. Story telling in Spanish: Imagine what it’s like to be a honeybee in the winter in Mexico, huddled in close to keep warm. Tell a tale of a honeybees’ life through the seasons and what the bees do as the weather changes. What types of flowers would the bee get nectar from in Mexico?
2. Art: hand building with clay, collage, wood working, and painting. All of these art forms can be used to further a bee study. A child at the easel may paint a large flower with a little bee or a huge bee on a little flower. Wood- a beehive Collage of a honeybee and its parts.
3. Science: The study of honeybees can also lead to study other insects and anthropoids
4. Social Studies: Urban Beekeepers! Have a real beekeeper visit the classroom dressed in his bee suit. Have a large group question party for the beekeeper. Why is there no skin showing? What is the smoke for? Why does he have such a funny hat? Why is it white?
5. Visit a bee farm or local urban roof top farm that is keeping bees in the neighborhood.
6. Field Trip: Visit local park, view the flowers, and scout for bees.
7. Movement Class: Form a hive and divide the group into the different roles in the hive. Have the children move all together operating in a hive. The movement teacher and classroom will need to scaffold and dictate this exploration in space with music and no words.
8. Honey taste tests with a variety of kinds of honey- especially using native flowers of Mexico that the children may be familiar with. Go into detail about how there are many different types of honeys because there are so many types of flowers. Talk about how if we do not preserve and protect our land that our honey and flower populations will dwindle. This is why urban beekeeping is so important now.

**Literature Resources**

Anatomy of the Honey Bee, by R. E. Snodgrass.

The Fascinating World of Bees, by A. Julivert. Barrons

The Life and Times of the Honeybee, by Charles Micucci
A Visit to a Flower Farm ~ Lesson 3

This lesson has a pre-trip, trip and post-trip component.

Setting
This lesson plan is intended for an early childhood classroom, first - third grade with children six-eight years of ages in low-income, public schools in New York City in the late spring season. The children go on a trip to a flower farm in the country. The farm itself was awarded a large grant, funding trips by low-income school groups. It is the end of May and a beautiful day. There 10 parent chaperones- a combination of mothers and fathers, mostly mothers, one teacher and one teacher’s aid. There are 28 students on this trip. (If funding is not available the low-income school could also visit a local farmer’s market and interview a farmer there or create a relationship/contact a farmer to visit the classroom.)

Background Knowledge Prior to this Lesson: Pre Farm Trip Lesson, Pre Bee Lesson, and Pre Flower Planting Lesson
Teacher asks after the Bee Lesson if students have flowers in their backyard. Who here likes flowers? Teacher will teach a little bit about the parts of a flower before we each be return to our seats

Unit Learning Objectives
• For children to learn how a flower farm works
• To have children understand the reason and role of a local flower farm
• To expand their understanding of the reasons why we have flowers in society
• To learn where flowers come from and are mostly grown (Mapping Skills)
• To understand the parts of a flower through observational drawing
• To consider farms in their culture of origin and what they might be growing and exporting

Lesson Learning Objectives
Essential guiding questions: Understanding a farming operation- who runs a farm? Who plants the flowers? How many flowers does the farm have? What do the flowers need to survive? How do flowers get to the city supermarkets and farmer’s markets? How much do flowers cost? What are flowers used for?

Lesson Materials Chart paper, Marker for KWL chart

For the Pre-Trip Lesson: Literacy Connections
Read the book to the students “The garden of happiness” by Erica Tamar while they sit on the carpet. Stop every few pages to discuss the book and what was read.
This book is a great story for children to see a diverse family living in an urban environment. The family grows a garden and revels in the joys and beauty it brings. This is a great community-building book. As an extension from this book a trip to a community garden could be arranged. The children could notice different kinds of flowers and look for sunflowers, which the girl in the story loves and grows.

Whole Group Discussion Ask the children what they thought of this book and what it reminded them of? What was special about the plot of land? What did the empty plot of land turn into? Why was the girl so happy? Talk about food and why food is important. Ask the children what
kind of food they eat at home. Ask them for a list of food that they think grows on a farm. Ask them to generate a list of what kinds of flowers they think might grow on a farm. Looks at pictures of farms in Mexico. Talk about what the farmers are doing in each picture. Make predictions about what we think we might see at the farm. Let the conversation go where it wants to. Children might have things to say about not having money for fresh fruit and vegetables. They might talk about how they do not eat vegetables and may be unfamiliar with many types of vegetables, fruits and flowers. Some of the children may be living in food insecure homes, may be on Food stamps or may be struggling to eat in general. Many of the students will receive subsidized lunches and maybe even breakfasts too.

**Activity:** Write a KWL Chart about what we know and what we want to know about flowers. This conversation will inspire the students to want to take a class trip to a real flower farm to see how it all works.

**Preparation for the trip:**

- Prepare a trip sheet for the trip and invite parents as chaperones. (Included in Appendix)
- Write the trip sheet in Spanish and in English. Make sure to connect and touch base with the administration and parents about the upcoming funded trip and remind the community of your date. Make a rain date if possible! Lunches are included.
- Discuss rules of how to travel on trip and arrange the buddies as they walk in the street to board the bus.
- Talk about safety and how to stay with the group on the farm for it is a big wide-open place.
- Talk about parent as a chaperone and how they are like an extra teacher. Make sure to discuss how not all parents can come and if your own parent is not present how it’s okay.
- Draw a map on large chart paper of the route we will take to get to the farm. Count the number of miles we will travel with the children.
- Explain the trip sheet and clip board they will use at the farm (Included in Appendix)

**Materials needed for the trip:**

- Clipboards and trip sheets, sunscreen, water, all the lunches, extra layer of clothing, pencils, unifix cubes for a measuring tool to use with measuring flower stems

**Farming activity upon farm arrival:**

This is largely dependent upon the farmer. Ideally we would interview the flower farmer with some of the questions we thought of from our KWL chart. We will listen to the farmer and raise our hands when asking questions one at a time. Ask the mathematical questions such as how many flowers do you cut a day, how do you fasten the flowers, can you show us how to make a bouquet, who buys your flowers and how many bouquets are sold each day? Do they ever die? What’s your favorite flower?

**Possible Farm-Based Activities:**

- Weeding
- Pick Flowers
- Arrange flowers in a simple bouquet
- Count out a harvest- e.g. Farmer needs 20 stems of Dahlias
- Scout the land for different types of flowers using flower key identifying cards.
- The cards have a word on it that can help the child identify it.
It’s tall, it has yellow petals, a brown center, and birds love to eat the middle of it. Can you guess what type of flower this is and can you find it on our farm? This will encourage wandering and perusing the property in a gentle and safe manner without stepping into flowerbeds.

Reflections/Questions
Regroup after the activity in a shady spot under some trees. Ask the group what they learned, what they noticed, something that they were thinking about and any questions they may still have. Write down the children’s questions. Take the time to answer some or find a way to ask the farmer more questions. If the farmer is not available bookmark the questions for further research.

Post Trip Activities:
During the trip the teachers will take pictures and document the trip and experience. The teacher should also make sure to photograph the farmer, the sign for the farm, the children asking questions, laughing, smelling flowers, paying for flowers, drawing, walking, eating, enjoying the farm! These photographs can later be made into a book and the children can retell the story through the pictures to reflect on this experience. Words can be dictated telling the trip story. The book can also serve as a reminder of this community experience. It can serve as a research tool when building in the block area or building out of core materials that the children can use and reference. It is a fine idea to write a thank you letter as a whole group to the farm the next day.

Curriculum Extensions
1. Math: Graph and analyze the information from the trip sheets.
2. Music: At the close of the day we will sing the song “Where have all the flowers gone?” or “You Are My Sunshine.” If the children are up for it on the following days, we can write a song about out experience of being at a flower farm. We could use a melody that we know already for a song that works with repetition or a round. This is a great way to make literacy and music connections drawing upon the children’s experience and prior knowledge gained from the trip.
3. Social Studies/Geography/Art: Large Mural of the Flower Market and name of our flower market Farm/ Make a mural of farms in Mexico and do a study of the landscape there and what they might be growing. Have the children research their heritage culture for various types of farms
4. Science/Literacy: Cooking with lavender – Lavender Cookies.
5. Invite the other first grade group to our room for a visit to our flower farm that we re-enact and tour them in the block area. The lavender cookies are given out at the end of their visit and real flowers are placed in the market as well as hand made flowers made out of clay, wood and collage.
6. Art: Large Mural of the Flower farm after the trip and name of our flower farm on the mural and add our class name to the mural if the children want…. Have them paint the flowers they remember and look up the details in flower books as they identify flower type
7. Share this farming experience with your school community. It’s an amazing learning experience to visit a farm for the first time. Share what you learned with the whole community and pick a theme that is strongest for your class to present about- or divide the presentation into three important areas. Have the students organize and help plan this presentation with books that they made, posters, and drawings from their reflections as well as observational drawings. This is important because the one class that visited the farm or market will share their knowledge with lots of others- maybe inspiring them to seek out a similar experience.
Resources/Books:
“Miss Rumphius” By Barbara Cooney
“Counting in the Garden” By Kim Parker
“The Reason for a Flower” By Ruth Heller
“The Carrot Seed” By Ruth Krauss
“The Garden of Happiness” By Erika Tamar
“Planting a Rainbow” By Lois Elhert

Websites about Flowers:
http://colquitt.k12.ga.us/sunset/missrumphius.html#Activity
http://aggie-horticulture.tamu.edu/wildseed/photoalbum.html
http://aggie-horticulture.tamu.edu/wildseed/perenniallupine.html - Lupines
http://www.nps.gov/plants/color/gallery.htm - Celebrating Wildflowers by State
http://landscaping.about.com/od/galleryoflandscapephotos/tp/flower-pictures.htm
www.cnps.org California Native Plant Society

Websites about Spring:
http://www.apples4theteacher.com/holidays/spring/short-stories/ Short Stories
LETTER TO PARENTS ABOUT TRIP

Dear Parents,

April 22, 2013

Spring has sprung! The First graders are starting a unit on farming of flowers. We will be observing, drawing, growing, arranging flowers and will visit a flower farm within the next few weeks. There is so much growing this time of year that is just waiting to be picked and enjoyed. We are also learning about why we have flowers; the reason people give flowers and how we can give to others and the world.

We are planning a bus trip to the Sun Sweet Flower Farm to meet and interview the flower farmer to learn about where flowers come from. Visiting markets or farms with your children is a great way to see seasonal and local food and the hands the grow it.

This trip will take a full school day and the class will go together on the school bus. We will go to the farm on May 2nd 2013. Our rain date is May 8th 2013. If you are interested in chaperoning, we can take 10 parents along and please let me know if you are available to join us.

Your child will bring:
- A jacket or appropriate gear for weather conditions (from home)
- Paper and clipboard for observational drawing (We provide)
- Questionnaire slip for the farmer (We provide)
- Eco-Bag (reusable) to carry goods from market (From home)

If you have any questions if you need anything at all, please contact us.
Email at rebekah@flowerfarmer.org or Call: at (917) 333-3333.

Thank you Kindly for your support and enthusiasm! It’s going to mean so much to the children and our community to take this trip together. Thank you!!!

Your Teacher,

Rebekah
ACTIVITY TRIP SHEET

NAME:_____________________________ DATE:_________________________________

Count how many flowers are in the bouquet you made today at the farm. Then measure the stalk of the flower with Unifix cubes and count how tall the flowers are by unifix cubes.

1. Draw your bouquet of flowers.

2. How many flowers are in one bouquet?

3. Name two different parts of a flower.

4. Draw your favorite type of flower and label its parts
Appendix C.

How to Plan a School Garden

Goal: To educate teachers on ways to explore school gardening with children for all ages. Stone Barns’ mission is to change the way America eats and farms. By teaching teachers how to start, use, and maintain their own school gardens, we are changing the way children learn in school. This education helps broaden the horizons, fosters a lifelong connection to the natural world and the food systems and builds community involvement and teamwork.

Potting up Arugula Seed: Terrace Garden ~ 20-25 Minutes ~
Materials: 25 washed pots, soil, and Arugula seed
Action- Pot up seeds & discuss plant and garden care as a community building element in a classroom, developing a sense of care and responsibility, and how to discover an appropriate sense of ownership with plants. Often times when you start a seed project the child will want to know which one is theirs, “this one is mine” they will say, looking for the best blooms. When we pot up in classrooms we like to keep the plants anonymous and encourage the children to tend and care for of all the plants. The shift here is from individual to group awareness.

Talk about any garden experiences or questions they may have ~ see where they are coming from and what they want to know about more specifically.

Harvest Tomatoes in the Terrace hoop house ~ 20 Minutes
Materials: Have 4 harvest bins available- one in each corner of the house where teachers can place the tomatoes. Have pint containers available, too.
Action: Harvest sungold tomatoes. Mention aeration with solar fan, pruning, trellising techniques, predation: tomatoes horn worms- black fecal matter on leaves as a sign of their presence, companion planting with marigold, parsley, mullein and borage. After harvesting the tomatoes pint them up in plastic pint containers for the farm store. Children can measure, count, weigh, graph, taste the fruit ~ math connections.

Harvest Tulsi Tea ~ 10 minutes ~ Medicinal herb qualities. Herbs are a wonderful way to enhance your social studies curriculum through the garden. Research what herbs folks used during the time period you are learning about. E.g. corn, beans, squash- Western expansion /Native American Studies. Another example, Mediterranean herbs with the medieval times & Renaissance. Use these herbs as entry points in talking about the culture of society. Also introduce herbs as healing plants, For example- if anyone feels stress, tulsi works with the body to regulate and equalize the stress.

Fall – Cover Cropping-
Two of the most important groups of cover crops are grasses and legumes. Grasses (like wheat, rye, and oats) are hailed for their ability to grow fast and use their extensive root systems to "catch" soil nutrients before they leach away. Legumes (like alfalfa, fava beans, and clover) can actually "fix" nitrogen from the soil and make it available to plants. A good cover crop grows fast and competes with weeds, pulls up nutrients from deep in the soil, and, once it's tilled or dug
in, decomposes to add new nutrient wealth to the soil. Winter rye can be started as late as mid-October (and will grow again in spring),

**Fall planting options:**
Cover Cropping- Buckwheat, oats, rye, and clover
Spinach
Radish
Mache

**Winter Planting Options:**
December- Gratitude for the harvest, prepare for winter, make sure the plants are all tucked in for winter,

**January:** Garden planning- Pick out your crops, design the planting area- compare with last year’s rotation and rotate beds if made already. Plant bulbs in pots to have plants growing inside the classroom- Amaryllis, paper whites- measure plant growth

**February:** Explore seed catalogs & Write letters to a seed company asking them to donate seeds to your school garden. E.g. Seeds of Change

**March:** Check the soil to see if it’s warm enough- use a thermometer and check the temp for your region. Till the soil
Start seedlings inside classroom 3-6 weeks before planting

**April:** It’s spring!
Continue planting seedlings in trays indoors. Prepare to transplant outside. Whatever you want to eat in the summer plant in the spring.
Sungold tomatoes
Lettuce- all kinds!
Kale
Swiss Chard
Peas- Seed is the pea itself- great to plant
Beans
Sweet potatoes- early childhood appropriate
Squash
Cucumbers
Melons
Herbs
Flowers

**Themed Garden Ideas:**
Pizza garden
Salad Garden
International garden
Herb garden
Spiral garden
**Summer:** Coordinate care of your garden for the summer. (Parent volunteers perhaps?) Plant Kale, Swiss chard, butternut squash, potatoes, flowers. Check the packet of your seeds - make sure you calculate the germination times and the growing times of your vegetables and flowers. Make sure the plant will fruit well before the danger of the first frost around October 15th in zone 6 Westchester.
Permission Forms
Rebekah Julia Mindel

Bank Street Graduate Student

Mentor: Betsy Grob

April 4, 2013

To: IMP Committee

Re: Approval Process for work with human participants

Brief description of research:
I will be researching the values of farm education through interviews with two pioneer farm educators. One farmer is Jack Algiere from Stone Barns Center for Food and Agriculture in Pocantico Hills, NY. The other educational farmer is John McDaniel of The Manhattan Country School Farm in Roxbury, NY. In addition I will be informally observing children engaged in their farm work over a two-week period.

Kinds of data to be collected:
I will be observing children and educators work with livestock, gardens, wool, and cooking with freshly grown ingredients on the Manhattan Country School Farm. I will be interviewing the farmers to find out why they value farm education and how they went from being a farmer to being a farm educator. I will also be talking with the farmers about how they see children develop through working with the land. I will be having a formal interview with the farmers as well as informal discussions with children as I’ll be living with them on the farm for 5 days.

Steps to be informed about the research:
Participants will be informed about the study through letters to both farmers as well as to The Stone Barns Center, Manhattan Country School, and parents and guardians of the children involved from MCS. I am in communication with Corris Little, communications coordinator from The Manhattan Country School about release forms for the students. She told me that all students have release forms at this time and asked me to not use the names of the students. She would like me to send her a final PDF document of the finished product for the MCS archives. I am including a letter of consent to MCS explaining the nature of my thesis, which will let her decide if we need further release forms for parents. The only names I will be referring to in this thesis will be the two farmers and the names of the farm. I will not state any child’s name.

The sample consent release form will include permission to use both farmers names as well as the names of both institutions.

Please see attached two letters to participant’s attached-
April 8, 2013

Rebekah Mindel

Dear Rebekah,

Your proposal and consent letters and forms for working with human participants for your Independent Study have been approved. You may commence your work with human participants. If you make any significant changes to your work with human participants, you need to inform the IMP Committee in writing of your plans. Please place a copy of this letter along with unsigned sample copies of any consent letters and forms in a Permissions section at the end of your appendix. Keep the original signed forms in a safe place for five years.

The best of luck with your study. We look forward to having the completed copy in the Bank Street College Library.

Sincerely,

Nina Jensen

Nina Jensen, Chair
Integrative Master’s Project Committee
Statement of Informed Consent

I, Rebekah Julia Mindel agree to keep letters of informed consent available and accessible for five years after this research I completed.

Signature:
Rebekah Julia Mindel

Date:
April 4, 2013
Letter to The Manhattan Country School Regarding Participation in this study

Dear Corris Little,

I am currently a student at Bank Street College completing my Master’s degree in early childhood education. As part of my graduate work, I am writing a Thesis with a focus on farming and education, a requirement for my degree and a culmination of my studies.

For my thesis, I have chosen to interview John McDaniel, the experienced farm educator to discuss the values of farm education from your perspective. I would like to interview him to deepen my knowledge of the purpose and values of farm education for children. I will be asking questions and documenting them through a voice recorder. I will also be observing his work with children and may use photography and a voice recorder to document any findings. Together these will serve as the primary data for my study. With your permission, I will be using his name as well as the school’s name.

In order to use the written, photographs or audio documentation, I need your permission through a written letter of consent on Manhattan Country School letterhead stating that MCS grants Rebekah Mindel permission to engage in my Independent Study project with the Manhattan Country School.

The study that results from this project will be submitted as a PDF to the Bank Street College Library where it would be catalogued as part of the Library collection and entered into an international database for wider circulation. The material may also be included in professional presentations and publications. I will also send you a proof of the PDF before it is submitted for publication for your approval. After it is published if you would like a PDF copy I will gladly send it to you.

If you have any questions about this project, please do not hesitate to contact me.

Thank you in advance for your consideration.

Sincerely,

Rebekah Julia Mindel
April 21, 2013

Corris Little  
Communications Coordinator  
Manhattan Country School  
7 East 96 Street  
New York, NY 10128  
(212) 348-0952 ext. 281

Dear Rebekah,

Thank you for your interest in filming at the Manhattan Country School Farm for your thesis project at Bank Street College of Education.

Manhattan Country School embraces teacher training as an important part of our public mission. We host student teachers from Bank Street, Teachers College, Sarah Lawrence, City College, and other teacher training institutions. We welcome you to the farm and school to learn from our staff and students.

This letter is to formally grant permission for you to film and photograph students and staff at the MCS Farm and to use the images and/or video for your thesis project. You are also granted permission to use the name Manhattan Country School and the name of the John McDaniel, MCS Farm Program Director, for the thesis project.

In exchange for this permission, please submit to me directly a copy of the edited video (.mov or mp4 format) and images (jpegs) on CD or via e-mail for the school’s digital archives. In addition, it is important to know that you are not permitted to use the full name (first and last names) of any children to be used in videos, photos, publications or materials of any kind; as this is our communications policy for the safety and privacy of families at MCS.

I sincerely appreciate your willingness to work with us on accessing the video file and images for archival purposes and your effort in maintaining a good relationship with Manhattan Country School. Kindly sign this letter and e-mail the signed letter or fax it to me at the contact information below. I will submit the letter signed by both parties (MCS & Rebekah Mindel) to you, so we both will have it on file for our records. Thanks for your help.

Sincerely,  
Corris Little  
Communications Coordinator,  
Manhattan Country School
Corris Little, Manhattan Country School

Rebekah Mindel, Bank Street student
Letter to Farmer Regarding Participation in this study

Dear John McDaniel,

I am currently a student at Bank Street College completing my Master’s degree in Early Childhood Education. As part of my graduate work, I am writing a thesis with a focus on farming and education, a requirement for my degree and a culmination of my studies.

For my thesis, I have chosen to interview you, an experienced farm educator to discuss the values of farm education from your perspective. I would like to interview you to deepen my knowledge of the purpose and values of farm education for children. I will be asking you questions and documenting them through a voice recorder. I will also be observing your work with children and may use photography and a voice recorder to document any findings. Together these will serve as the primary data for my study. With your permission, I will be using your name as well as the name of the school farm. Audio recordings will be transcribed.

In order to use the written, photographs or audio documentation, I need your permission. I would appreciate if you could fill out the attached consent form and return it to by April 15th 2013.

The study that results from this project will be submitted as a PDF to the Bank Street College Library where it would be catalogued as part of the Library collection and entered into an international database for wider circulation. The material may also be included in professional presentations and publications. I will also send you a proof of the PDF before it is submitted for publication for your approval. After it is published if you would like a PDF copy I will gladly send it to you.

If you have any questions about this project, please do not hesitate to contact me.

Thank you in advance for your consideration.

Sincerely,

Rebekah Julia Mindel
Consent and Release Form for Interview Subjects

I have been told about this study and I agree to be interviewed: Yes

I agree to have the interview voice recorded: Yes

Interviewee’s Name: John McDaniel

Interviewee’s signature

Date:

Interviewer’s signature: Rebekah Julia Mindel

Date: April 4, 2013
Dear Nena Johnson,

I am currently a student at Bank Street College completing my Master’s degree in early childhood education. As part of my graduate work, I am writing a Thesis with a focus on farming and education, a requirement for my degree and a culmination of my studies.

For my thesis, I have chosen to interview Jack Algiere, the experienced farmer to discuss the values of farm education from his perspective. I would like to interview him to deepen my knowledge of the purpose and values of farm education for children. I will be asking questions and documenting them through a voice recorder. I may use photography and a voice recorder to document any findings. Together these will serve as the primary data for my study. With your permission, I will be using his name as well as the name of the center in my independent study project.

In order to use the written, photographs or audio documentation, I need your permission through a written letter of consent on Stone Barns letterhead stating that you grant Rebekah Mindel permission to engage in my Independent Study project with Jack Algiere at Stone Barns Center for Food and Agriculture.

The study that results from this project will be submitted as a PDF to the Bank Street College Library where it would be catalogued as part of the Library collection and entered into an international database for wider circulation. The material may also be included in professional presentations and publications. I will also send you a proof of the PDF before it is submitted for publication for your approval. After it is published, if you would like a PDF copy I will gladly send one to you.

If you have any questions about this project, please do not hesitate to contact me.

Thank you in advance for your consideration.

Sincerely,

Rebekah Julia Mindel
February 5, 2014

To Whom It May Concern:

I am writing to confirm that Stone Barns Center for Food and Agriculture granted permission to Rebekah Mindel to engage in an Independent Study project with Jack Algiere and Jennifer Rothman as part of her studies for her Bank Street College Master’s thesis in early childhood education.

For her thesis, Rebekah interviewed Jack Algiere, Stone Barns Center’s Four Season Farm Director, and Jennifer Rothman, Stone Barns Center’s Program Director. We have reviewed her thesis draft and grant permission for her to use the written and photographic documentation therein that pertains to Stone Barns Center.

We understand that the study that results from Rebekah’s project will be submitted to the Bank Street College Library, where it will be catalogued as part of the Library collection and entered into an international database for wider circulation.

Should you have any questions or need further information from Stone Barns Center, please feel free to contact me at 914-366-6200 x121.

Sincerely,

Erica Helms
Director of Marketing and Philanthropy

Rebekah Mindel, Bank Street student
Letter to Farm Educator Regarding Participation in this study

Dear Jennifer Rothman,

May 27, 2013

I am currently a student at Bank Street College completing my Master’s degree in early childhood education. As part of my graduate work, I am writing a Thesis with a focus on farming and education, a requirement for my degree and a culmination of my studies.

For my thesis, I have chosen to interview you, an experienced educator to discuss the values of farming and farm education from your perspective. I would like to interview you to deepen my knowledge of the purpose and values of farm education for children. I will be asking you questions and documenting them through a voice recorder. This will serve as the primary data for my study. With your permission, I will be using your name as well as the name of the center in my thesis project.

In order to use the written, photographs or audio documentation, I need your permission. If you could please fill out the attached Consent Form and return it to me by September 1, 2013 I would greatly appreciate it.

The study that results from this project will be submitted as a PDF to the Bank Street College Library where it would be catalogued as part of the Library collection and entered into an international database for wider circulation. The material may also be included in professional presentations and publications. I will also send you a proof of the PDF before it is submitted for publication for your approval. After it is published if you would like a PDF copy I will gladly send it to you.

If you have any questions about this project, please do not hesitate to contact me.

Thank you in advance for your consideration.

Sincerely,

Rebekah Julia Mindel
Consent and Release Form for Interview Subjects

I have been told about this study and I agree to be interviewed: Yes

I agree to have the interview voice recorded: Yes

Interviewee’s Name: Jennifer Rothman

Interviewee’s signature  Date:

Interviewer’s signature: Rebekah Julia Mindel  Date: April 4, 2013
Letter to Farmer Regarding Participation in this study

Dear Jack Algiere,

I am currently a student at Bank Street College completing my Master’s degree in early childhood education. As part of my graduate work, I am writing a Thesis with a focus on farming and education, a requirement for my degree and a culmination of my studies.

For my thesis, I have chosen to interview you, an experienced farm educator to discuss the values of farm education from your perspective. I would like to interview you to deepen my knowledge of the purpose and values of farm education for children. I will be asking you questions and documenting them through a voice recorder. This will serve as the primary data for my study. With your permission, I will be using your name as well as the name of the center.

In order to use the written, photographs or audio documentation, I need your permission. Please fill out the attached Consent Form and return it to me by April 30, 2013.

The study that results from this project will be submitted as a PDF to the Bank Street College Library where it would be catalogued as part of the Library collection and entered into an international database for wider circulation. The material may also be included in professional presentations and publications. I will also send you a proof of the PDF before it is submitted for publication for your approval. After it is published if you would like a PDF copy I will gladly send it to you.

If you have any questions about this project, please do not hesitate to contact me.

Thank you in advance for your consideration.

Sincerely,

Rebekah Julia Mindel
Consent and Release Form for Interview Subjects

I have been told about this study and I agree to be interviewed: Yes

I agree to have the interview voice recorded: Yes

Interviewee’s Name: Jack Algiere

Interviewee’s signature

Date:  

Interviewer’s signature: Rebekah Julia Mindel

Date: May 27, 2013