

8 Evaluation



Slow Food USA®

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Introduction

In the discussion of evaluation as it relates to school garden programs, this chapter will look at three different levels. First, this chapter will look at measuring the metrics of school gardens. By metrics of a school garden program, we are referring to the measurements of how many students participate, how many volunteer hours are provided to run the programs, and how many pounds of food are grown in the garden. Second, evaluation is also about measuring the impact of the school garden programs on the participants and the community in which the gardens reside. How do these educational opportunities change behavior of the students around healthy food? How do the observations of school garden produce in the school cafeteria affect the attitudes of the community about school lunches? Finally, this chapter will look to evaluation methods to assess how the Slow Food philosophies of Good, Clean, and Fair are reflected in school garden activities. How do school gardens teach biodiversity, fair work practices and issues around the access of healthy food for all citizens?

In each section of this chapter, we will discuss some of the reasons why a Slow Food chapter can lead or support evaluation efforts, the importance of collecting data, and how to share it in meaningful ways. We will also provide resources that are available so that a Slow Food chapter can use existing measurement tools rather than trying to develop their own. It is the goal of this Manual to get Slow Food chapters on the same page when it comes to evaluation and measurements so that we can start collecting data across the Slow Food network and start to show the impact of our efforts across the nation.

School Garden Evaluations: Metrics

There are several reasons why knowing the metrics of your garden program is important for the growth and sustainability of school gardens in your community. School district officials will want to assess the value of volunteer-driven programs that use a considerable amount of resources (land, student hours, and volunteers), which are at a premium in most districts. Principals will want to know how the students are being engaged in the garden as they try to balance the activities that occur in a school day.

While collecting the metrics associated with a school garden program is important, the fact that most of the support is coming from a volunteer pool makes this task a great challenge for Slow Food chapters. Volunteers typically report being engaged in garden programs because they want to have a direct impact on teaching students about their food culture. The volunteers want to share their passion and talents in growing food and don't really want to be bothered by the mundane tasks of recording data each time they take students out to the garden. The key for a Slow Food chapter embarking on collecting data to detail the metrics is to find a way to collect a minimal amount of meaningful data and then set up a process in which the maximum amount of results are obtained from this data.

A basic school garden program can be defined as “a number of students spending time in the garden with a number of volunteers donating their time doing a number of different activities



with the students.” If we agree with this statement, then the immediate pieces of data that can be collected from a school garden program involve counting the number of participants and activities and the amount of time the participants are involved. Specifically, at the most basic level, we want to measure:

- **How many students are involved in the garden?**
- **How many hours are the students in the gardens?**
- **How many volunteers support the garden?**
- **How many volunteer hours are given to the garden program?**
- **How many different types of educational opportunities are available in the garden for the students?**

CASE STUDY

Tracking Metrics

SLOW FOOD DENVER, COLORADO

About five years ago, Slow Food Denver realized that the chapter needed to support an effort to track the metrics of the rapidly growing Seed to Table program in the Denver Metro area. This data was important as the chapter got more involved in grant-writing opportunities and making presentations to the Denver community looking for more volunteers and financial support from local businesses. While the success stories of students’ engagement in the gardens were well received, the greater impact came from sharing the yearly reports that contained the numbers behind the garden programs. At the same time, the chapter recognized that the volunteers at each school were already giving so much of their time that it was not feasible to ask the volunteers to do a great amount of data collection and recording. There was going to be a fine balance between collecting meaningful data and the capacity of the volunteer garden committees.

After some trial and error, Slow Food Denver asked the garden teams to collect six pieces of data every time there was contact with a group of students in a school garden. These six pieces of data took only a minute to record and were easily obtained:

- Date
- Teacher name or Room number
- Number of students in the class that day
- Length of class in hours or fraction of an hour
- Names of volunteers
- Type of class conducted

Gathering data. To record this data right at the time the class was happening, Slow Food Denver purchased lined Composition Books for each garden that could be used as a Garden Journal and to track each class in the garden. Inside the front cover, Slow Food Denver provided a template that served as a reminder to the garden leaders to collect these six pieces of data each time. Twice a year, the chapter collected these Composition Books from each garden to translate the data into a spreadsheet to calculate specific measurements (more on that soon). After a few years of strictly using the Composition Books, Slow Food Denver also offered an Excel spreadsheet for those Garden Leaders who were more comfortable in using their laptops.

Translating raw data into metrics. As the raw data started to come in through the Composition Books, Slow Food Denver quickly realized that it was important to try to estimate the number of *unique* students and volunteers who were



involved in the garden program. For example, if Mrs. Johnson's class of 25 students came into the garden for three 60-minute classes in the spring, does this represent 25 students in the garden or do we count this as 75 students (3 classes x 25 students)? The chapter decided that it was best to count the number of *unique* students, so in the above example, 25 students participated in the garden.

Otherwise, the "number of students" in the gardens would quickly be greater than the number of students in the school. So, by capturing the Teacher's name or Room number, the data reflected a unique subset of the school's population.

It is not necessary to record every student's name, as this would be asking the volunteers to do too much.

But at the same time, just to say 25 students were in the garden does not reflect that Mrs. Johnson's class spent three sessions in the garden. To capture the number of repeated visits to the garden, the data reflected that 25 students spent 75 hours in the garden. So, while the number of students should always be less than or equal to the total enrollment of the school, the number of "student hours" can be any number reflecting repeated visits to the gardens.

The same goes for the volunteer metrics. Since there is a much smaller group of volunteers than students, Slow Food Denver felt that asking the garden leader to record the individual names of the volunteers each time was not too burdensome of any activity. **So, a typical log**

entry for a day with two garden classes could look like:

April 18, 2013	April 18, 2013
Mrs. Johnson	Miss Crown
Room 108	Room 104
25 students	23 students
1 hour	0.5 hour
Transplanting class	Composting class
Vols: Becky M, Betsy A., Carl M	Vols: Becky M

So, from this short example, there were a total of three *unique* volunteers on April 18th that gave a total of 3.5 hours to the garden

program that day. Having the individual names of the volunteers allows you to calculate the number of *unique* volunteers across an entire season or even a year. Slow Food Denver felt that this best reflects the true nature of the volunteer metrics behind a school garden program.

The final piece of data collected with each class was the type of class taught. For this metric to be effective, it was necessary to designate different names for classes and provide a definition of each type of class. **Slow Food Denver defined the different types of garden classes as:**

- **Seedling** – planting seeds and maintaining seedlings in the classroom
- **Garden** – any general activity in the garden, including planting, transplanting, weeding, watering, etc.
- **Harvest** – a class devoted to picking produce and involving some sort of tasting or cooking
- **Cooking** – no harvest, but a cooking classes devoted to healthy eating
- **Nutrition** – a nutrition class with no cooking
- **Composting** – working with the composting or worm bins
- **Garden to Cafeteria** – harvesting produce for the school cafeteria
- **Youth Farmers' Market** – helping with the Youth Farmers' Market
- **Art** – doing art projects in the garden

Of course, as more types of classes are developed, they can be added to the list. It is important that the garden leaders understand this list of class types and the definitions of each class type. The best practice is to tell the garden leaders to use only these labels for class type and do their best to pick the most appropriate class type.

Compiling data. The final step is to construct an Excel spreadsheet that allows for the data from all the school gardens to be displayed and group metrics to be calculated.

Contact Slow Food Denver for an Excel template to use to compile data across multiple schools.



Here is an example of the metrics for the 2010 and 2011 Seed to Table School Garden program:

SEED TO TABLE METRICS

The Seed To Table program uses school gardens to engage students in the process of growing food, to learn about plant science, and to develop their palates for fresh produce. Our goal is to have students develop a positive relationship with food by being part of the process that brings healthy food to their bodies.

	2010	2011	% CHANGE
Number of schools	24	31	▲ 29%
Number of classes	570	972	▲ 71%
Number of students	6,098	9,153	▲ 50%
Number of student hours	10,817	18,409	▲ 70%
Number of volunteers	517	916	▲ 77%
Number of volunteer hours	2,029	5,335	▲ 163%

GARDEN TO CAFETERIA METRICS

The Garden To Cafeteria (GTC) program teaches students how to grow and harvest food safely to be used in the school cafeterias on the salad bars. Using Food Safety Protocols developed with Denver County Health Department, students sell fresh produce from the school gardens to the school kitchens with proceeds supporting the sustainability of the school gardens.

	2010	2011	% CHANGE
Number of schools	14	15	▲ 7%
Pounds of produce	1,225	1,135	▼ 7%
Number of produce items	28	24	▼ 14%
Amount paid to gardens	\$1,574	\$1,249	▼ 26%

YOUTH FARMERS' MARKETS METRICS

The Youth Farmers' Market program is a joint effort between Slow Food Denver and Denver Urban Gardens. Students are taught how to set up a market stand on school grounds and sell produce to the school community from the school gardens, as well as produce from local farms. Students learn about marketing, business management, seasonality of produce, and money handling skills.

	2010	2011	% CHANGE
Number of schools	25	32	▲ 28%
Number of markets	122	141	▲ 16%
Pounds of produce sold	18,629	23,080	▲ 17%
Total sales	\$19,651	\$26,313	▲ 34%
Value of produce from CO farms	\$12,713	\$16,774	▲ 32%
Profit from markets	\$6,480	\$8,977	▲ 39%

School Garden Evaluations: Impact

While the school garden metrics gives us a snapshot of the “amount” of involvement of students and volunteers measured in time and number of classes, evaluation techniques can also measure the “impact” of a program on its participants. It is important to know how the school garden programs affect the attitudes of the students towards topics such as healthy food, how food is grown, and whether they form any opinions on workers’ rights on the farms. Evaluation of the impact of school gardens can be extended beyond just the students and can look at the impact of the programs on other community members, such as parents, teachers, cafeteria workers, and farmers.

A common way to measure the impact of any program on a targeted population is through the use of surveys. A Garden Leader could give a group of students a survey at the beginning of the garden season or school year (Pre-Survey) to assess their knowledge of how to grow food. At the end of the garden season, the same survey (Post-Survey) can be given again to the students to see what they have learned and whether any of their attitudes have changed about growing food over the course of the school year. With the survey technique, a single garden leader can get information from a large number of students with not much effort. The data from the surveys can be entered into programs like Survey Monkey that will then provide a summary of the results.

There are several documents that are available that may provide some examples of surveys that can be used by Slow Food leaders to assess the knowledge of students that have been part of a garden program. It is important to realize that there may not be a “perfect” survey available that will address all the issues that you may feel are important. Using a pre-established survey has the advantage that this survey has been already tested and may allow for comparisons with other school populations. It is also feasible to take an existing survey and tweak the questions to be better fitted for your garden program. If a survey is available online, the authors are most likely allowing modifications to their survey given that you provide a reference to the original survey.

One source of surveys is the Farm to School Program Evaluation guidebook published by Anupama Joshi and Andrea Misako Azuma of the Center for Food & Justice and Urban & Environmental Policy Institute of Occidental College. This guidebook was published in 2008 and was intended to provide an evaluation framework for Farm to School programs that were increasing in number at that time. The major focus of this evaluation program was on the change in eating behaviors and attitudes toward fresh fruits and vegetables of students who were being exposed to different farm to school activities. While most of these activities involved changes in food availability in the cafeteria, programs like school gardens and farm tours were also included in the possible evaluation tools. The guidebook provides examples of many surveys that can be used by anyone. In these examples of surveys, there are not a lot of questions directly related to school gardens. But, depending on the scope of your school garden program and its interactions with other parts of the district, it may be fruitful to assess the changes in students’ attitudes toward fresh produce.

The Colorado Farm to School Task Force and Spark Policy of Denver has developed a Farm to School Evaluation Tool Kit that has a number of resources available for the evaluation of school garden programs. Andrew Nowak of Slow Food Denver has been on the Task Force since its inception in 2010, representing Parent Groups. The overall goal of the Tool Kit is to bring many resources together in one document designed for the school food service director, school garden leader, or any other participant in Farm to School programs that do not have much experience with Evaluation techniques. The Tool Kit walks the evaluator through the

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process of designing an evaluation program, lists possible resources in the community that could support such an effort, and helps in defining the outcomes that are most salient to your program that can be evaluated with available surveys. The Tool Kit is targeting outcomes for students, parents, teachers, food service professionals, producers, school leadership, and community members. Eventually, the Tool Kit will have evaluation tools available for assessing outcomes for all these targeted groups.

For example, these student outcomes can be assessed with current surveys listed in the Tool Kit:

<p>1</p> <p>Student gains in knowledge and awareness about gardening/school gardens.</p>	<p>2</p> <p>Student gains in knowledge and awareness about agriculture, local foods, and seasonality.</p>	<p>3</p> <p>Student gains in knowledge and awareness about healthy eating.</p>	<p>4</p> <p>Students demonstrate willingness to try out new foods and healthier options.</p>	<p>5</p> <p>Improved K-12 student attitudes toward eating healthy foods and locally grown fruits and vegetables.</p>
<p>6</p> <p>Increased K-12 student satisfaction with school meal options.</p>	<p>7</p> <p>Student meal participation increases (or returns to the same level as prior to FTS).</p>	<p>8</p> <p>Increased student consumption of locally sourced foods.</p>	<p>9</p> <p>Students consume more fruits and vegetables through FTS meals and at home.</p>	<p>10</p> <p>Students try new fruits and vegetables.</p>
<p>11</p> <p>Students choose healthier options in cafeteria.</p>	<p>12</p> <p>Students consume less of unhealthy foods and sodas.</p>	<p>13</p> <p>Students engage in positive lifestyle modifications such as a daily exercise routine.</p>	<p>14</p> <p>Increased student demand for local produce in schools.</p>	

If the goal of your school garden program is to increase students' knowledge and awareness about healthy eating, then the Tool Kit lists the Hawthorne Unified School District's Student survey (see below). This is a one-page survey that can be given to students who can read and asks them some simple questions about healthy eating. This survey could work as a Pre- and Post-test survey to assess if there are changes over the course of the garden program. In addition, the survey can be modified if there are specific questions that your program may want to include that were covered during the classes.

HAWTHORNE UNIFIED SCHOOL DISTRICT (RUSSELL)

Student Knowledge Survey

Directions: This is a survey to find out what you know.

Circle the letter of the one best answer.

1. Fruits and vegetables contain vitamins and _____ .

- a. protein
- b. fiber
- c. cholesterol
- d. fat
- e. I don't know

2. Fruits and vegetables that are high in Vitamin A are _____ in color.

- a. red and white
- b. blue and light brown
- c. yellow-orange and dark green
- d. brown and purple
- e. I don't know

3. Which ONE of these foods is a healthy snack?

- a. Ice cream
- b. Potato chips
- c. Fresh fruit
- d. Fruit Roll-ups
- e. I don't know

4. The healthiest juice to buy has _____ on the label.

- a. 100% fruit juice
- b. contains fruit juice
- c. 100% fruit punch
- d. tastes great
- e. I don't know

5. A fruit salad will be higher in Vitamin C if you add _____ to it.

- a. apples
- b. grapes
- c. bananas
- d. oranges
- e. I don't know

Overall, the Farm to School Evaluation Tool Kit is a great resource to start an evaluation program for your school garden sites. The Tool Kit will lead you through the series of steps necessary to start an evaluation program, provide many surveys that can be used to assess outcomes over a variety of groups, and then provide the tools on how to process the surveys once they are completed.

School Garden Evaluations: Slow Food Philosophies

The ultimate goal of any Slow Food garden program is to engage the students in activities with growing, harvesting, preparing, and eating food that teach and support the overall Slow Food principles of Good, Clean, and Fair. Throughout this Manual, we have tried to incorporate Good, Clean, and Fair through the practices of a school garden program from designing and building a garden to identifying curriculum pieces that support learning Slow Food philosophies to how we recruit volunteers, market the program, and engage the community through Special Projects. There is still much work to do to fully incorporate Good, Clean, and Fair throughout a Slow Food garden program, but for now we should look at how an evaluation program can help address this issue moving forward.

In the Curriculum chapter, we outlined some definitions of Good, Clean, and Fair that deserve another look and to examine the questions that come from these definitions. A clear understanding of these principles will help lead us to the development of evaluation tools to assess the impact of our garden programs.

Good is defined as “enjoying the pleasures of healthy and delicious food.” In a school garden setting, this means that education about healthy food choices incorporates knowledge of how the quality of food is affected by its freshness, preparation, cooking, consumption, and cultural factors. **When asking students how Good is represented in the school garden program, we can start to ask questions like:**



1

What types of sensory information do you get when you eat the fresh food from your garden?

2

When preparing a dish using fresh produce from the garden, what kind of kitchen skills are important to know how to perform?

3

When cooking with your classmates, what is your favorite part of the process from garden harvest to sharing a meal with your friends?

4

How does your family culture influence the food that you cook at home?

5

How important is it for people to understand where their food comes from as they prepare a meal?

6

When your school comes together to celebrate an event like Earth Day, how does food become part of that celebration?

With these types of questions, we can start to understand how the students are processing concepts like Taste Education, Skills Building, Food and Culture, and Local Foods as they work in the garden.

When teaching students about the concept of **Clean**, we are talking about gardening for sustainability. We want to show that food must be produced sustainably to help ensure the ecological well-being of our natural systems and the health of our diverse human communities. When we work with kids in a Slow Food garden, we want to show that how we grow our food affects the Earth, community and our personal lives. A large part of this discussion is about biodiversity, conservation of natural resources, and safe growing practices. **In the garden, we can illustrate these concepts by asking:**

1

What makes up a healthy soil versus dirt that is void of any life?

2

Where do seeds come from and how can we save them from year to year?

3

How do insects help support a healthy garden?

4

Why do cultures around the world have different plants that are important for their daily needs?

5

How can we plant these seeds so that we can use as little water as possible to grow the plants?

6

Do plants grow better when planted next to certain plants and not so well if planted next to others?

7

How does growing at altitude affect the plants versus growing at sea level?

Even in the space of a small school garden, concepts around Clean can easily be shown to students at a scale that they can appreciate. Students like to build models in the classroom, and the garden is no different. Slow Food Denver likes to introduce the students to concepts like water conservation, since farming in Colorado is strongly affected by the availability of water. A typical class activity is to have the students build in an empty garden plot different strategies to plant cucumber seeds and to capture as much water as possible when it rains. Students illustrate their understanding of the concept by creating models of furrows, craters, and ditches in the soil.



The concept of **Fair** may be a challenge to teach to younger students. By Fair, Slow Food means that food is produced with respect to economic and social justice. We can explain to students that Slow Food feels that all people need access to good, clean food, and farmers deserve fair compensation for their labor. **Ideas for discussion topics include:**

1

Comparison of local, national, and global food systems.

2

Different markets that farmers utilize to sell their produce, including Farmers' Markets, retail, and wholesale.

3

Human rights around the production of food around the world.

4

Food policy and the impact on the access of food in their community.

5

Sources of food for people who have economic hardships (food banks, pantries, dumpsters).

Many students are not aware of the invisible signs of hunger in their community. A visit to a neighborhood food pantry will bring to life the need in the community to fair access to healthy food for all people. Planting an extra bed of greens to donate to the food pantry will begin to show how they can be part of the solution to hunger in their community.

At the present time, Slow Food USA does not have an effective way to measure how we teach Good, Clean, and Fair in school gardens. A future project will be to collect sample lessons from Slow Food programs that demonstrate these concepts and start to compile a resource for all gardens.

