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# OUTCOMES OF A NUTRITION AND GARDENING EDUCATION PROGRAM: A QUALITATIVE STUDY

By

Charissa Townsend

# A THESIS

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

## ABSTRACT

## OUTCOMES OF A NUTRITON AND GARDENING EDUCATION PROGRAM: A QUALITATIVE STUDY

By

## Charissa Townsend

The incidence of overweight and obesity in the United States is a concern for all income groups. This issue is more prevalent and more difficult to resolve in low-income communities. Traditional nutrition education programs often show community members ways to access healthy food and increase physical activity, but do not foster behavioral change. One program that focuses on health behavior change is the Growing Healthy Program, a community-based hands-on gardening, nutrition, and cooking program based in Washtenaw County, Michigan. The purpose of this research was to examine how the Growing Healthy Program was developed and implemented, and what changes participants made as a result of completing the program.

Qualitative in-depth interviews and participant observation were used to understand the program outcomes and implications for future research from the perspective of both the instructors and participants. The outcomes included increased knowledge related to health, behavioral changes, and increased selfefficacy, achieved through transformative and conscious learning that included discourse and hands-on activities. Participants were empowered to make decisions and take actions to better their health. Recommendations for future research and program development include improving components of the program design and class logistics.

# Dedication

For Ken

# Acknowledgment

Graduate school is not an easy experience, but the people involved in the experience can make it enriching. I would like to thank the following for making this experience valuable:

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### Chapter 1

#### Introduction

## **1.1 Overview of the Situation**

The increasing rate of overweight and obesity in the United States can be seen in all racial groups and in both sexes (Headley et al., 2004). In a review of the National Health and Nutrition Examination Survey completed in 2001-2002, Hedley et al. (2004) noted that 65.7% of U.S. adults are overweight or obese. This is a cause for national concern due to risks of developing cardiovascular disease, certain cancers, and diabetes, as well as an exacerbation of diseases like hypertension, gallstones, dyslipidemia and musculoskeletal disorders (Field et al., 2001).

The risk is even higher in low-income communities. Diet modifications and increased physical activity are the primary ways to reverse overweight and obesity. However, these changes in lifestyle are difficult for individuals living in low-income situations. Communities with higher poverty rates have fewer physical activity opportunities (Powell et al., 2004). In addition, there is a lack of grocery stores with an adequate supply of fresh produce and other healthy options at affordable prices (Kantor, 2001; Morland et al., 2002). Although many individuals in these communities may qualify for the Federal Food Stamp Program, Oberholser and Tuttle (2004) note that using food stamps does not automatically ensure food security. Many homes still report not having enough to eat even when participating in the food stamp programs, and not having enough

opportunities to access fresh produce and other healthy foods (Oberholser and Tuttle, 2004).

One way to combat this problem is to provide programs that teach community members other ways of accessing healthy food and increasing physical activity. Cerqueira (1991) notes that traditional nutrition education efforts have focused on an information dissemination model with information formatted for the general public. This model has a "sender-oriented," "nutrientbased" approach which is based on the scientific perspective of the nutritionist developing the program. While programs with this focus may change knowledge, they typically do not have an effect on behavior change (Cerqueira, 1991).

Some maintain that nutrition education program developers should focus more on understanding the process of behavior change that those in low-income communities must go through (Kennedy et al., 1998; Cerqueira, 1991). By focusing the program on the perspective of the participant, program developers make the program more "receiver-oriented" to "stimulate critical thinking in the receivers and to respond to their information needs" (Cerqueira, 1991: 2). In doing this, programs must be developed based on the needs and wants of community members. Programs should also be interactive and interesting to the participants, with a space for open discussion between instructors and participants allowed.

Nutrition educators should also know the barriers to change health behaviors for low-income individuals. Kennedy et al. (1998) argue that it is barriers, not ignorance, that prevents low-income families from adopting healthy

eating habits. Some barriers for low-income individuals include access to healthy food; limited cooking skills, lower literacy levels, and getting the entire family (not just the person attending the program) to also change behaviors (Kennedy et al., 1998; Macario et al., 1998).

To combat the problems of overweight and obesity, some grassroots partnerships focus on developing receiver-oriented programs that facilitate behavior change. These programs are built using the programs designers' understanding of what community members want to learn and the areas they would like to develop skills. They also have established trust with community members because of other work they have done in the community. While these programs are not formed with a scholarly, theoretical-based structure, they are based on a professional theory, which has been developed through practice. This study examines one of these programs, the Growing Healthy Program<sup>1</sup>, to understand how these programs meet their goal in aiding community members to change health behaviors.

Growing Healthy is a hands-on gardening, nutrition, and cooking program that took place in Washtenaw County, Michigan. This program is a collaboration of a local gardening assistance organization and the Michigan State University Extension Family Nutrition Program (MSUE FNP) in Washtenaw County. Unlike traditional programs, this program was designed specifically for the food stamp applicants and participants in Southtown, a city in Washtenaw County. The instructors based the program on what they understood to be the needs and

<sup>&</sup>lt;sup>1</sup> Pseudonyms are used for the program, city, and participants of the study.

wants of community members. The idea of this program was to focus on behavior changes by providing information and demonstrations to increase skills and to provide access to healthy food. While this program was aimed at families, the study will only analyze outcomes for the adults in the program.

In the gardening section of the program, low-income adults in Southtown, Michigan are taught basic principles of gardening to ensure that they would become more inclined to integrate produce into their diet and would a have lowcost way to supplement tight grocery budgets with fresh food. This program also provided a way of increasing physical activity since gardening for 30-45 minutes meets the recommendations of the U.S. Department of Health and Human Services (DHHS) for daily exercise.

In the cooking and nutrition section, participants were shown how to cook food in a manner consistent with the Dietary Guidelines for Americans provided by DHHS. This included cooking fresh vegetables, using herbs in place of other seasonings, and cooking meat without added fat.

This program was partially funded by Food Stamp Nutrition Education (FSNE), which is also known as the Family Nutrition Program (FNP). FSNE is a component of the Food Stamp Program, the nutrition assistance program operated under the Food and Nutrition Service of the U.S. Department of Agriculture (USDA). The goal of FSNE is to "improve the likelihood that persons eligible for the Food Stamp Program will make healthy food choices within a limited budget and choose active lifestyles consistent with the current Dietary

Guidelines for Americans and USDA Food Guidance System" (Food and Nutrition Service, 2005).

There are four core education elements to FSNE which are:

- "Assist food stamp households to adopt healthy eating and active lifestyles that are consistent with the Dietary Guidelines for Americans and the Food Guide Pyramid (Dietary Quality);
- Enhance practices related to thrifty shopping and preparation of nutritious foods by food stamp households (Shopping Behavior/Food Resource Management);
- Insure that food stamp households have enough to eat without resorting to emergency food assistance and making sure people eligible for the FSP but not participating are made aware of its benefits and how to apply for them as part of nutrition education activity (Food Security);
- 4. Improve food stamp households' safe handling, preparation and storage of food (Food Safety)" (U.S. Department of Agriculture, 2005).

The program in this study focused on food resource management, food security, and food safety.

## **1.2 Purpose of the Study**

The purpose of this study is to examine a community-based nutrition education program that was designed to be receiver-oriented and promote behavior change. The following questions were examined:

- 1. What are the outcomes of the program?
- 2. What aspects of the program aided these outcomes?

## 3. What are the implications for planning future programs?

The outcomes of the program and aspects of the program that aided these outcomes will be examined through participants' statements. Instructors' statements on how the program was developed and implemented will be used to support the information from those statements. The findings of this study can support the improvement of the Growing Healthy Program and other FSNE programs seeking to take this approach.

### Chapter 2

#### **Literature Review**

The purpose of this literature review is to provide background on the theoretical concepts that are related to how the Growing Healthy Program was developed and implemented. These concepts include nutrition education that focuses on behavior change, self-efficacy, the Transtheoretical Model, and concepts of adult education. The Transtheoretical Model describes how these changes occur through the stages of change and the processes of change constructs. This is done while adhering to principles of adult education.

## **2.1 Nutrition Education**

Contento et al. (1995) define nutrition education as "any set of learning experiences designed to facilitate the voluntary adoption of eating and other nutrition-related behaviors conductive to health and well-being" (p. 279). According to Contento et al. (1995), properly designed and implemented nutrition education interventions that focus on behavior changes can be effective at improving diets. However, the traditional structure of nutrition education programs has been didactic and authoritarian using lectures or one-on-one sessions as the delivery method (Abusabha et al., 1999). This method, referred to as the information dissemination model, is not effective in changing health behavior (Contento et al., 1995; Cerqueira, 1991). Interventions that are effective in promoting behavior change rely on "combinations of various psychosocial and community models and theories" (Contento et al., 1995; 288). These include models of individual behavior change, models of community

change, and models that integrate both individual behavior change and community change concepts.

## 2.2 Transtheoretical Model

The Transtheoretical Model is an example of a model that combines behavior change and community change concepts. The Transtheoretical Model incorporates stages of change constructs with the concept of self-efficacy and processes of change from across several major health behavior theories and interventions (Prochaska et al., 2002).

## 2.2.1 Transtheoretical Model – Stages of Change

The stages of change construct looks at behavior change as a process over time. Of the five stages (precontemplation, contemplation, preparation, action, and maintenance), participants may be in any one of the latter four. Participants in the precontemplation stage do not intend to take action to change health behavior in the next six months and generally are not ready for an intervention such as a nutrition education program. However, those in the contemplation stage (intending to take action in the next six months), preparation stage (has made some advancements to healthy behavior), action stage (has changed health behavior for less than six months), and maintenance (has changed overt behavior for more than six months) would be appropriate candidates for nutrition education.

### <u>2.2.2 Transtheoretical Model – Self-efficacy</u>

Once participants have completed a nutrition education program, it is the hope of many program instructors that participants have the self-efficacy to

practice the concepts learned from the program. Self-efficacy is the confidence one has that they are able to complete behaviors necessary for a particular outcome. It is at this point where participants in nutrition education programs are empowered to make decisions and or change behavior due to their increase in knowledge.

### 2.2.3 Transtheoretical Model – Processes of Change

Processes of change are the activities that guide individuals through the stages of change (Prochaska et al., 2002). While there are ten processes of change classified within the Transtheoretical Model, intervention programs may only use the processes that relate to their goal. The three that are closely related to the approach taken by Growing Healthy are consciousness raising, helping relationships, and social liberation.

### Consciousness Raising

Consciousness raising is a process where the participant learns about new information and skills that will aid them in their behavior change (Prochaska et al., 2002). Involved in this learning is an "increased awareness about the causes, consequences, and cures for a particular problem behavior" (Prochaska et al., 2002: 103). Two concepts in adult education literature that support consciousness raising are transformative learning and conscious learning. Transformative Learning Theory looks at how we transform our frame of reference or mind set. This transforming of mind set can include elaborating on existing frames of reference, learning new frames of reference, transforming points of views, or transforming habits of mind (Mezirow, 2000). These tie in with

the goals of nutrition education depending on what stage the participant is in the stages of change construct. Conscious learning, or conscientization is similar. Merriam and Caffarella (1999) quote Freire calling conscientization "in which men, not as recipients, but as knowing subjects achieve a deepening awareness both of the sociocultural reality which shapes their lives and their capacity to transform that reality" (p.27).

Both Mezirow and Freire state that learning should be done through discourse. Through discourse, participants and instructors come to a common understanding of various concepts presented in programs. Moving towards this common understanding gives participants a foundation from which they are able to transform their mindset to move to the next stage in the stages of change (Merriam and Caffarella, 1999). Interactive, hands-on learning can provide a context for this discourse and thus the process of transforming. Kennedy et al. (1998) and Levy and Auld (2004) illustrate this through new concepts of cooking and Morris and Zidenberg-Cherr (2002) show this through gardening techniques.

Cooking classes are often used to demonstrate how to prepare fresh foods, as well as to expose participants to foods they may not try on their own. Kennedy et al. (1998) describe a United Kingdom program similar to the version of the Expanded Food and Nutrition Education Program (EFNEP) called Friends with Food. EFNEP operates under the auspices of the U.S. Department of Agriculture and trains community people to work with low-income individuals in identifying and cooking nutritious foods. In the Friends with Food program, two different community workers lead ten weekly two-hour sessions. The program

consists of cooking demonstrations that show alternative cooking methods to frying, and recipe modification of familiar dishes to reduce fat and increase carbohydrate content. The study showed that participants learned to make positive changes in their diet through applying new cooking and food preparation methods, using a wider range of recipes, increasing consumption of cereals/starchy vegetables, and decreased consumption of fat. These changes were the results of "practical knowledge gained during hands-on activities" where participants were "allowed free experimentation with unfamiliar foods, preparation, or cooking methods" (p. 93).

Levy and Auld (2004) investigate whether cooking classes increase knowledge and improve attitudes and behaviors toward cooking. They found that subjects who were part of an intervention group that had hands-on cooking experience had a more positive shift in knowledge, attitudes, behavior, and selfefficacy than a group that attended cooking demonstrations only.

Of the scarce literature available on gardening and nutrition education, most of it refers to nutrition education directed at children (Morris and Zidenberg-Cherr, 2002; Carson et al., 1999). Morris and Zidenberg-Cherr (2002) show that fourth-graders who received classroom-based nutrition education and those who received classroom-based nutrition education combined with hands-on gardening activities showed a significant improvement in nutrition knowledge in comparison to the control group. These improvements remained stable when tested during a six-month follow-up. For vegetable preference, again the nutrition education group and the group that had nutrition education with hands-on gardening group

showed significant improvements over the control group. However, at this followup, the group that had the hands-on and nutrition education experience retained their preference level for three of the vegetables used in the study while the group that had only nutrition education retained preference for one only vegetable.

In terms of access to food, Kempson et al. (2002) show that having a garden can increase food security by decreasing the likelihood of hunger. This is a vital point since access to affordable, fresh vegetables is low in urban and rural areas – areas where low-income individuals reside (Morland et al., 2001; Eisenhauer, 2001). The USDA and the National Gardening Association contend that a ten by 20 foot garden plot can yield between \$70 and \$540 worth of vegetables per season (Kantor, 2001).

In addition to hands-on learning, discourse should also produce a meaningful learning experience. In a review of videotapes developed for a teleconference to train WIC educators in New Mexico, Abusabha et al. (1999) discuss how facilitated discussions by a nutritionist with WIC participants empower the participants. They note:

"During this process, a shared context of meaning is created because the solutions are a result of the full participation of all the group members. At the end of group discussion, group members feel committed to the solutions adopted, because they have shared the responsibility of arriving at these final decisions" (p. 75).

Meaningful learning requires "well organized relevant knowledge structure" and high commitment to seek relationships between the new and existing mind sets (Novak, 2002: 5). However, before this can happen, Novak proposes that Limited or Inappropriate Propositional Hierarchies (LIPH) be confronted within individuals. LIPH is where a learner does not have enough information or has inaccurate information on a particular topic. An example of this in nutrition education would be if a participant knows that they need to eat vegetables for a healthy diet, but does not know how many servings a day to eat, or if that participant has inaccurate information on how many servings a day to eat.

Once LIPH are confronted, participants have an opportunity to have a meaningful learning experience because they are transformed from a place of powerlessness to a powerfulness where they are able to "act in a socially emancipatory way which can be through decision making, changing behavior, and/or other social actions" (Merriam and Caffarella, 1999: 326).

#### Social Liberation

After having a learning experience that provides hands-on and meaningful learning, participants of nutrition education programs can experience social liberation. Social liberation increases opportunities and choices for individuals who are usually deprived or oppressed (Prochaska et al., 2002). One way of facilitating social liberation for low-income individuals is through community-based learning opportunities. Merriam and Cafarella (1999) describe this as learning opportunities that focus on improving some part of the community. Instructors of these programs use education and training as tools in assisting participants to make positive changes in their lives (Merriam and Cafarella, 1999).

Most nutrition education courses funded through FSNE can be described as community-based learning opportunities. In the Growing Healthy Program, program directors designed the program using a community building approach. An important concept in community building in the context of nutrition education is empowerment (Minkler and Wallerstein, 2002; Cerqueira, 1992). Minkler and Wallerstein (2002) define empowerment as a "social action process for people to gain mastery over their lives and the lives of their communities" (p. 288). They explain this as happening at multiple levels: psychological empowerment, organizational, and community-level. Through psychological empowerment, the individuals in the community have a perceived control over their lives that allows them to be critically aware of their social context and therefore able and willing to make changes. Organizational empowerment is where an organization's process and outcomes influence social change. Community empowerment is where the community as a whole is able to reduce problems that it encounters.

This is an important concept for community-based nutrition education because nutrition educators help community members make informed decisions about their diet; they are empowering them to make behavior changes that will benefit them health wise (Abusabha et al., 1999). Once positive health behavior changes are made, health disparities that disproportionately affect those in lowincome communities can be diminished, therefore improving the community as a whole (Kennedy et al., 1998; Contento et al., 1995).

## Helping relationships

Helping relationships, according to Prochaska et al. (2002) assists the program participant with social support, but is still empowering. In order to have participants reap the benefits of a community-based nutrition education program, participants must feel that they have control over their lives (Abusabha et al., 1999). In the traditional model, nutrition educators give information to the participants without first understanding what information is wanted or needed, or if the information is presented in a way that is appropriate for the participants. Minkler and Wallerstein (2002) describes this as a "power over" context, thus making participants powerless to make their own decisions that will help them make behavior changes. Participants are made to become dependent on the nutrition educators instead of themselves.

Effective nutrition education has a "power with" approach. This allows educators and participants to have an equal share of power in how the program is developed and implemented. Usually the educator comes into the partnership with more power, so it is essential that the educator be willing to relinquish this power in order for discourse to happen (Minkler and Wallerstein, 2002). This is done by understanding what participants already know, their values, their experiences, and their problems; tailoring the message to the particular audience they are working with (whether that be a particular ethnic group or age group); and communicating with genuineness and respect.

Instructor characteristics play a vital role in participant learning, and in retention rates for programs. While participants need to have their own

motivation to learn (Novak, 2002) instructors should also create a space where participants can actively learn. Hurst (2001) describes three ways that students must actively be involved that ties in with Transformative Learning Theory and Vella's Twelve Principles of Effective Adult Learning. First is to gain the student's attention. One way of doing this is by finding out about and building on their schemata, then building upon their experiences. This is important in the context of Mezirow's (1991) notion that "a learner can express only interests or needs defined within his or her current meaning perspective" (p. 202). Second is sticking to the basics of your plan through the use of minilessons. This is an important concept, especially for adult education where a lot of instances call for adults to transfer learning into "real world" practice right away. Vella (2002) describes this as the eighth principle in the Twelve Principles for Effective Adult Learning: immediacy, or the ability to apply new concepts right away. Finally, Hurst states that planning an activity to enhance comprehension is vital. Hurst offers the example of having an instructor and students read quietly, and then discuss what was just read by having the students and the instructor take turns asking questions. Vella would describe this as praxis. Praxis is "doing with builtin reflection" (p. 14).

In addition to knowing how to engage students or participants, instructors should be approachable. In the Friends with Food study, Kennedy et al. (1998) noted that one of the two session leaders was more successful in delivering the program. Participants perceived the successful leader as approachable, someone with an understanding of their life circumstances, and someone who

was much more interactive. In contrast, the other session leader interacted less with participants, did not make links between nutrition messages being presented and the activity (cooking), created fewer learning opportunities, and was much less responsive to participants. In order to prevent the unsuccessful scenario, Kennedy et al. suggests two things: first, health professionals should examine their attitudes toward and understanding of low-income populations and how their food situation is dictated by their social and financial condition. Second, instead of focusing solely on how to communicate their message, health professionals should also understand the process of behavior change among low-income groups. Cranton and Carusetta (2004) would describe the "successful" session leader as being authentic. They describe authenticity in adult teaching as "being genuine, showing consistency between values and actions, relating to others in such a way as to encourage their authenticity, and living a critical life" (p. 7).

In addition to being authentic, the successful instructor guided the class, but was not strict in her approach. Cohen (1994) suggests accomplishing this same balance through group work. Establishing a group work environment includes clearly describing the task that needs be completed; allowing students to complete the task without managing, but acting as a support structure; managing any conflict that may arise; and holding students accountable for the task that needs to be completed. Once the task is completed and students present what they have done, feedback given to provide a learning connection between the task and the concepts.

The developers of the Growing Healthy Program did not use these theories

and concepts in developing and implementing their program. However, these theories and concepts are closely related to what was practiced in the program.

#### Chapter 3

### Methods

The purpose of this study is to examine a nutrition education program that was designed to be receiver-oriented and promote behavior change. To improve a program, an in-depth, detailed analysis of the program should be performed. In this examination of the Growing Healthy program, it was important to gain an understanding of the instructors' and participants' experiences in order to understand the program from the participants' perspective. Qualitative methods are often used in this type of research because they tell "the program's story by capturing and communicating the participants' stories" (Patton, 2002). The participants' "stories" explain how the program helps them address health issues and it is helping them make behavioral changes.

## 3.1. Program Description

This program was created through a partnership of several agencies within Washtenaw County Michigan: Sprouting Dreams; Michigan State University Extension's Family Nutrition Program (MSUE FNP); Washtenaw County Public Health; and the Southtown Health Coalition. Sprouting Dreams is a non-profit organization in Washtenaw County dedicated to improving lives and communities through gardening. MSUE FNP offers a food and nutrition education program for persons eligible for or receiving food stamps that provides education based on community needs and decisions. The mission of Washtenaw County Public Health is to prevent disease, prolong life, and promote public health through organized programs; prevent and control health problems

of particularly vulnerable population groups; and develop and regulate health care facilities and health service delivery systems. The Southtown Health Coalition is a coalition of health care providers and community members in Southtown dedicated to improving community based health initiatives.

The program originated from a partnership between a Sprouting Dreams gardening instructor and a MSUE FNP nutrition instructor. The two instructors have worked in the Southtown community for some time before beginning this project and have a shared understanding about the issues the community faces. They also share a similar philosophy that focuses on program development specifically based on community members' needs and wants, aiding people in making the changes they want to make, and then having the community members use the information they learned to help others.

The partnership began when the two instructors decided to combine their programs into a single class. Through this partnership, the instructors saw the positive feedback from community members and partnered with the agencies mentioned above to continue combining their efforts into a six-week program that would focus on gardening, cooking, nutrition, and food safety information.

In addition to the gardening and nutrition instructors, the program also included an extension educator who was responsible for conducting the food safety portion of the program. These three served as the main instructors of the program, with two other Extension employees and five volunteers (including this researcher) assisting with program development and implementation.

The purpose of this program was to provide a creative solution to unhealthy eating and lack of physical activity among residents of the underserved south side of Southtown. The program was advertised for three weeks prior to its beginning through various community outlets (community health clinics, street fairs, etc.) and targeted families (although many participants did not bring their children). The program was free and was created for low-income families eligible for or receiving food stamps. It was held on Monday evenings from 6:00 pm to 8:30 pm from July 19, 2004 to August 23, 2004 at a church in Southtown. Activities consisted of demonstrations of gardening techniques, plants, and tools; and cooking demonstrations where participants aided in the preparation of the meal. There also were explanations of nutritional content of meals, of how to access different food, and food preservation and safety skills. In addition to these activities, all of the participants shared the meal that was prepared that evening.

Approximately ten weeks after the course ended, a potluck style community dinner was held and all of the participants were encouraged to prepare dishes that incorporated concepts learned in class. All participants were invited to bring family and friends to the event. At this time, participants were rewarded with cooking tools, which had been requested by them. There was also a reunion dinner held 10 months after the original program was held to decide how and if the cohort would continue meeting. (Two participants decided to commit to continue meeting.)

### 3.2 Researcher's Role in Program

This researcher made initial contact with the program instructors approximately two months before the program began to learn about the work they do, the community of Southtown, and the plans for the Growing Healthy Program. In addition to attending planning meetings for the program, this researcher also aided in advertising the program and served as a volunteer during the program.

This allowed the researcher to build relationships with the program instructors and some community members who would later become program participants prior to data collection. Patton (2002) describes this building of relationships as an important part of qualitative inquiry. He notes: "this makes possible description and understanding of both externally observable behaviors and internal states (worldviews, opinions, values, attitudes, and symbolic constructs)" (p. 48).

## 3.3. Data Collection

While the researcher participated in the entire program, data collection did not begin until the fifth class due to University Committee on Research Involving Human Subjects (UCRIHS) approval not occurring until that point (UCHRIS # 04-548). Data collection for this study included participant observation and semistructured, in-depth interviews. Patton (2002) describes "participant observation" as an observation that takes place by engaging in the activity or program. This researcher's role as a participant observer was as a volunteer with the program, interacting with participants during each class as activities were completed and

as participants talked among themselves. The researcher attended all of the classes, arriving before class began to assist with planning and set up, and staying after class for clean up. The set up and clean up times allowed the researcher to further interact with the instructors.

Field notes were taken during the fifth and sixth classes, at the community celebratory dinner, a video "reenactment" of the program, and at the reunion dinner. Teaching styles of the instructors, participant learning styles, and interactions between participants, instructors, and volunteers were recorded as notes throughout the program in order to understand how people were learning.

Rubin and Rubin (1995) state that qualitative interviewing designs should be "flexible, iterative, and continuous." In contrast to quantitative methods, which measure responses from a large number of people, qualitative methods provide detailed information from a smaller number of people, but gain a more in-depth look at the phenomenon being studied.

A total of 13 people were interviewed for this study: 10 were program participants and three were program instructors. Before the interviews began, interview guides were constructed to assist the researcher in focusing on particular topics. Separate interview guides were developed for the participants and the instructors (see Appendix for interview guides).

Open-ended interviews were conducted with the participants of the program. As the interviews progressed, the interview guide served only as a prompt for the researcher to ask about certain occurrences. The guide was adjusted when it was determined that more information was needed from

participants to understand particular concepts and themes. These interviews brought forth information on: what participants gained from the course in terms of knowledge about cooking; gardening and food safety; how they would possibly apply this knowledge; and how learning occurred for them.

Follow-up interviews were conducted with the participants to understand what changes (if any) had been made in regards to gardening and cooking since completing the program, to gain a better understanding of how learning occurred, and to understand what encouraged them to return to each class in the program series. Separate interview guides were developed for each participant as it was necessary to follow-up on information provided in the first interviews. These guides were developed after reading the initial interviews and deciding what needed to be further explored.

The initial participant interviews began approximately one month after the program ended. Originally, only nine participants were located for the initial interviews. The tenth participant was located during the follow-up interviews. Follow-up interviews began nine months after the program ended. Only eight participants were located for follow-up interviews.

Interviews were also conducted with the instructors of the course. These interviews were aimed at documenting the initial goals of instructors, their evaluation of program implementation, and their perceptions of how the program could be improved.

All of the interviews were taped and transcribed verbatim.

## 3.4 Data Analysis

After reading through each of the interviews, codes were developed based on questions from the interview guide and common concepts that emerged throughout the interviews. Each important concept was associated with a particular code. Codes were defined and rules developed to determine when the code would be applied. A codebook was developed to ensure that the data were coded systematically. Several iterations were needed to finalize the code book. Two colleagues assisted in the development of the interview guide and read through transcripts to assist with the development of the code book. Colleagues helped test the codes by attempting to apply them to the interview transcripts. It was determined that some codes were not appropriate and were deleted, combined with other codes due to repetitiveness, or they were redefined.

Once the codebook was finalized, each interview was carefully read, searching for evidence associated with the important concepts identified above. When a concept was located, the researcher marked the transcript with the appropriate code. All interviews were "coded" in this way for important concepts. Field notes were coded in a similar manner.

At this point it was necessary to synthesize information across the various data sources. To do this, a "memo" was created for each data source (direct observation and interviews). Memos are "any writing that a researcher does in a relationship to the research other than actual field notes, transcription, or coding"

(Maxwell, 1995: 11). A memo allows the researcher to record, and then organize thoughts into a form that aids in identifying concepts and themes.

Memos were developed for each interviewee to organize the coded information from the interview transcripts. These memos contained the interviewee name and listed all the quotes from that interviewee's transcript that corresponded with each code. The memos therefore represented a list of important quotes sorted by code for each participant.

Memos were developed for each direct observation to organize the coded information from the field notes. These memos contained the observation date, codes, and text from the field notes that corresponded with the codes.

It was important to understand how the data collected through participant observation correlate with the data from interviews. To do this, information from the observation memos were combined with the interviewee memos. This was done by transferring coded information that contained information pertaining to a participant interviewee from the observation memos to the corresponding interviewee memos. These "combined memos" strengthened the information collected from the interviews. Information from the observation memos that did not relate to a particular interviewee was kept in a separate "general information" memo.

At this point, it was important to develop the coded information into broader themes. Displays were made to organize the coded information for analysis. According to Maxwell (1995), displays serve two key functions in data analysis: "data reduction and presentation of data or analysis in a form that

allows it to be grasped as a whole" (p. 80). The displays were created in a spreadsheet in Microsoft Excel so that all of the information could be viewed at once. One display was created for each interview question. The interviewee names were displayed along the column and the code names were along the rows. For the first research question, what were the outcomes of the program, it was essential to understand the knowledge and skills participants gained from the program, as well as other positive effects the program had on them. A display was created with the following codes along the rows:

- knowledge change,
- behavior change,
- exposure to new concepts that aided in behavior change,
- increased self-efficacy,
- sharing information with others,
- other effects of the class.

This question only applied to participants, so there were only participant names in this display. A summary of the information from the combined memos was placed in the cell for the corresponding interviewee name and code.

For the second research question, which aspects of the program determined the outcomes, it was important to understand how participants experienced the program and what the instructors' intentions were for the program. A display was created with the following codes along the rows:

- what participants wanted out of the program,
- what kept participant there,

- what was responsible for learning/teaching,
- understanding of culture,
- working with asset-based approach,
- understanding partnerships,
- food/diet philosophy.

This question applied to both participants and instructors, so all of the interviewee names were included. Again, information from the combined memos was placed in the cell for the corresponding interviewee name and code.

Finally, for the third research question, it was important to understand what areas of the program could be improved from the perspectives of the participants and instructors. A display was created with the codes "areas for improvement" and "what will be done/suggestions for next time." In this instance, since the information under these codes was so similar across interviewees, the columns were not separated by name. Instead, a table was made with "areas for improvement" and "what will be done/suggestion for next time" listed at the top, and information from the corresponding codes under each title.

To establish broader themes, information in each display was then summarized and further analyzed. Information from the "general information" memo was added to these summaries to provide complete information.

### 3.5 Validity

Maxwell (1995) refers to validly as the credibility of an account. He describes the threats to validity according to a typology of three kinds of understanding: description, interpretation, and theory. A threat to a valid

description is "the inaccuracy or incompleteness of the data" (Maxwell, 1995: 89). To prevent this, all of the interviews were audio taped and transcribed verbatim. Immediately after each observation, this researcher audiotaped what was observed and thoughts about each interaction.

A threat to interpretation is "imposing one's own framework or meaning, rather than understanding the perspective of the people studied (Maxwell 1995)." In the second interviews with participants and during interviews with instructors, member checking was performed. Member checking is a way of getting feedback about data collected from the people being studied (Maxwell, 1995). This was done by asking questions related to information from field notes or previous interviews to get a clearer understanding of particular concepts. Also, this researcher had to confront her own biases before and during the research in order to not impose her own meaning into particular concepts. This was done by using the assistance of colleagues to develop and define codes.

A threat to theory development is not having an understanding of the phenomenon being studied. In this study, the threat would be not fully understanding the situation in the community of Southtown. To counteract this, the researcher attended planning meetings for the program, met with various partners of the program, did some work in the community and met some of the community members, helped with recruiting for the program, and familiarized herself with FSNE. This was to better understand the community, the people, and the policies associated with the program.

## 3.6 Limitations of the Study

Some information used in this study will not be generalizable outside of similar community-based nutrition and gardening education programs due to the unique characteristics of the Growing Healthy Program (although theories related to the program and methodology would be).

Another threat is that participants self-selected themselves into the program. They may have been more motivated to make healthy behavior changes than those who heard about the program but decided not to attend. A lot of the participants were attempting to better their lives in other areas (higher education, trying to find better jobs, etc.) so there may have been characteristics about them that made it easier to make behavior changes or have increased self-efficacy.

## Chapter 4

#### **Results and Discussion**

A formative evaluation of the Growing Healthy Program showed how the program was designed to be receiver-oriented and how it promoted behavior change – two important concepts needed for an effective nutrition education program. Text from interviews and participant observation describe the outcomes of the program, the aspects of the program that aided these outcomes, and implications for future programs. Below are the results and a discussion on how they relate to the literature.

## 4.1 Outcomes of the Program

## 4.1.1 Development of the Nutrition Education

The instructors of this program, while working with various partners, based their goals on three of the core elements of Food Stamp Nutrition Education (FSNE) in order to improve the community of Southtown: food security, food safety, and food resource management.

In the area of food safety, all three instructors wanted to increase access and availability to healthy food, with two of the instructors specifying access to fresh, locally grown food. This was to be done by providing information and increasing skills in gardening and cooking. Through gardening, participants would have a way to access fresh vegetables. Increasing cooking skills would provide knowledge in how to prepare vegetables from the garden, and how to cook more healthfully in general. While none of the instructors specified what cooking healthily meant in the interviews, participants describe how one

instructor showed them alternative methods of cooking food that were described as "healthier" such as baking instead of frying, removing excess fat from meat before cooking and using herbs in place of salt.

In addition to cooking in a more healthful manner, instructors of the program also wanted participants to know how to prepare food safely. This corresponds with the FSNE core element of food safety, which focuses on keeping food and food areas safe from bacteria.

Instructors also wanted participants to learn how to save money through food resource management. One way of doing this was introducing gardening and growing food as a way to save money on vegetables and herbs. Instructors also explained to participants how to use food that they already have in their cupboards to make meals instead of buying food from restaurants, where to purchase inexpensive food, and utilizing food banks.

Instructors stated that these were all methods to increase participants' confidence in gardening and cooking, therefore increasing their confidence in leading healthier lives. At the end of the six-week program, instructors gave away cooking equipment that participants wanted and needed to aid them in their cooking efforts. They also wanted participants to see that through gardening, cooking and eating together, they would have a way to spend more time with their families. Instructors showed this through having everyone in each class share a meal with the food that was prepared that day together. Kennedy et al. (1998) discuss how families of those who participate in nutrition education programs do not always eat the healthier meals that they prepare. By involving

the family in the actual nutrition education program through cooking the food and tasting, family members may be more likely to try the healthier meals.

#### 4.1.2 Outcomes of Knowledge, Behavior and Self-Efficacy

In proper community-based nutrition education, it is important for educators to respect the learners' desires and needs and make sure that the message is tailored correctly for the audience to which it is directed (Abusabha et al., 1999). Instructors of the Growing Health program did this by building the program based on what various community members communicated to them. As a result, participants increased knowledge, made behavior changes, and had an increased confidence in their ability to complete certain health related behaviors.

Of the nine participants who discussed their motivations for attending the course, five said it was to improve their cooking skills in order to cook healthier. One person in this group also stated that she wanted to learn how to cook in low-cost ways, or ways that would save her money.

The two areas where participants learned the most regarding cooking were: cooking skills and techniques and learning about new foods which were accessible and affordable to cook and consume. The skills and techniques included how to use kitchen equipment, healthy methods of cooking, and keeping food areas safe. An example of using kitchen equipment was how to use knives more efficiently. This is an important concept for participants to know in order to use fresh vegetables more often. This concept was taught through cooking demonstrations and hands-on practice, and through the food safety portion where participants learned how to keep cutting boards and other food areas

clean. Participants also learned about baking foods as opposed to frying them and removing the skin from chicken to reduce the fat content.

Participants learned about new foods such as meat substitutes, new vegetables, herbs, and olive oil. By being introduced to these new foods, they learned how to create healthier meals or healthier versions of meals they've prepared for their family before. One example of this is the use of less meat and more tuna or meat substitutes, such as beans and tempeh. Said one participant:

"I think we did tuna, and took cherry tomatoes, and basil I believe and mixed it with some olive oil...So it was things I have here at home everyday that I could have made a nice appetizer, without going out. And it's a nice healthy appetizer without buying anything extra and spending extra money." – Sasha

Participants also talked about learning to use olive oil in place of other oils and herbs to season food in place of salt. Many participants mentioned enjoying learning about herbs they never heard of before and their uses. Being introduced to different vegetables also had an impact on learning as participants learned about new vegetables through cooking and tasting them.

"But we didn't even know what chard was. So I learned about chard. We didn't know about lettuce and we learned about that." –Delanie

Learning new cooking skills and techniques and new foods to cook and consume led to behavior changes in participants who were interested in increasing their cooking skills. In the area of new cooking skills and techniques, some participants stated that learning about using knives and cutting boards properly has prompted them to use them more. They also talked about roasting and baking food more. In regards to food safety, participants talked about keeping food areas clean and storing food within the appropriate amount of time at home. In follow-up interviews nine months after the class ended, some

participants talked about experimenting with other low-fat, low-calorie recipes.

In the area of new foods to cook and consume, participants changed the

types of food they were eating and how to prepare them. Over half of all the

participants mentioned using tuna, beans, and tempeh in place of meat in meals.

"The tempeh! You work with it! [Laughs] It has the texture of meat...It was in the freezer for about a month, but I thawed it out and cooked it. And I did it just like they did in class with the olive oil and the garlic and mushroom, and I made like a gravy with it and put it on rice and put some spinach on the side." –Delanie

"I made the hummus. There was the chickpea and tuna with parsley and olive oil...And I did pasta with tuna – the really simple ones." – Tammy

"It was interesting to see how you could use different stuff like Paul did for the cooking class and make it tasty, like guacamole and hummus. And having a lot of meals without meat – that was pretty good." – Jessie

Many of the participants talked about how they are enjoying using herbs in many

dishes that used salt and other seasonings before. Learning about different

types of herbs in class helped them with and encouraged them to try herbs that

were not introduced in the program.

"And now I know the difference between fresh herbs and non. Like I've been buying fresh herbs. When I made the greens, it made me feel good. I remember how they smelled and I was like 'Oh, yeah!' It made me want to try different things." – Tammy

Another thing many of the participants talked about was the use of more

vegetables due to exposure to different vegetables and how to cook them. In

follow up interviews nine months after the class was over, in addition to

consuming more fresh food in general, some participants continued to cook and

consume more vegetables.

"Yeah most of things that I use now are using the greens, you know? And I take greens because I know that you have to have the vegetable, you know? Cook your stuff healthy and, you know. And I really like it, all vegetables now. Before, I don't eat that many." – Mary

Not all participants who had a change in knowledge had a change in behavior. Some mentioned still having barriers to cooking that included time and available space to cook. Two participants in the study lived in a group home setting and were not able to buy a lot of groceries or have the space to cook. One participant mentioned not having the time to cook.

Of the nine participants who answered what their motivations were for attending the course, four of the participants said that they came to increase their gardening skills. One of these participants mentioned that she wanted to improve her health through gardening. Another mentioned using gardening to save money by growing her own food.

Participants mentioned learning about basic concepts of gardening and how gardening is a way to access food. In particular, participants mentioned how they learned about using natural pesticides, nourishing the soil, growing herbs, and using a container garden made from a bucket. Learning this led to many of the participants continuing to tend to the bucket gardens and use the natural pesticides made in class.

"They did a container garden and I had gotten one of those. It was radicchio lettuce, tomato, and holy basil. Well, I was drying out the holy basil and I used some of the leaves fresh. I've gotten three tomatoes off the plant. And the lettuce, I've gotten leaves off of there several times but it ended up dying because of the cold weather. But with that container garden in a 5 lb. pail, I was able to get a salad out of that, you know! I had the lettuce, I had the basil, and I had the tomatoes out of that!" -Sasha Only one participant had a garden at home before beginning the course. She mentioned how the course helped her with her garden, specifically the natural pesticides and learning about the nourishing the soil.

While many of the participants felt they learned gardening concepts and have the confidence to use them, two mentioned that they have not started a garden on their own due to space constraints at their home. Once they have a different living situation (i.e., a house instead of an apartment) they intend to start a garden.

# "...Because gardening is actually one of my goals, but right now it's not really possible for me, it's not really possible. I mean so I just know that it is a possibility when the time is right." – Tia

There were two other participants who came to the course as a way to spend more time with their families. These two participants mention how the program allowed this to happen and how they try to make this happen more now that the program is over. Another participant said while she enjoyed learning in the course, but she enjoyed watching her thirteen-year-old son learn as well. She said that the course has given him the confidence that he can be a chef when he grows up.

# 4.2 Aspects of the Program that Aided the Outcomes

# 4.2.1 Processes of Change – Consciousness Raising

As described in the literature review, processes of change are what guide individuals through the stages of behavior change. Consciousness raising began with experiences participants had brought to the course with them. Many had experiences in gardening that served as a foundation for what they learned in the

course. They talked about watching their parents and grandparents garden and they were now at a point in their life where they wanted to garden. Reasons for this included wanting to eat healthier and wanting to use gardening as a way to relieve stress.

"Because when I grew up, my grandmother had a garden. Then I grew up and I ...she had all kinds of stuff in that garden. Plus I think it's therapeutic. That's what I like about gardening." – Jessie

Those who were interested in cooking also had experience watching their

parents cook, but also enjoyed to cook and just wanted to know more about

healthy cooking.

"...It was kind of like my dad used to make. He'd go in the cabinet and he could find hot tamales and he could find tomato sauce and he would make something. You'd go, God, this is good, and it would be like the worst looking goulash you'd ever seen, but it was the best tasting thing, and it was kind of like that. It was like Paul would find all kinds of stuff and put it together and you'd be like 'what is it' and you'd be afraid to eat it. It would look ridiculous, but it'd be so good." – Tammy

These previous experiences are connected to what participants said they

learned. Participants gained information that built off of past experiences through

hands-on activities. The activities included cooking, participating in gardening

activities, and the hand washing demonstration. In the cooking activities,

participants mentioned how actually participating in the food preparation,

cooking, and then tasting the food was important for them in retaining information

taught during the food demonstrations.

"Well, I think it's more like, what do you call it? You get hands on experience instead of just observing. You might learn a little bit more by doing instead of just observing." – Cathy Participants also mentioned how learning the recipes in class encouraged them to try class recipes at home and other recipes that they would have normally not tried. This experience also influenced the change in eating behaviors (meatless dishes and increase in eating vegetables). The demonstrations also showed them how to use the cooking equipment. As one participant stated:

"And Paul was really a good hands on instructor. He kind of just let you go in and dive in and that was better than just sitting and watching him...If you didn't chop [the right way], he would say, 'Well let me show you an easier way to do it' and he wouldn't do it all for you." – Tammy

Most of the participants mentioned the class on herbs and how they enjoyed it the most. They talked about being able to touch, smell and taste herbs as well as use the salves made from herbs that the guest speakers brought. The class encouraged many of them to use herbs at home.

For the gardening portion, only a few participants mentioned hands-on activities used to help them learn. Of those mentioned, making and tending to the container gardens had the most impact.

In terms of food safety, the hand washing activity stood out the most for participants. Many stated that they still say their ABCs and tell their children to say their ABCs to know when they've washed their hands long enough.

While the hands-on learning helped many participants retain information, the information and skills that participants gained was also relevant and meaningful to them. They learned skills and information relating to what they needed and wanted to learn about. This helped them transform from one mind set to another through discourse. As instructors provided information and demonstrated activities, participants were able to ask questions and make

comments to the instructor and each other. Participants talked about how they enjoyed hearing about ways to do things not just from the instructors, but also from other participants.

" I thought Paul was wonderful. He was patient, his instructions were clear...If you didn't chop, he would say 'well, let me show you an easier way to do it" and he wouldn't do it for you...there were certain participants that always in the kitchen...We would talk about certain things. Like if I came into the kitchen after sitting out and listening to the lecture about safety concerns and that and said what are you guys doing, they would easily say – and it wouldn't be Paul who would respond it would be them who would say 'ok, this is what we're doing and if you do this and Paul said if you do this,' so they really shared the information and that was helpful." –Tammy

## 4.2.2 Processes of Change – Social Liberation

The new skills and information the participants received fostered social liberation. According to Minkler and Wallerstein (2002), gaining knowledge and skills that one needs to improve their situation in life is empowering. This empowerment gives people a choice in how to move forward with new information they have (based on transformative learning). Some people will definitely take action to make changes (based on conscientization).

Many of the participants had many things they were involved in that included: working full time, looking for work, raising children by themselves, attending college, trying to regain custody of children, financial struggles, and battling clinical depression. The "learning village" atmosphere of the class gave them an escape each week from other pressures and empowered them in one controllable aspect of their life. Some talked about how the program made them feel better about themselves because they were learning how to improve certain facets of their lives. "It made me feel better about myself. I used to be a lot healthier; when I was in Chicago I think I felt like I had more options. And since I've moved here I've started to lead a more sedentary lifestyle, and it made me have a better outlook because I do want to eat healthier, I do want to exercise more and I do want to practice healthier living and so the class encouraged me to change my lifestyle. So I have been working out more, and with working out I, the class has helped with that, I work out, I drink more water, and with me cooking better it's helped change my lifestyle." – Tammy

Other areas where the class empowered some of the participants was through shopping tips and through the food given away each week because of they now knew how and where to buy food that was inexpensive. They knew what the food tasted like so they wouldn't feel like they would waste their money.

## 4.2.3 Processes of Change – Helping Relationships

The learning environment was a co-learning, "power-with" environment. The participants learned through the instructors open style of teaching that allowed discourse. Many participants returned to as many classes in the program as they could because the learning was meaningful, they connected with other people, it was a relaxing environment, and they had fun.

During the last class in the six-week program, one participant described the class in terms of the African proverb of it taking a village to raise a child. She felt that the class was a "village" that helped each individual learn and grow as a person (psychological empowerment), which made the whole group stronger (community empowerment). Other participants talked about a group cohesiveness that the made the process of learning more enjoyable.

"Yeah, just enjoying each others company and learning something and then afterwards we got to eat together." – Rita "It's the ambience, you know. It's like the community learning, you know. You have in other classes, you don't feel comfortable. But when you come to a class like that, everybody welcomes you, and it was like 'wow.' Everyone knows you, and like it was just like a big family, yeah. People make you feel comfortable." –Mary

This bonding experience combined with meaningful learning made the program a relaxing, stress free environment.

The instructors wanted participants to have the positive experiences. The three instructors of this program have worked with low-income populations through other programs that they administer. Through this experience, they have developed an understanding and empathy for low-income groups. They understand the challenges and barriers that these groups face when it comes to accessing healthier, culturally appropriate food and attempt to address these barriers. However, they do this in a way that is respectful, focusing on the positive attributes and assets of a group. They also focus on what the group needs and wants instead of what they think the group needs. The instructors then developed programs based of these needs and wants.

"So, if we can conduct our programs in such a manner that they speak, they address the real needs of people then we have a chance of activating them to take part in broadening the impact of that thrust, whatever it may be. We deal with the underclass; we deal with low-income people, that's what FNP is about. We've got to deal with low-income people, food stamp eligible people specifically now. Many of those people, we do seniors, we do at risk kids, we do people who are in-between that." –Paul

All three instructors note that it was the partnerships they developed that helped them put the program together and deliver it. Two of the instructors, Anna of Sprouting Dreams and Paul of Washtenaw County MSUE FNP had a history of collaborating with each other and other groups throughout the county. They, along with Susan, the third instructor also with Washtenaw County MSUE FNP, found value in working with other groups who shared their goals of building the Southtown community by focusing on the assets of the community.

"Establishing the partnership with [Sprouting Dreams], FNP, and being able to look at the next one and say OK, now we know a little bit more and this is how we can do this one and it will work even better, let's hope. Just that partnership - I value that." – Susan

This connects to Minkler and Wallerstien's (2002) idea of organizational empowerment. The partnerships between all of the organizations that made Growing Healthy possible has been empowered because of their partnership and what has come out of it, and because of their ability to allow a space for the people in Southtown to become empowered. By meeting their goal of building the community through increasing food access and opportunities for healthy diets, they allow empowerment for themselves and the participants they serve in their programs, and the community as a whole. Figure one below illustrates this.

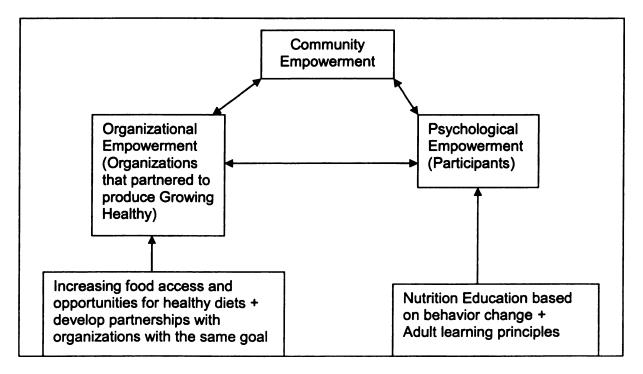


Figure 1. Empowerment Structure in Community-Based Nutrition Education

The instructors' belief of access to healthy, affordable food for all people is rooted in a larger social justice belief. They believe in equal rights for all groups and feel that people in low-income groups do not have the same opportunities as those in higher-income groups. Their work includes providing opportunities for low-income groups for this reason. In addition to improved diet and health, they want to help community members improve other aspects of their lives.

"I see the resources that higher income populations have and you know the cooking classes and the cooking schools and I just have not much interest in putting my energy there. It's important to have all members of society helped, but there are certain populations that are a lot more vulnerable. Not that I'm there to save them, but if I'm going to put my energy and resources into a particular part of the community, that is the part I'd rather work with. And it's a social justice issue. I come from an environmental justice background. Not everyone has the same access to resources. Not everyone has access to a house with a big garden or a fancy grocery store with fresh produce or whatever." –Anna

One example Paul gives is working with a woman who attended one of his nutrition education and cooking classes who went to start working on a degree in culinary arts. Two of the participants in the course talked about how their children have taken a stronger interest in cooking as a career due to participating in the Growing Healthy program.

Paul developed a "three phases of community development" plan that the other two instructors agree with and work with. The first phase is to educate. This, again, should be based on what participants want and feel they need, not what community educators feel they want and need. Community educators should not have what Paul describes as an expert, "I'm here to help you and I know more" attitude. Programs should be built based on what participants want to accomplish. When done in this manner, phase two is more likely to happen.

Phase two is getting the participants to use what they've learned on their own. Many of the program participants talked about eating more healthy food and experimenting with healthier recipes since the program ended.

The final phase is sharing the information learned with others. Ideally, Paul would like to see this happen by participants creating programs on their own. Participants form the Growing Healthy program talked about sharing the information they learned with family, friends and neighbors, and even getting others to try the recipes they learned in the program. Many also mentioned how they would like to have another course similar to the Growing Healthy program.

This correlated with Freire's ideas of social action and praxis (Merriam and Caffarella, 1999). While Mezirow states that one can choose whether to act, Freire is more insistent in the notion that social action must be taken. One participant told a story at the reunion dinner that connects with this. She stated that because she has started gardening and sitting outside more, her neighbors are sitting outside more and taking care of their front lawn and starting gardens of their own. They come to her to ask questions about gardening and through this, more people have their own vegetables and they are communicating with their neighbors. The participant has stated that this has led to a reduction in loitering and drug trafficking in the public housing complex where she lives. Paul hopes that the class has a similar effect on other participants in this capacity.

## 4.3 Implications for Future Programs

Both participants and instructors had ideas for improving the program design and class logistics. In the area of program design, the main areas that

need to be improved upon are the cooking demonstrations, making better use of volunteers, time of year the program is done, and making the instruction and discussions more participant-led. For the cooking demonstrations, Paul felt very overwhelmed instructing and cooking for such a large number of people (class size went up to 30 people at times). The instructors agreed that next time they will have participants take turns cooking with only a few people in the kitchen at a time. Anna also felt overwhelmed in her duties of obtaining all of the food and material needed for the night, developing and teaching the gardening material, and doing a lot of the program coordination. She felt that making better use of volunteers would counter the problem of the instructors feeling so overwhelmed. This will also help when instructors plan the time of year the program will happen, coordinating with the Michigan growing season.

To make the program more receiver-oriented, instructors wanted to have the participants present what they did to the rest of the class (such as those who cooked presenting what they cooked and how they cooked it) and let discussion develop around that. Another suggestion from a participant and an instructor was to have more participants bring in their own recipes to use for class.

Participants also suggested having more focused activities for children too young to help in the garden or kitchen. Instructors decided that they would have focused activities for the adults, focused activities for the children, and then bring everyone together to share a meal at the end.

Suggestions for improving class logistics were to start on time regardless of everyone being there or not and to organize things somewhat differently. A few participants suggested having a sign-up sheet for activities: cooking, gardening, and clean up. This way everyone could have a chance to participate in and have responsibility for engaging in all parts of the class. They also suggested that one person be in charge of distributing food each night to make sure each person got an equal share.

Instructors were concerned about people starting the class after the start date and that the class included people without families. For future programs, instructors plan to work with specific groups such as families with children in Head Start and Habitat for Humanity families.

## Chapter 5

## Conclusion

This study examined the outcomes of the Growing Healthy nutrition education program in Southtown, Michigan. This program employed nutrition, cooking, food safety, and gardening principles in order to increase access, skills, and knowledge in terms of healthy food. The program was designed to not only empower the participants with knowledge and opportunities to change their diet, but to also help eventually change the health status of Southtown. The purpose of this study was to understand how receiver-oriented nutrition education programs such as Growing Healthy are developed and implemented and what participants take away from them.

A successful nutrition education program is one that increases selfefficacy and produces behavior changes in the participants. This is what the Growing Healthy program aimed for. Traditional nutrition education programs use an information dissemination model aimed at the general public and are based on what program designers believe should be changed in the community. If any changes are made with this model, it usually produces only knowledge change. Programs that produce behavior change adhere to the needs and wants of the community instead of that of the program designer and are usually designed for that particular audience.

# 5.1 Summary of Results

The instructors of this program worked with partners throughout the county to develop the Growing Healthy program based on community needs and

wants while working within three Food Stamp Nutrition Education core elements: food security, food safety, and food resource management. Food safety goals were to increase access and availability to healthy food with an emphasis on fresh, locally grown food. Food safety goals focused on keeping food and food areas safe from bacteria and cross-contamination. Food resource management focused on gardening as a way to save money on vegetables and herbs, explaining where to purchase food inexpensively, and how making meals at home instead of purchasing food from restaurants. All of these things can be done as a family, therefore increasing the time families spend together.

The participants of the program had motivations for attending the program that were similar to the instructors' goals. Participants listed their motivations as primarily to increase cooking and gardening skills, with some mentioning using these skills to better their health, save money, and spend time with their families.

For those who came to the course to increase their cooking skills, they mentioned that their cooking skills were increased and they learned new cooking techniques. They also learned about new foods to cook and consume. Cooking skills and techniques that were learned were how to use kitchen equipment, healthy methods of cooking, and keeping food areas safe. New foods that they learned about were meat substitutes, different vegetables, herbs, and olive oil.

Learning about these cooking methods and foods led to behavior changes. Participants mentioned not only using the skills and techniques learned, but some also began using other low-fat, low calorie recipes and experimenting with cooking in other healthy ways. Some mentioned eating more

varieties of vegetables since the course ended. Others mentioned how they were not able to cook or try some of the things they learned in the course at home due to barriers that still existed such as time to cook and full access to a kitchen. However, they felt that when these situations change, they intend to use the skills and techniques learned in the program. This shows that even where behavior didn't change, there was a self-efficacy increase.

For those that came to the program to increase their gardening skills, they mentioned learning about basic gardening concepts and how gardening was a way to access food. Gardening concepts that were learned were about using natural pesticides, nourishing the soil, growing herbs, and using a bucket garden.

Some of the participants mentioned using the food produced from their garden. Only one participant had a garden before attending the course and she mentioned how concepts learned in the course helped her with maintaining her garden as this was the first year she had a garden of her own. Others mentioned how they did not have the space to garden due to living in apartments, but would like to have a garden of their own once they move into a house. This, again, showed that where there were not behavior changes, there were increases in self-efficacy. Other increases in self-efficacy were shown in spending time with families.

Participants learned these things due to a co-learning, "power-with" environment. This was due mainly to the fact that discourse between instructors and participants was allowed to happen in an open, non-lecture environment that allowed transformation and conscientization. Participants brought experiences

with them to the course regarding cooking and gardening, and the instructors accepted these experiences as valid and meaningful. Through learning skills and concepts that were relevant and meaningful to them as people trying to change their food situation, participants were able to move from one way of thinking to another. Learning this in an interactive, hands-on way helped participants retain this information.

This made the experience an empowering one for participants. Being given knowledge and skills to change their food situation gave participants the ability to change things for themselves instead of being dependent upon structures they may have been dependent upon before. They now had more options on how to improve their diet.

This is consistent with what instructors wanted participants to receive from the program. By partnering with other groups in the community that had the same community building, social justice goals that they had, the instructors designed this program so that participants could feel like they had control over their lives. By working in the community, listening to and adhering to what community members wanted to learn about, and feeling a need to give the lowincome residents in Southtown the same opportunities as those in higher income neighborhoods, instructors and the partners of this program designed a quality program that changed health behaviors and increased self-efficacy.

However, as with most programs there are opportunities for improvement. Both instructors and participants identified areas in the program design and in class logistics that could be improved. With the program design, these things

included a better way to conduct cooking demonstrations, making better use of volunteers, conducting the program during the time of year that is consistent with the growing season, and having the instruction and discussion more participantled. Areas regarding class logistics included starting the program on time (whether all of the participants were there or not) and organizing things somewhat differently. Ideas for improving the organization were to assign activities and duties to each participant so that everyone has a chance to participate in each activity, and making sure that food given away at the end of the night was distributed equally by having one person divide everything equally.

In the future instructors plan to work with specific groups such as Habitat for Humanity and Head Start to make sure that all of the participants are within the target audience (low-income families).

#### 5.2 **Proposals for Future Research**

Programs like Growing Healthy are vital for changing healthy behaviors in low-income communities. These changes in health behavior lead to an improved health status for the many people in these communities who are more likely than those in higher-income neighborhoods to have conditions associated with a poor diet. For this reason, it is important to continue research in the area of improving nutrition education programs.

One way of doing this is by looking at what grassroots organizations are doing around the country. By working in communities, many who implement programs are the ones who see firsthand if a program is working or not and have come up with ways to change programs. In the Growing Healthy Program, Paul,

a Program Associate with MSUE developed a way to get appropriate nutrition education to the target audience he works with. It would be beneficial for researchers and program designers to look at how those "on the ground" are making changes in communities not only to design programs more efficiently, but also to publish this information so that other organizations can benefit from it.

In this study in particular, one interesting concept was the self-selected group of participants. Many participants in this group were very busy people who were trying to improve their lives in other areas such looking for a higher paying job, starting a business, or attending college. It would be interesting to see if these people were naturally highly motivated to make changes in all parts of their life, and this, along with other reason listed in this study, is what encouraged them to attend the program. This would also be helpful in understanding how to recruit others who were less motivated to attend and stay in the program.

## 5.3 Lessons Learned

Nutrition Education is an important tool in changing health behavior. An important component of the Growing Healthy Program that led to its success was the supportive environment created by the instructors and embraced by the participants. Instructors respected participants as people who had qualities and experiences outside of being food stamp recipients. They aided participants in building on these experiences, particularly the cooking and gardening experiences, through a non-didactic relationship where participants shared their existing knowledge of cooking and gardening concepts.

This was possible through an atmosphere of open dialogue set by the instructors. By working together on hands-on activities, participants and instructors had an opportunity to discuss different ways of cooking and gardening, as well as food safety information. One example of this was during a food safety discussion of what the appropriate time was for food to be put away. When the instructor leading this discussion brought this up, many of the participants stated that they did not adhere to this and wondered about the reason for doing this. Discussion ensued and an understanding was had by the instructor on why food may have been left out longer, and by participants on why it may be a good idea to refrigerate food in a shorter amount of time.

Another component of the program that led to its success was the relationship building between the researcher and the instructors of the program before and during the program. The three instructors and the researcher worked together in a non-hierarchal relationship. The researcher aided the instructors with various aspects of the program including aiding with the advertisement of the program to the community by distributing flyers, helping with set and clean up of the program, doing shopping for the program when the other instructors got very busy, and working within the instructors philosophy and vision for the program. This helped establish trust with the instructors, therefore strengthening their working relationship.

This study focused on nutrition education. However, these are all important lessons for any researcher wanting to work with others in other community-based learning settings.

### Afterword

Since this study ended, the instructors and one participant of the Growing Healthy Program have continued to move forward on the things they have learned from the program

#### Instructors

The instructors of the Growing Healthy Program have completed another six-week program in a different location and have more programs planned for the future. The instructors plan to take recommendations from this study to continue to build the future programs.

The Instructors have also decided to interview current and future participants of the program in the fashion that the researcher interviewed participants of the program in the study. One instructor mentioned that through interviewing participants, the program was able to continue to build a relationship with them and work with them in other efforts. All of the instructors mentioned being appreciative of this and wanted to perhaps have another graduate student go through this process.

#### **Participants**

One of the participants of the program mentioned how the program has taught her and her family a lot of valuable information, but this information has had other effects on her and her community. She stated that since she has began gardening at her residence in a public housing complex, she has noticed that others have started garden and have started to take better care of their living areas. This has resulted in a reduction of criminal activities in the housing

complex because there are people outside more, as wells as more communication between neighbors due the exchange of information on gardening tips.

The initial process of building partnerships and relationships around a single goal of improving the health of Southtown has encouraged outcomes beyond what the program instructors planned for. By continuing with their approach and improving the program where necessary, the Growing Healthy Program will likely have the same results in the future. Appendix

Participant Interview Home-Grown Health Guide Version Date: 9/5/04 First Interviews

# Goals of Interview:

- Understand what they wanted to get out of the course and what they actually got out of the course (1)
- Understand what was learned (2)
- Understand what they have done and/or will do with what they have learned (2)
- Understand who was instrumental in helping them learn (3)
- Understand why this program was successful for them (3)

# Questions

How did you first hear about Home-Grown Health?

When you decided to attend, what were you hoping to learn about the most? -What about this was important for you?

# Cooking

Let's talk about the cooking portion of the course.

Were the cooking demonstrations and information useful?

What part was useful?

What was useful about that?

(Will ask to elaborate on examples – some probes:

- Remind me of how that went.
- Who helped you the most with this?
- Are you applying this now...or no? Tell me a little about that.

# Gardening

In this course, the instructors tried to show the ties between gardening and cooking through the information sessions and activities.

We've already talked a little about the cooking portion, now tell me what you thought about the gardening portion?

What part was useful?

What was useful about that?

(Will ask to elaborate on examples – some probes:

- Remind me of how that went.
- Who helped you the most with this?
- Are you applying this now...or no? Tell me a little about that.

A few people talked about waiting until the spring and getting started with a gardening project. Is that something you think you might do...or no?

# **Class in General**

How did you feel about our group in general – the participants, instructors and volunteers?

-How did having a group like this help you learn?

What about where the class took place? How did you feel about our location?

What made this program successful? -What makes that important for you?

If this course is done again, what parts need to stay for it to be successful? What needs to be added to the program?

Is there anything else you'd like to add?

## Instructor Interview Guide 2-3-05

# I. Goals of Interview

- 1.1. Understand the instructor's objectives for course (brief-as relates to FNP)
- 1.2. Understand the group's objectives for the course (brief—as relates to FNP)
- 1.3. Understand the teachers learning/teaching philosophies
- 1.4. Understand how lessons/activities are connected to her learning philosophy
- II. Questions
- 1. What do participants to get out of the course? [FNP Learning outcomes]
- 2. Could you tell me a little bit about how you 3 came together on this project?
  - What made you all decide to combine the gardening, cooking & food safety
- 3. Let's talk about some of the individual lessons and activities...
  - What lessons or activities do you think really "worked"? Tell me about one.
     [get a story...what happened?...what about this worked for you?]
  - What did you hope the students would learn from it?
  - As a teacher, what was important to you about doing it this way?

[Refers to the process of learning]

[Probe about their assumptions about what is effective teaching, the situations under which people learn best, and HOW they know that as teachers (i.e. probably comes from their experiences as teachers or learners- $\rightarrow$  stories].

[Probe when you references to:

- Collaborative learning (i.e. students working together → read the refs I gave you before the interview)
- o Experiential
- Respect of culture/previous beliefs
- Conducting adult learning "in the community"
- The "I really want to change something now" aspect of adult learners ]

[try to get specific examples, get them to tell the story with all the details, and explain what was it that worked. Here we are trying to understand what they identify as 'good' teaching/learning situations]

[Trying to understand :

- what the different components/activities of the program was (as they describe it)
- what they hoped to achieve with it (specific learning objectives)
- why they chose that particular way to present and teach the material (learning philosophy ]
  - Repeat for other activities [same thing]
- 4. Were there any that you thought didn't work? Tell me about that....(repeat)

[try to get specific examples, get them to tell the <u>story</u> with all the details, and explain what was it that worked. Here we are trying to understand how they adapt as teachers to the situation they have- $\rightarrow$  creating comfortable environments, do they adapt to learners?]

• What happened? What did you do?

[what came of it, how did they adjust? Did they adapt to meet the objectives? was it good, bad, a learning experience]?

- Does this change how you do this/teach this in the future?
- 5. Overall, is there anything that you learned from your experience with the course?
  - About teaching FNP concepts
    - i. Does your experience with this course change plans for future courses?

- About teaching in general?
- Personally?
- 6. Overall, do you think it was a success? How so?

Interview 1.2 Guide Home Grown Health Class Interviewee: Delanie

Goals: What was it about instructors that helped her learn How learning experientially helped her Herbs section What made her keep coming back

Questions

You mentioned how watching Paul put meals together helped you learn other ways of putting together healthy meals at home. For instance, you told me about the tempeh and how you used that in meals. Was it important that we actually cooked the food or could we have just received recipes?

Tell me more about that. Was it important that we ate it?

Since the last time we talked, are doing any of the things we learned in class? (I ask because I know I'm not!)

OK, now lets talk about the herb class. I remember how you and just about everyone else really seemed to enjoy that class. What made it so enjoyable?

[point of this section is to

- 1.) get at how instructors helped her learn
- 2.) experiential learning examples]

Finally, what kept you coming back each week? Realistically, you could have done other things on your Monday nights for six weeks, so what about the class kept you coming back?

You seemed really comfortable in the class. Is that true? What made is so comfortable?

Interview 2.2 Guide Home Grown Health Interviewee: Tia

Goals: Ways class helped in way do things Ways class helped change knowledge What made her keep coming back

## Questions:

Since the last time we talked, are doing any of the things we learned in class? (I ask because I know I'm not!)

You said that you came to the program because you wanted to learn to cook lowcost healthy things? How's that coming? [examples]

Another thing you talked about is how Paul taught you to "think outside the box" with food combinations for meals. Was it important that we had demonstrations showing how to do that or would it have been OK for him to just talk about it?

Was it important that you actually tasted some of the combinations?

What about the food bags? I remember you saying you liked those. Have you had a chance to purchase anything that you may have taken home and tried?

What would you say was one of the most important things you learned from the class? What makes this important? Other things? What makes that important

When we talked before, you sounded like you had a lot of things going on such as trying to focus on a job search and care for your children. Seeing how you could have used your Monday nights to do other things, what kept you coming to the class?

Last time, you mentioned getting out in the community and supporting the community was what made the class success for you? Tell me a little more about how this is important to you?

You seemed really comfortable in the class. Is that true? What made is so comfortable?

Interview Guide 3.2 Home Grown Health Class Interviewee: Tamara (or Sandra)

Goals: How did learning (experiential) take place What made you decide to keep coming back Herbs

Questions

Since the last time we talked, are doing any of the things we learned in class? (I ask because I know I'm not!)

Last time you talked a lot about the gardening and how you learned about the new things as well as why your grandparents taught you certain things. Was it important that we had a garden and garden supplies and were able to actually do some of those things?

[do this with the roasting vegetables example as well]

Ok, now let's talk about the herb class. I remember how you and just about everyone else really seemed to enjoy that class? What made it so enjoyable?

I know that you're a busy person with your job and you could have used Monday nights for other things. What was it about the class that that kept you coming?

You mentioned how you found support for your interest in healthy eating and a healthy lifestyle in the class. What was it about the class that made you feel like this?

You mentioned wanting to go through the class again. What makes you want to do this?

Interview Guide 4.2 Home Grown Health Class Interviewee: Sasha

Goals: Understand why else came – and stayed (said was bored) Learning – from who and how

Questions:

Since the last time we talked, are doing any of the things we learned in class? (I ask because I know I'm not!)

Since the last time we talked, are doing any of the things we learned in class? (I ask because I know I'm not!)

Last time you talked about how Paul showed you the "right way" to do things, such as how to proper chop so you don't have to keep picking up the knife. Was it important that he showed you and then allowed you to do it, or could he have just told you about? Tell me more about that.

[get information about "seeing it live" and container gardening as well]

Now I remember you saying you were bored and that's what made you decide to initially attend the class. But really, you could have done other things with your time off of work. What was it that drew you to the class each week?

You seemed really comfortable in the class. Is that true? What made is so comfortable?

Interview Guide 5.2 Home Grown Health Class Interviewee: Jessie

Goals Herbs – so enjoyable? Co-learning "Looked forward to Monday's" – why

Questions:

Since the last time we talked, are doing any of the things we learned in class? (I ask because I know I'm not!)

Last time you talked about how you enjoyed the hummus recipe and how you made it at home and even made it better! Was it important that we actually made the hummus in class, or could you have done this just with a recipe?

Was it important that we ate it?

OK, now let's talk about the herb class. I remember how you and just about everyone else really seemed to enjoy that class? What made it so enjoyable?

In our last interview, you said that you "looked forward to Monday's." What was it that drew you to the class each week? You were working full time and trying to finish you degree, yet you still came each week!

You seemed really comfortable in the class. Is that true? What made is so comfortable?

Last time you talked about a "bond" that developed between people in the class. Tell me more about that.

Interview Guide 6.2 Home Grown Health Class Interviewee: Mary

Goals: Change in confidence in cooking American food? How learning occurred for her What made her keep coming back

Questions:

So, it's been nine months since the class. I remember you saying you wanted to learn more about cooking American food. Has the class encouraged you to experiment more with different ingredients?

What are some other things you are doing from the class?

Last time you mentioned how you really enjoyed learning about cooking different types of vegetables, removing skin off of chicken, and cooking different dishes with tuna. What activities or lessons helped you learn about these things?

Was it important that we actually cooked the food or could we have just gotten a recipe? Tell me more about that.

Was it important that we ate the food that we cooked?

Finally, what was it about the class that made you want to keep coming back?

You seemed really comfortable in the class. Is that true? What made is so comfortable?

Interview Guide 7.2 Home Grown Health Class Interviewee: Tammy

Goals: Role food bags played with exposure to new things Understanding importance of "hands on" Experimenting more? What made her keep coming back

Questions:

Last time you mentioned how the class encourages you to experiment more, like how you decided to try the greens recipe you got from B. Smith's restaurant. In the nine months since the class, have you had a chance to do more experimenting?

Are you doing any other things learned from the class?

You also mentioned how you were able to replicate a few of the recipes with ingredients from the food bags everyone received after class. Have you had a chance to buy more of those ingredients and use the recipes more or maybe even come up with new things?

Another thing you mentioned last time is the fact that you liked how the class was hands on and how it would have been harder if you were just handed a recipe. Could you give me an example of a hands on activity?

What was important about the hands on aspect?

Was it important that we actually made the food and ate it?

There were some days you didn't work in the kitchen, but you said last time you knew what they were doing. How were you able to know?

Finally, what made you keep coming back? You have a busy schedule with you kids and school and could have done so many other things with the few minutes a free time you have. What was it about the class that kept you coming back?

You seemed really comfortable in the class. Is that true? What made is so comfortable?

Interview Guide 8.2 Home Grown Health Class Interviewee: Lori

Goals: Parents gardened, reason wants to garden – learn about this How learning occurred for her Herbs – what made so enjoyable What made her keep coming back

Questions:

You mentioned last time the fact that your parents gardened when you were growing up and this has influenced you to garden. Can you tell me a little bit about watching them garden and any role you had in this?

[Understand previous experience and a better understanding of what may have motivated her to join class.]

Since the last time we talked, are doing any of the things we learned in class? (I ask because I know I'm not!)

Last time you mentioned how you really enjoyed the gardening section and how you learned about differences between dirt, natural pesticides, and how to start a garden. What activities or lessons helped you learn about these things?

Was it important that we had a garden and garden supplies and were able to actually do some of those things?

OK, now let's talk about the herb class. I remember how you and just about everyone else really seemed to enjoy that class! What made it so enjoyable?

Finally, what made you keep coming back? You have a busy schedule with you kids and work and could have done so many other things with the few minutes a free time you have. What was it about the class that kept you coming back?

You seemed really comfortable in the class. Is that true? What made is so comfortable?

You also mentioned how you enjoyed the set up of the class and how you were able to mingle. Tell me more about that.

Interview Guide 9.2 Home Grown Health Class Interviewee: Cathy

Goals: How used food bags How able to use information from class What made her keep coming back – mentions "everybody participating together and cooking a meal, fixing a meal together, everybody cleaned up," Peter explaining things – what about this was attractive?

Questions:

Well, first, I'd like to talk about the stuff you learned in the class. You mentioned that you focused mainly on the cooking portion. How have you been able to use some of the information you learned from class in these nine months since the class ended?

You mentioned how you leaned about cooking nutritiously through the cooking in the class, like with the pasta dish we made and the pudding dish. Was it important that we actually made those dishes or could Peter just have told us about the dishes and gave us recipes? Tell me more about that.

Was it important that we ate it?

What about the food that was given away. I know you said last time that you found that useful. Have you gotten any more of the food from those bags and used those ingredients – whether it be replicating a recipe or just using them in other things?

Which ones and how did you use them?

Last time I asked you what was it about the class that made you want to come back and you said "it was the fact that everybody was participating together and cooking a meal, fixing a meal together, everybody cleaned up," and you though Peter did a good job of explaining things. What about all of this was so attractive to keep coming each week?

You seemed really comfortable in the class. Is that true? What made is so comfortable?

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