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Assessing stakeholder engagement and partnership approaches in community donation gardens

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Abstract

Maintaining a high nutritional profile for food pantry inventories has been a challenge. Master Gardener volunteer programs have recently started designing community donation gardens to address the nutritional gaps in food pantry inventory and programming. These programs often claim to serve their communities and to engage many local stakeholders, but it is unclear where, how, and to what extent each stakeholder group is involved, and how their involvement shapes programming. To understand the role of community engagement in a master gardener community garden donation program, we conducted a qualitative study in which we carried out a document review of data from 32 counties in Iowa served by a statewide Master Gardener program over five years. The review provided data that enabled us to analyze stakeholder participation in program planning. Drawing on the Interactive Model for Program Planning, we assessed stakeholder roles and found that while the program engages many stakeholders, food pantry patron involvement in the planning process was low. Involving patrons in the program planning process is necessary to ensure that program goals and objectives are designed in service to the community the programs exist to serve and is key in accomplishing both sustainability and efficacy in the effort to make fresh produce more accessible to those facing food insecurity.

Keywords: Master gardener, food pantry, fresh produce, gleaning, food insecurity, SNAP-ED, program planning

Introduction

The United States of America (USA) is the wealthiest country on Earth. That notwithstanding, in 2020 it is estimated 1 out of every 7 Americans experienced food insecurity, amounting to 45 million individuals, including over 15 million children (Coleman-Jensen *et al.*, 2020 ^[10]; Feeding America, 2021), and food-insecure households tend to face negative psychological and behavioral effects, especially among children (Belsky *et al.*, 2010 ^[5]; Slopen *et al.*, 2010).

Similarly, previous studies have identified some health issues linked to food insecurity, such as repeated hospitalizations, diabetes, hypertension, and obesity among women (Wetherill *et al.*, 2019a) ^[61]. Notably, health disparities often follow socioeconomic lines, where low-income and resource-limited households disproportionately encounter high levels of food-related health risks (Niles *et al.*, 2020 ^[46]; Drewnowski & Specter, 2004) ^[17]. These inequalities are worsened by limited transportation access, and geographic disparities, further amplifying the structural and environmental factors that initially contribute to food insecurity and poor dietary health (Niles *et al.*, 2020 ^[46]; Clark-Barol *et al.*, 2021 ^[9]; Feeding America, 2021).

As a stop-gap measure against food insecurity as a widespread and ongoing public health concern, the federal government introduced the Supplementary Nutrition Assistance Program-Education (SNAP-Ed) as an extra safety net for low-income families, helping them buy

healthy and nutritious food. The goal of SNAP-Ed is “to improve the likelihood that persons eligible for SNAP will make healthy food choices within a limited budget and choose physically active lifestyles consistent with current Dietary Guidelines for Americans (DGA) and the USDA food guidance (USDA, 2023, p.12). Consequently, federal and state governments spend billions of dollars annually on food assistance programs (Aussenberg, 2013) ^[4]. Importantly, the growing interest in food security and nutrition among SNAP-Ed food pantry participants over the last decade has coincided with a general improvement in food security and nutrition in households with children (Mabli & Worthington, 2014) ^[38].

Additionally, SNAP-Ed’s increased support for activities that encourage food aid participants to adopt healthy eating behaviors aligns with the *Dietary Guidelines of America* (Phillips, 2021) ^[49]. Some of the supported activities undertaken include programs that provide access to vegetables and fruits at lower prices and those that establish community donation gardens. Such programming draws from and aligns with the SNAP-Ed federal toolkit and reflects My-Plate recommendations that promote a balanced meal plan with a generous intake of fruits and vegetables (USDA, 2018; Wyker *et al.*, 2012) ^[62]. Although SNAP-Ed is a federal program, it is administered by the states and thus varies across the country. In Iowa, the Growing Together program is one example of SNAP-Ed programming, particularly in its use of informational brochures and

funding for fruit and vegetable gardens that support a balanced diet. Rivera *et al.* (2019) ^[51] argue that such balanced diets can potentially prevent the onset of chronic diseases, suggesting that nutrition education funded by SNAP-Ed is a vital part of shifting food choices towards healthier and fresher options.

Arguably, these approaches make the Cooperative Extension system a natural vehicle for the delivery of such supports, and on the other hand, extension, a cooperative system of agricultural food and natural resource outreach through educational programming between universities and farming and gardening communities, both rural and urban, has addressed this problem historically through programs such as backyard gardening and nutritional education workshops.

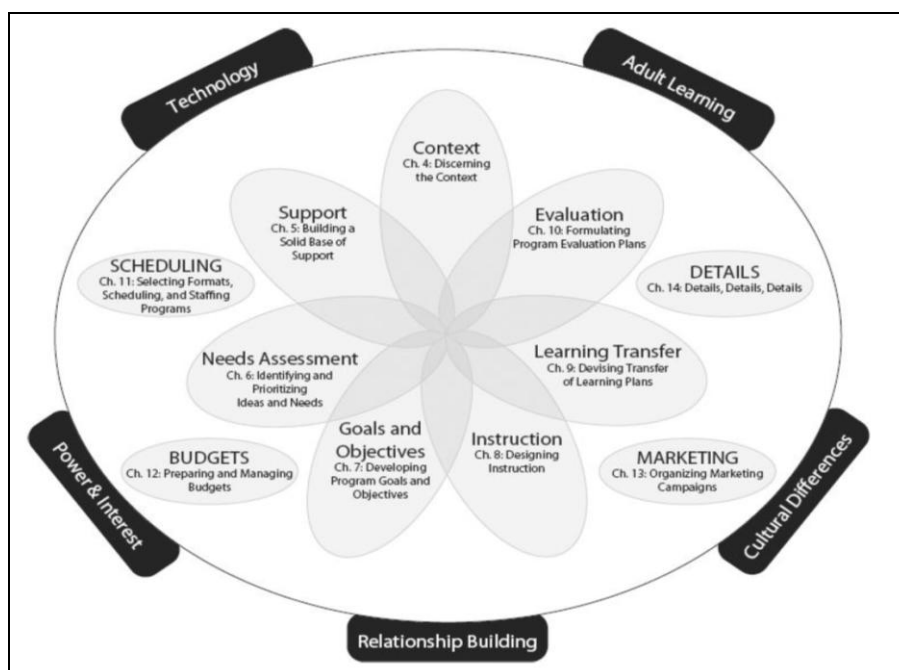
Additionally, two prominent nationwide programs relevant to food security are the USDA's Expanded Food and Nutrition Education Program (EFNEP) (Gibby *et al.*, 2008) ^[24] and the Master Gardener Program (Armstrong, 2000 ^[2]; Murphy, 2013) ^[45]. These programs are part of a food-systems approach to addressing public health, argued for by Comb *et al.* (1996; see also Robinson-O'Brien *et al.*, 2009) ^[52]. Equally, earlier studies have noted that gardening programs have contributed to increased consumption of fruit and vegetables among households with low income (Robinson-O'Brien *et al.*, 2009) ^[52].

This study, therefore, examines the extent to which stakeholders were involved in food donation garden program planning and implementation. The overarching goal is to explain stakeholder roles in designing and managing the food gardens, which such stakeholders harvested and donated their produce to food pantries in their communities. As a case study, this study uses the Iowa Master Gardener volunteer State-wide program, known as Growing Together, to donate community gardens.

Theoretical Framework

The article adapts the Interactive Model of Program Planning (IMPP) from Caffarella and Daffron (2013) ^[8] as a lens to examine and analyze the case study of the Growing Together Master Gardener program. Figure 1 shows the model's eleven components. For the past thirty years, the program planning literature has produced various models, theories and frameworks concerning how program planning should be carried out (Caffarella & Daffron, 2013) ^[8]. Models that have been previously used in program planning include the traditional approach, practical approach, and radical approach (Caffarella & Daffron, 2013) ^[8]. Caffarella and Daffron (2013) ^[8] describe program planning as "a social activity whereby people construct educational programs by negotiating personal, organizational, and social interests in the contexts marked by socially structured relations of power" (p. 24).

Furthermore, Caffarella and Daffron (2013) ^[8] argue that program planning can start at any stage, depending on the situation of the target audience, emphasizing in their observation that program planning does not follow a stepwise process; instead, planners can choose to start with or use only selected interactive model components that are applicable to a specific planning context (2013, p.11). Caffarella and Daffron (2013, p. 29) ^[8] developed this new model, which they name "The Interactive Model of Program Planning", using eleven components: (1) discerning context; (2) building a solid base of support; (3) evaluation; (4) needs assessment; (5) scheduling; (6) budget; (7) goals and objectives; (8) instruction; (9) marketing; (10) learning transfer; and (11) details. However, they (2013, p.10) note that the components of their Interactive Model are similar to the previous program model components (p.10). The model is flexible, allowing program managers to adapt the relevant components to the program (Caffarella & Daffron, 2013) ^[8].



Note: Borrowed from the 2nd edition of Caffarella and Daffron (2013) ^[8]'s Planning Programs for Adult Learners (p.29).

Fig 1: Interactive Model of Program Planning eleven components and five foundational knowledge areas for program planners when developing programs.

The Interactive Model of Program Planning emphasizes the inclusion of social, environmental, and political dimensions in the planning processes by describing technical, rational, practical and critical approaches (Cervero & Wilson, 2006).

Context of Study

The Growing Together program is a donation garden program that could be characterized as an adult education program. It is based out of Iowa State University Extension and Outreach at the state and county level. Since its inception in Iowa, Growing Together has been replicated in Nebraska, Wisconsin, Indiana, Illinois, and Michigan (Association of Public Land-Grant Universities (APLU), 2021). The program extends the conventional Master Gardener horticultural practices, specifically to the development of food gardens. The role of Master Gardener programs has primarily been horticulture education. All fifty states have master gardener programs. Of the fifteen states with programs that donate food, the Extension Master Gardener National Committee (2015) estimates that the total donation is at least 1,382 tons of produce every year.

Master gardener volunteer programs in Extension are credited as beginning in King County, Washington in the early 1970s, marking increased public access to horticultural programming (Gibby *et al.*, 2008) ^[24]. The most active programs are found at land-grant universities and managed by Extension. Typically, master gardener volunteers focus on informing the public about horticultural practices and crop production, including through demonstration in local gardens.

However, programs have changed with the times in many ways (Table 1). For example, Muntz and Kopp (2019) ^[44] rely on master gardeners to work with municipal workers in drought-prone areas to limit water loss by homeowner irrigation. Others address areas of concern from horticulture education through junior master gardener programs at public schools (Junior Master Gardener, 2016), to environmental stewardship (Cornell Cooperative Extension, 2021). They also address issues of climate change and resource management (Table 1).

Table 1: Sample of master gardener programing in other states

Master Gardener Group	Sample Programs
Utah Master Gardeners	Participate in a water check program that visits households with irrigation to directly measure water usage to limit water wastage in the dry climate (Muntz & Kopp, 2019) ^[44] .
California Master Gardeners	Engaged in water-saving tips for the home garden program, where residents are taught how to check water meter leaks and tune up watering systems (Regents of University of California, 2012).
Pennsylvania Master Gardeners	Training volunteers in watershed management techniques, the volunteers then train the community about watershed management (Pennsylvania Master Gardener Program, 2021).
Arkansas Master Gardeners	Providing plant therapy at hospitals and nursing homes, community beautification projects, and disseminating horticulture information (Arkansas Master Gardener Program, 2021).

Methods

Program planners' capacity to design food security and nutrition education programs would be improved by a better understanding of the reality of the political and social forces that can contribute to undesired outcomes in organizational level, programs' purpose, goals, impact, and stakeholders (Caffarella & Daffron, 2013 ^[8]; Merriam & Bierema, 2013). To contribute to an improved understanding of these forces in relation to food security and nutrition programs, the researcher grounded the Growing Together program stakeholder analysis in Caffarella and Daffron's Interactive Model framework. The research uses an analytical lens to evaluate components that the program emphasized as well as those it did not address, but would have addressed as part of an inclusive and efficacious program planning approach. The approach to methods was a case study, which involved a document review of available Growing Together program materials-including promotional materials, training materials, and site visit field notes. Specifically, how the program engaged stakeholders across the 32 counties served by the Growing Together program from its inception in 2016 until 2021 was examined. While the review consisted of data accumulated over the five years of the program's operation, not every county had documentation for all the five years as some counties joined more recently.

Research Design

In selecting a research methodology, this study project's philosophical perspective, research question, and the maturity of the phenomenon it investigates (Merriam &

Kim, 2012) ^[42], were considered. Creswell and Tashakkori (2007) ^[14] and Yin (2003) ^[64] observe that research designs depend on inherent or clear assumptions of what we know as knowledge as well as legitimate claims made about knowledge.

The selection of my methodology assumes that understanding a phenomenon is subjective, which requires qualitative inquiry. Thus, the questions selected for this research include those that investigate the internal and external perceptions of the Growing Together Master Gardener Volunteer program planning and its priority to provide fresh produce to local food pantries. This approach is in line with the Interactive Model of Program Planning of Caffarella and Daffron (2013) ^[8] to examine and analyze the case study of the Growing Together Master Gardener Volunteer program.

A case study is defined by Creswell (1998) ^[15] and Merriam (2009) ^[40] as a study that uses an in-depth description and analysis of the in-bound system, which may involve single or multiple cases over a designated time period. A case study adopts a qualitative mode allowing nuanced findings regarding intricate social phenomena (Stake, 2000; Yin, 2012) ^[63]. I approached this case study with an explanatory framework, which richly elucidates qualitative phenomena. The characteristics of a case as a unity of analysis consist of the heart as the focus of the study; the circle acts as the boundary that limits what should be and what should not be studied (Merriam, 2009) ^[40]. Therefore, in this study, the heart is assessing stakeholder engagement and partnership approaches in community donation gardens in relation to

providing fresh produce to food pantry. In this research, the researcher chose the Growing Together program as the boundary of the case.

The phenomenon a case study explores can be single or multi-case, in which one may have multiple units of analysis. According to Creswell (2014) and Stake (2006)^[56], case studies should triangulate their findings in order to ensure the authenticity of its explanations. In this article, a multi-case study was selected predicated on Yin (2000) in order to obtain more robust and reliable results. The article examines data from 32 counties in Iowa across five years.

Data collection

This article draws on existing Growing Together program data. Master Gardener coordinators approved for mini-grant funding are required, after using their funding to implement their gardening and nutrition education projects, to report on the pounds of produce, number of volunteers, and number of partnerships logged annually. This information is submitted to the program at the end of the growing season. It is this data upon permission that was utilized in this study. Considering that it is secondary data, no face-to-face engagement with stakeholders was undertaken for data intended data collection; for it was determined by the IRB review board at ISU that the study did not require IRB approval. The Growing Together coordinator shared the link that contained electronic secondary data containing pounds donated, volunteer numbers and partnerships. To obtain more information to understand how stakeholders participate in the program, program document review was utilized.

Document Review

Document review as a research method involves data being collected from an existing diversity of forms of documentation or materials (Merriam & Tisdell, 2016). Document review is a process of evaluating and reviewing these materials, in print and electronic form, through skimming, reading, examination and interpretation (Bowen, 2009)^[7].

The review at the end generates data in the form of excerpts, quotations and passages that can be organized into themes and frequencies (Labuschagne, 2003)^[32]. In this study, Bowen's (2009)^[7] definition of document review, which advises that "documents contain text (words) and images that have been recorded without a researcher's intervention.", was adopted. This method was utilized to obtain data from various Growing Together program documents to examine how stakeholders of the program are engaged in the planning and implementation processes. The documents reviewed included official documents, program implementation documents, program working documents, research about the program, and the media (Table 2).

The document review examined how the Growing Together Program involved the non-staff stakeholders in the program; these included the Master Garden volunteers, food pantries, and pantry patrons. When key stakeholders of minoritized communities are not engaged, the program misses genuine input in the planning and implementation processes (Aboelata *et al.*, 2011)^[1]. Aboelata *et al.*, 2011^[1] further argues that when patrons do not participate, it hinders the cultivation of their voices and increases the likelihood of the project outcomes not reflecting the project inputs.

Table 1: Documents that were utilized in document review.

Document Type	Examples
Official documents	• Official statements • Publications • Surveys
Program implementation documents	• Quarterly reports • Evaluation reports • Program plans
Program working documents	• Meeting minutes/field visits • PowerPoints • Conference abstracts • Website
Research about the program	• Master theses and doctoral dissertations • Peer-reviewed articles
Media	• Facebook posts • Radio announcements • Videos

In reviewing these documents, they were read or viewed multiple times to locate where and how stakeholders were engaged in program planning and implementation. This was supplemented by informal interactions with the Growing Together program coordinators, as well as through field site observations. These were found to be crucial in determining which people and which organizations the program considered important stakeholders of the Growing Together program. Upon documenting the instances of stakeholder engagement using predetermined codes (collaboration, participation, and partnerships), stakeholders were organized by category (patron, Master Gardener volunteer, food pantry staff) according to the components of the Interactive Model of Program Planning.

To build credibility within the study, two additional reviewers (SK and HC) were invited to review the documents. This was done through email exchanges and virtual and in-person conversations. The documents and a table were shared with these reviewers as an Excel spreadsheet, where they would fill in their perspectives as program planners on where and to what extent stakeholders were involved. This was followed by cross-checking the coding that had already been done with their indications regarding stakeholder participation. This approach was adopted because it contributes to the credibility of the results and counterbalances the limitations of using one method of data collection (Creswell & Creswell, 2017^[12]; Maxwell, 2012).

By inviting more reviewers to examine the first draft of results, there are multiple perspectives gathered related to the research question (Traini *et al.*, 2021)^[57]. The results were then finalized, ensuring that the evidence of stakeholder engagement had been assigned to the correct model components (Table 2). The last step was to create a scale of 0-5 that was used to determine the level of each stakeholder's engagement in the program. The rating scale consisted of three categories: 5-4 indicated full engagement; 3-2 indicated moderate engagement; and 1-0 indicated minimal engagement.

Findings

This section comprises information gleaned from the program documents review, as well as consideration of the information's congruency with the Interactive Model of Program Planning via a discussion of how the Growing Together program responds to the model components reflected in the Growing Together program planning (Table 2). The documents reviewed and selected by relevant key words included monthly reports, websites, fact sheets, and media reports generated and gathered by the program from 2016-2021. The findings from document review are presented below.

Interactive Program Planning Model

The program has several aspects of program planning that stand out (Table 2). The entire program planning model is large, and programs are not meant by the authors to fulfill every criterion every time. Characterization can, however, help us to be more intentional in our design and interactions. Relying on the authors' experience with the program, this

article indicates, in a broad way, what components of the model were included or addressed for the three stakeholders who are the primary beneficiaries in the program: master gardeners, food pantry staff and patrons of food pantries. While other stakeholders, such as the Growing Together and county Extension staff are important, this article is primarily interested in non-Extension-staff stakeholders (the Master Gardener Volunteers, food pantries, and patrons). There are eleven components of the model, and each component highlights tasks and offers advises program planners to pay attention when developing programs. The model does not work as a linear process, but is customized to suit the program. Through document review, we found that the Growing Together program has adopted five out of the eleven IMPP components to implement and engage the stakeholders (Figure 1); 5-4 indicate full engagement; 3-2 indicate moderate engagement; and 1-0 indicate minimal engagement.

Table 3: Overview of selected adult learning components fulfilled by the Growing Together Program

Model Components	Stakeholders (non-program staff)		
	Master Gardeners	Food Pantries	Patrons
Developing program goals and objectives	3	0	0
Preparing and managing budgets	4	0	0
Building a solid base of support	5	5	5
Designing instruction	5	3	0
Formulating program evaluation plans	5	3	0

The Growing Together program is an example of product-based and educational program planning where county and state-level Extension staff participate, but with clients not yet fully involved. The program considers the contexts in which it operates and makes changes to better suit its clientele across counties. The following sections discuss each component conceptually and elaborate on the stakeholder involvement represented in Table 3.

Developing Program Goals and Objectives

It is critical to deliberate carefully on the goals and objectives in the program planning process, because they form the center of the program-impacting not only the organization, but also participants and key stakeholders (Caffarella & Daffron, 2013) ^[8]. Program goals and objectives, which align with a program's overall mission, can be achieved as the program is running or at its conclusion. Program objectives are more specific; they state the anticipated results of the interventions being proposed by the program, focusing on participation and implementation.

Growing Together's inputs, outputs and anticipated outcomes are based on the program goals to: 1) increase the access of low-income people to fresh produce and 2) to create partnerships between master gardeners with food banks and pantries. The Growing Together program works with master gardeners to grow food crops for donation to food pantries. The county-based master gardener programs fund the creation of food donation gardens such as raised beds and walk-ways in their communities (Figure 2) (Irish, 2018) ^[5].

This has the following intended outcomes:

- **Short-term outcomes:** Master gardener knowledge of fresh produce production, safe harvesting, food safety handling, knowledge of needs of food bank staff for preparation for travel, and donation; food bank staff appreciation of fresh produce quality and quantity; patron acquisition of nutrition education (i.e., nutritional and recipe cards) and fresh produce.
- **Medium-term outcomes:** Establishment of donation gardens and gleaning projects; successful donation and good two-way relationships with foodbank staff.
- **Long-term outcomes:** Together with food bank staff and leadership, and other programs, improvement of quality of life across Iowa through continuing donation gardens, and increased access to fresh and nutritious food at the community level.

Notably, master gardeners participate in setting goals and objectives for their individual county projects (for example, at the garden level) each year through their grant applications, but do not participate in the overall setting of Growing Together program goals and objectives, and remain under the guidance of the Iowa County Extension staff. It is worth noting that food pantries and their patrons targeted by the program were less engaged in any of the program planning activities; their only participation is to coordinate donation and avail space as pantry staff and as patrons to come to the food pantries to collect their food items.

Engaging Stakeholders in Formulating Program Evaluation Plans

Program planners must include an evaluation plan in the program design to measure effectiveness. Caffarella and Daffron (2013) defines program evaluation as “a process used to determine whether the design and delivery of a program were effective and whether the proposed outcomes were met” (p. 233). The evaluation includes systematic planned evaluations activities as well as developmental and informal evaluation activities. However, it is upon the program planners to determine which of the evaluation types may be appropriate for their program. This is the most important component that is utilized to evaluate overall program planning design; program evaluation designs combine all information from other planning components to inform the evaluation (Caffarella & Daffron, 2013^[8]; Osman, 2022)^[47].

Systematic evaluation consists of two types of evaluation widely used in evaluation plans. Formative evaluation focuses on gathering information that is utilized in the decision-making process whether to improve or change a program as it is being implemented. Summative evaluation happens towards the end, collecting the results or outcomes of the program. In the context of planning, the Growing Together program focuses on formative evaluation: as stakeholders, the Growing Together administrative staff, county Extension staff, and Master Gardener volunteers are engaged in site visits, as well as the recording of data, program implementation, and teaching. Food pantry stakeholders also participate via recording and documentation of donations. Summative evaluation is also used to assess the overall quality and impact of the program; here the data collected include qualitative and quantitative information (Figure 2, 3), which as part of the program grant requirements is submitted to United States Department of Agriculture for accountability. While most program stakeholders are involved in this ongoing evaluation process, there was no evidence that patrons again were involved in any form or phase of the evaluation process (Table 2). The tables below reflect the data collected by stakeholders as part of the evaluation process (Figure 2, 3).

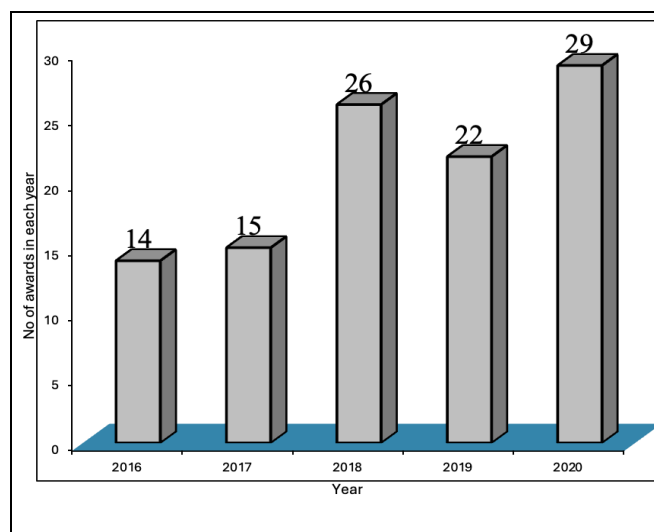


Fig 2: Number of counties awarded the Growing Together program mini-grants each year since 2016

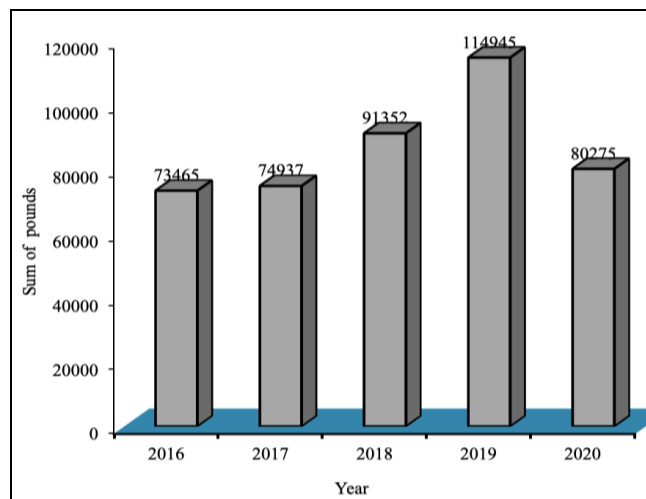


Fig 3: Total pounds of fresh produce donated each year since 2016

It is crucial to engage stakeholders who are directly impacted by the program to participate in all steps of program planning such as the creation of evaluation questions. When patrons are excluded from the planning process, program planners are less likely to pay attention to the findings concerning them (Cousins & Earl, 1992)^[16]. Future research based on such findings, without patron consideration, may generate questions that also do not attend to patrons (Fine, *et al.*, 2000)^[20]. When such questions are asked, then inaccurate data is collected, which may give a false impression of the program achieving its objectives regarding patrons; this may affect the patrons because the actual needs of the patrons as stakeholders are not addressed. Furthermore, when stakeholders are not engaged in the program, they also have limited understanding of the organization and the evaluation (Brandon, 1998); which means there is no participatory and collaborative relation between the evaluator and patrons (Patton, 1997)^[48].

Building a Support Base

It is important for programs to build support through collaborations and partnerships, especially when planning a program. For example, programs should seek support of the wider community and potential participants within which the organization operates, utilizing two strategies: the use of advisory committee and of professional organizations (Caffarella & Daffron, 2013^[8], p. 107). The Growing Together program has built collaborations and partnerships between master gardeners and food pantry stakeholders across counties with active Growing Together programs to implement the program to grow and distribute fresh produce for Iowans. Master Gardener volunteers communicate with food pantry staff to coordinate and deliver produce. Although these partnerships are critical for the success of the program, they overlook the crucial role patron stakeholders, who consume the produce, play in building a solid base of support. This component is the only one where patrons are involved, yet their involvement is passive-defined by lack of food and fulfillment of nutritional needs. Without patrons, the program itself cannot exist. The food needs of patrons provide the foundational justification for the Growing Together program.

Preparing and Managing Budgets

This is an important component of the program planning model; other model components may not proceed when budgeting is not well managed. Caffarella and Daffron (2013) ^[8] point out that preparation and management of budgets is an essential component of the program planning process and serves as one of the major forces fundamental to program development planning. The source of finances for the organization requires extra fiduciary obligations and responsibilities, which means organizations need to have a budgeting process regardless of size or nature of organization (Caffarella & Daffron, 2013) ^[8].

The source of funds for the Growing Together program is USDA-SNAP-Ed, which requires the program to account for the funds at the end of the financial year. End of year reports and accountability data are used as justification to seek additional funding from SNAP-Ed to ensure the continued operation of community gardens and thus sustain the presence of fresh produce at food pantries. For the program to be accountable, it has to engage county extension staff and Master Gardener volunteers as the stakeholders who implement the program, to submit proposals with itemized budgets detailing how the funds would be spent. Budgets are designed by counties and the Master Gardener volunteers. However, the Growing Together program restricts items to inputs, including seedlings, mulching, fencing, packaging material, and gardening tools (remuneration for participants is prohibited). It is important to note that there was no evidence that the patrons who are impacted by the program are never engaged to include their views in the budgeting process and have no role in determining how the money should be spent; this is in part due to the funding structure of the Growing Together program as a university-administered program supported by and limited to the funding parameters of SNAP-Ed, both of which set out guidelines about public engagement. Yet, how the money is spent directly impacts patrons' everyday lives in the sense of produce offered, collected, and consumed. Earlier studies examining stakeholder engagement have argued that when patrons are not engaged in decision-making in budgeting and planning, their lack of participation hinders empowerment and ownership among those participating, and makes the intervention initiative not accountable to the patrons (Gustaffson & Driver, 2005; Rifkin *et al.*, 2000 ^[50]; Wallerstation, 2006). With the Growing Together program, for example, the information regarding accountability that is submitted to the USDA-SNAP-Ed together with the end of year report, does not include patron engagement.

Designing Instructions

Developing instructions requires designing the medium of interaction between learners and instructors, and learners' engagement of resource materials (Caffarella & Daffron, 2013, 2002, p.181) ^[8]. Those who participate in the design-instruction are either paid staff, volunteers, or personnel internal or external to the program. This component involves several steps which include creating learning objectives, designing content, choosing techniques of instruction and organizing assessments of instruction (Caffarella & Daffron, 2013) ^[8].

Learning Objectives: This is first in developing instructional plans. The creation of learning objectives should represent the program objectives created in the program's initial planning stages. It is vital to ensure the continuity between the two sets of objectives. The two sets of objectives differ in their area of focus. Caffarella and Daffron (2013) ^[8] observe program objectives look at the outcomes for the entire program, whereas learning objectives focus on what learners will gain from the program intervention.

The learning and program objectives of the Growing Together program are designed by the Iowa State University Extension and Outreach and the SNAP-Ed program; the master gardeners and food pantries play the role of implementing the program. Patrons do not play any planning role in this area; they are the recipients of the produce and programming (i.e., nutrition education brochures) implemented by the master gardeners and food pantries. Since the overall program objective is to increase the access to fresh produce by poor households in Iowa, they participate through receiving produce at food pantries.

Selecting and Organizing Content: Caffarella and Daffron (2013) ^[8] note that when selecting content, learning objectives can be used as a starting point. Content selection should be predicated on three important questions: (1) What content participants must know, (2) What content should participants know; and (3) What content could be of interest to the participants. The next step is the organizing and sequencing of the content. Caffarella and Daffron (2013) ^[8], p. 185) offer guidelines, a few of which I paraphrase below:

- For example, should content start from deductive to inductive or vice versa?
- Whether content should start from the unknown to the known or known to the unknown.
- Prior knowledge and experience of the participants should be put in consideration when selecting content.

Caffarella and Daffron (2013) ^[8] remind program planners to ensure that participants are given sufficient time to be motivated to absorb the amount of content and the environment in which learning is applied. In the case of the Growing Together program, however, selecting and organizing content is done by program staff and Iowa State University Extension and Outreach; whatever has been selected and organized is disseminated by master gardeners and food pantries.

The information selected and organized covers nutrition education, food safety and cooking card recipes. The patrons the program intends to serve are never engaged in selecting and organizing what is to be learned. Their role is to show up to receive information (often included as brochures or cards with their produce) from master gardeners and food pantries. Thus patron-determined needs and learning styles are not taken into consideration during the process of selecting and organizing content. While the program documents do not include data that reveals an explicit negative impact, there is an absence of consideration of and consultation with patrons. This lack of evidence means that patron outcomes are never assessed. Thus the Growing Together program does not track impact for the people it seeks to serve, but rather the administration of garden produce to the pantries.

Implications and Future Research

The Growing Together case study offers a diversity of insights that can be vital to program planners who participate in designing food security and nutrition interventions, including the application of some components of the Interactive Model of Program Planning. This article identifies three key stakeholders that are important to effective Growing Together program implementation, and five components of the Interactive Model of Program Planning (Table 2). While the article discusses five groups of stakeholders, the article is particularly concerned with the non-program staff groups (apart from Growing Together administrative staff and county Extension staff).

Considering the component examination and analysis of the case study, recommendations that the Growing Together program and other organizations could adapt in their program planning, are given. The most critical of these is that the Growing Together program should strive to engage food patrons and food pantries in the program planning process. Program success starts with the three aspects of inputs, outputs, and outcomes; stakeholders can be participants in any of the three aspects and their participation often ensures program effectiveness and sustainability.

Though the Growing Together program has fulfilled some of the components of the Interactive Model of Program Planning (Table 2), it remains a top-down framework, whereby the program staff dictate the learning objectives and content for those being served, as well as prioritize extension research and market factors in order to determine extension priorities (Ghimire, 2014) ^[23]. This is characteristic of the U.S. extension system in general. The U.S. extension paradigm, like the Growing Together program, still bears the characteristics of the top-down model with its linear connection of research shared through technology transfer from extension workers to the public (Lubell *et al.*, 2013) ^[37]. While there has also been a decline in public funding and continued absence of meaningful public participation in planning in the extension program, there is a shift though in its early stages to a more participatory and bottom-up approach (Jacobson, 2012).

Designing Program Goals and Objectives

In the context of planning for the Growing Together program, the overall program goals and objectives aim at the establishment of donation gardens to increase access to fresh produce at Iowa food pantries through partnerships. This goal and its requisite objectives are determined by the Growing Together administrative staff at Iowa State University and in part influenced by funding parameters. The goals and objectives of the Growing Together program are also aligned with the 2020-2015 Dietary Guidelines for Americans to increase fresh produce in their diets as part of healthy dietary patterns (Hee *et al.*, 2022). The program engaged two stakeholders in the development of program goals (Table 2). The stakeholders in four of the components were at the administrative level, which means they may not have grasped the reality of the problem at hand. Yet, the people the program intends to serve should be involved right from the conception of the program to the end; this top-down approach contributes to disempowerment of the

served community.

When the target population is engaged in designing program goals and objectives, they bring the true reality into the formulation of goals and objectives. This is consistent with the argument by Ling *et al.* (2009) ^[35] that when stakeholders engage in program planning, their participation helps to ensure the plan is designed in consideration of the locality, and is appropriate to the social, cultural, political, economic, and environmental contexts.

Similarly, Caffarella and Daffron (2013) ^[8] argue that the formation of stakeholder collaborations and partnerships constitutes a prudent strategy to sustainably meet the needs of clients amidst financial constraints. While the success of the majority of Extension programs would not have been possible without such partnership strategies (Bennett, 2012; Greder *et al.*, 2007) ^[6, 25], the partnerships largely exclude program service recipients. While the Growing Together program tries to help each county tailor its donation project to local needs and customize the gardening calendar and activities to the local pantry, pantry patrons do not play any role in designing the goals and objectives of the program; yet it is primarily the patrons who may know best what they need and what they want to be done.

In part this may be because the program functions primarily as a learning opportunity for the Master Gardeners rather than operating with a focus on production. There is no mechanism in the Growing Together data and document collection that gathers information from patrons; thus it is impossible to know whether patrons are happy with or even consuming the produce they acquire.

The reports with aggregated numbers, such as total pounds or total volunteer hours, obscure or mask the nuances of the impact of the program in each county. Scaled down to the county, the actual impact the program is yet to be understood. Without grounding the program in the communicated realities of patrons, then the program may not actually address the problem effectively (Ling *et al.*, 2009) ^[35].

Preparing and Managing Budgets

Only two stakeholders are engaged in the preparation and managing of the budgets: that is; the program leadership and master gardener volunteers. Budget management is associated with power and control of the program. Decision-making on expenditures of the community donation gardens is determined by the program leadership and master garden volunteers-limited to gardening inputs such as seeds, mulch, tools, and garden infrastructure. The patrons who are the beneficiaries of the program have no input in decision-making concerning finances-how the garden is designed, which foods are grown, and how much of which food is needed. The patrons who are the beneficiaries of the program have no input in decision-making concerning finances. When patrons do not participate in this critical stage of program planning, they are structurally disempowered. This perpetuates the historical inequalities and disempowerment that these communities face. Moreover, the predicament of food insecurity faced by patrons stems from these same inequalities; that is, lack of empowerment and land dispossessions.

Engaging Stakeholders in the Evaluation Plan

Evaluation of the program at the end of each year is conducted by the Master Garden volunteers and food pantries; this information is used to produce the results (Figures 2 and 3). Dugan (1996) notes that utilizing collaborative evaluation methods that increase stakeholder engagement, comes with benefits such as building local talent and capacity for evaluation, as well as contributes to the quality and breadth of feedback for the evaluation itself. The benefits of collaborative evaluation end at the master gardeners and food pantry staff. Without including the patrons in the evaluation, the likelihood of the evaluation registering and taking into account patron needs and concerns is reduced. Additionally, communication with the patrons or community audience becomes difficult since the reports are not written in clearly accessible formats (Dugan, 1996). Therefore, the program needs to create avenues that increase the patrons' participation so as solve challenges that come with non-involvement of the target populations. One of the most common obstacles to program efficacy is a program planning model that overlooks the critical information patrons can contribute concerning their needs. If programs have no way of consulting participants regarding their experience of the program, then the program is likely to be much less effective and unsustainable.

Designing Instructions

The instructions created by the Growing Together program serve two learners in the program. Master gardeners learn horticulture skills, which they use in the creation of community donation gardens. And the food pantry patrons learn about the benefit of fresh produce consumption and other health information. Master gardeners, though are learners, also participate in the implementation of the program by indirectly sharing information with food pantry patrons through designing nutrition brochures and recipe cards that accompany the donated produce.

The patrons are passive learners and as such are positioned as vessels for depositing knowledge. As many of the food pantry patrons are adults, the instructions would be grounded in adult learning theory (Knowles, 1975^[30]; Merriam & Caffarella, 1991)^[41]. This body of theory observes that learning for adults is self-directed. Adult individuals who take the initiatives in learning learn extra things and learn better when compared to individuals who are passive learners waiting to be taught. They have a high retention of information and apply what they learned better than the passive learners (Knowles, 1975)^[30]. It is important to note there are many challenges that may limit adult learners from participating in the program such as time, transportation, interest and confidence.

In this sense, design instructions would depend on whether the learning was initiated by the food pantry participants, as well as where the learners would participate in identifying learning needs, developing learning needs, analyzing human materials resources for learning, and deciding and implementing appropriate learning methods. Given the characteristics and possible needs of the patrons who are adult learners, programs planners should develop curriculum and tailor the instructional approaches to meet the needs of adults and guarantee the continued learning process for these adult learners throughout their life (Shi, 2017)^[55].

Compared to tradition education paradigms, adult and continuing education should be dynamic to meet the needs and aspirations of prospective adult learners (Long, 1983)^[36]. Additionally, in order for adult food patron learners to learn better, the program planners would have considered experiential learning, where the learning occurs by doing (Kolb, 1984)^[31]. The learning occurs in four levels linked by doing, sensing, observing, reflecting, thinking, and planning, which would include learners to participate in observing the gardening process, cutting vegetables, cooking and then reflecting on and thinking about what they are seeing (Kolb, 1984)^[31]. The combination of the two theories in the design of instructions would be effective for patrons to glean knowledge about the benefits of increased fresh produce consumption.

Building a Solid Base of Support

For any program to succeed, there must be a strong support base for planning and training. The Growing Together program has established a strong base from the Iowa State University, USDA-SNAP-Ed, master gardeners, food pantries, and patrons. It is the only Interactive Model of the Program Planning component where the food pantry patrons are engaged. The patrons are the most important support base because without them the program would not have been created. Since the patrons are vital to the existence of the program, they would have been involved at every planning stage of the program.

This aligns with Caffarella and Daffron (2013)^[8], who assert that it is important to include community members on advisory councils and steering committees so that community voices can be heard. Despite the program adopting the Interactive Model of Program Planning to engage key stakeholders, the pantry clients who are most affected by the programming were only engaged in one component (Table 1). This lack of inclusion means their role is minimal in the decision-making process of the Growing Together planning and implementation. The patrons are never part of the decision-making process; the only part they play is the role of passive recipients. They are informed of the date and time when produce will be available at food pantries and they either come or do not come to collect it. Patrons are never consulted on what should be grown or what is culturally appropriate in some counties, especially those with racial minorities and refugees. One would ask what happens to food items that are given to patrons if it is not something they are used to? This is an important question for further research.

Conclusion

This article explored how the Growing Together program utilizes components of the Interactive Model of Program Planning in program development and implementation. The findings indicate the program has used five components of the Interactive Model of Program Planning to engage stakeholders. The patrons, the stakeholders most critical to the program's existence, were engaged in only one component. It is essential to involve the stakeholders in order to obtain their views about whether the program is meeting their needs.

There is significant need to increase patrons' participation in decision-making in the program, especially concerning decisions pertaining to what is to be grown and how money is allocated. Increasing patron participation in the area of program evaluation, where they can offer insight into how the program is progressing, will give credence to evaluation results and ensure efficacy and long-term sustainability to the Growing Together program overall. If the goals and objectives of the program are determined only by administrative staff without involving patrons as active participants, then the evaluation will reflect only the extent to which the administrative agenda is being effectively implemented. What is missing here is a mechanism to determine whether the administrative agenda is actually meeting patron needs. To begin with, it could be useful to collect data on whether the program outputs are benefitting patrons themselves.

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Conflict of Interest

None

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