

EXPLORING EXTENSION AGENTS' CONCERNS ABOUT IMPLEMENTATION OF  
SCHOOL GARDEN-BASED CURRICULUM: AN APPLICATION OF THE CONCERNS-  
BASED ADOPTION MODEL

A Thesis

by

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## ABSTRACT

School garden programs are one intervention being implemented to address growing rates of childhood obesity in the United States, showing promising results for improving youth well-being. Learn, Grow, Eat, GO! (LGEG) is a multi-faceted school garden curriculum delivered through the university cooperative network, Texas A&M AgriLife Extension Service. Because extension agents are tasked with facilitating the curriculum in Texas schools, their concerns about implementation are a salient determinant of program success. This study, framed by the Concerns-based Adoption Model (CBAM), used a phenomenological approach to assess extension agents' concerns with LGEG implementation in two different areas of the state. Through the collection of qualitative focus group data, extension agents' concerns were revealed and grouped into stages based on the type of concern expressed. In District 12 (n=5), participants' concerns were largely Personal, focusing on the demands placed upon them to implement the curriculum successfully. In Districts 1 and 2 (n=6), participants' concerns were primarily Refocusing, indicating their priority was to improve the curriculum and make adaptations for better implementation. These results suggest the ability of the CBAM to pinpoint stakeholder concerns and inform program specialists about where implementation may be stuck, as well as how to target program development. Additionally, a cross case analysis of the two groups gave insight into both the shared and varied experience of LGEG implementation, which may assist with restructuring organizational goals and outcomes for the extension network as a whole.

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## CONTRIBUTORS AND FUNDING SOURCES

### **Contributors**

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All other work conducted for the thesis was completed by the student independently.

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## NOMENCLATURE

CBAM	Concerns-based Adoption Model
CDC	Center for Disease Control and Prevention
IC	Innovation Configurations
IPA	Interpretative Phenomenological Analysis
JMG	Junior Master Gardener
LGEG	Learn, Grow, Eat, Go!
LoU	Levels of Use
NCHS	National Center for Health Statistics
NSFN	National Farm to School Network
SoC	Stages of Concern
USDA	United States Department of Agriculture

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## 1. INTRODUCTION

As alarming rates for childhood obesity continue to be reported by the Center for Disease Control and Prevention (CDC), school garden programs are one intervention being instituted across the United States to reduce health risks. In Texas specifically, Learn, Grow, Eat, GO! (LGEG) is a school garden-based curriculum being implemented throughout the state, designed to introduce children to topics of gardening, nutrition, and physical activity in an effort to promote healthy lifestyle habits at an early age. LGEG curriculum was developed based on research conducted by Junior Master Gardener (JMG), an international youth gardening program which engages students in hands-on learning experiences to strengthen their connection to food and nature. University cooperative extension networks, such as Texas A&M AgriLife Extension, facilitate the program and deliver LGEG curriculum in schools.

Since the introduction of LGEG to Texas schools in 2016, the program has yielded promising results for improving childhood nutrition, classroom engagement, and connections to the natural world. However, implementation of this program requires the consideration of many organizational components and key personnel who each play a unique individual role. Research indicates implementation of school garden programming has been previously carried out using a one-size-fits-all approach which discounts individual schools' needs and concerns. School resources and staff responsibilities differ on a case-by-case basis and the same can be said at the regional level within the extension network. To facilitate effective implementation and accurately target program development, these differences must be acknowledged and addressed.

## **Literature Review**

### **History of Farm to School Initiatives in the United States**

The Farm to School movement began in the late 1990s with the United States Department of Agriculture's (USDA) creation of new initiatives aiming to increase fresh produce consumption in U.S. schools (Cornell Cooperative Extension, 2019). According to Cornell Cooperative Extension (2019), the movement was initiated out of concern for the level of processed foods being served in school cafeterias which sparked a call for action to educate students about the origins of their food. Many people and organizations saw this as an opportunity not only to improve childhood health, but to support local farmers and strengthen local procurement practices (Feenstra & Ohmart, 2012). As support for the movement grew exponentially with annual conferences and gatherings quickly gaining traction, the National Farm to School Network (NFSN) was officially established in 2004 (Feenstra & Ohmart, 2012). Today, about 42% of US schools participate in NFSN programs, engaging an estimated 23.6 million students nationwide.

Texas is one of 46 states with active involvement in NFSN, officially forming a task force as a result of the 81<sup>st</sup> Texas Legislative Session in 2009 (National Farm to School Network, 2021). The mission of this task force included program development and implementation to increase the presence of locally grown food in school cafeterias, specifically those already participating in the National School Lunch Program (National Farm to School Network, 2021). Collaboration with multiple government agencies has resulted in a statewide Farm to School initiative that currently guides implementation of 12 federal programs for childhood nutrition (National Farm to School Network, 2021). Core components of these programs include garden-based learning, nutrition, and agricultural education (National Farm to School Network, 2021).

While LGEG is not a federal program, it encompasses the principles of education outlined by NFSN, shares a similar mission, and is listed as an additional resource on the network's website in partnership with Junior Master Gardener. Additionally, research behind development of LGEG curriculum was federally funded by a grant from the National Institute of Food and Agriculture, an agency of the USDA (Junior Master Gardener, 2016b).

### **Current Issues of Public Health**

While it has been noted that low fruit and vegetable consumption is often linked to obesity, a National Health and Nutrition Examination survey from 2003 to 2010 reported no socio-demographic groups met the Healthy People 2020 target for vegetable consumption (Evans et al., 2016a). Thus, childhood obesity is a prevalent and momentous problem throughout the United States, introducing significant negative health impacts at an early age. Data reported by the National Center for Health Statistics (NCHS) for 2015-2016 indicated a 18.5% prevalence of obesity rate among youth aged 2-19 years (Hales et al., 2017). This number increased to 19.3% for the 2017-2018 report, indicating an ongoing problem and an immediate need for solutions (Fryar et al., 2020). Addressing health complications as soon as possible is critical, given that food preferences and dietary habits are formed in the first few years of a child's life (Evans et al., 2016a). Therefore, increased exposure to a variety of fresh produce is an imperative intervention for improving childhood nutrition and well-being. Hess and Trexler (2011) corroborate this in their findings related to gardening experience and agricultural literacy, concluding that a higher level of hands-on gardening experience leads to increased ability to engage in discourse about agri-food system concepts. This includes knowledge about the agricultural origins of different food products and the distinction of a vegetable from other types of food (e.g., meats or grains) (Hess & Trexler, 2011). Nurturing children's knowledge about food and their subsequent

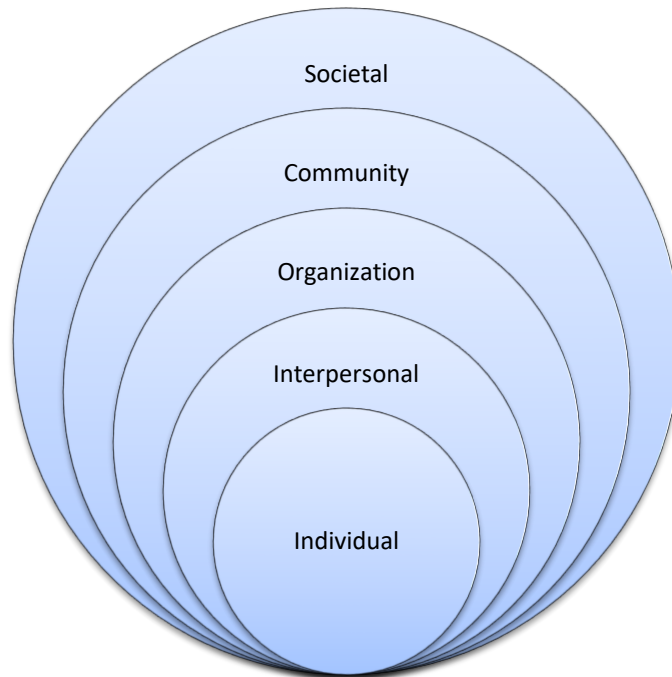
systems not only exposes youth to healthier food options, but additionally enables youth to make more informed decisions as early consumers (Hess & Trexler, 2011).

### ***An Ecological Approach to Health Promotion***

As interest in health promotion and obesity prevention has increased, researchers have discussed which approaches to health interventions comprehensively consider all determinants of health. Much responsibility has historically been placed on the individual to implement lifestyle and behavioral changes for the betterment of their health, even though the individual's physical and social environments play a primary role in their ability to adopt change (McLeroy et al., 1988). According to McLeroy et al. (1988), health promotion programming should take an ecological approach which aims to effect change within the system as a whole to address the aspects of the system that maintain and reinforce unhealthy behaviors in the first place. This includes considering meso- and macro-level factors such as how organizations provide support for behavior change and organizational influences on program diffusion (McLeroy, 1988). Specific to childhood obesity and nutrition this framework has been applied across several studies. Figure 1 depicts the framework and its spheres of influence.

## Figure 1

### *The Socioecological Model for Health Promotion*



*Note.* Adapted from *Socio-Ecological Model*, by The Obesity Jungle, 2014

(<https://medium.com/@ObesityJungle/obesity-prevention-policy-the-social-ecological-model-cf8bc6cb1851>). In the public domain.

The importance of the socioecological framework is its example of the public health perspective to nutrition and childhood obesity. Per McLeroy et al. (1988), health promotion interventions are most effective when multiple levels of the framework are targeted for change; not merely one. However, positively impacting the physical and social environments (e.g., schools and school gardens) requires a better understanding of the contexts in which individuals must function. In the case of Learn, Grow, Eat, Go, we lack understanding of the perspectives and experiences of agricultural extension staff charged with program delivery – i.e., the micro-levels of the framework. Thus, this study specifically focuses on school gardens as health

promotion programs, disseminated in the school community through Texas A&M AgriLife Extension Service, the organization of consideration. By examining the program in the context (i.e., schools - organizational) in which it is delivered, as well as clarifying our understanding of the experiences of the people involved in program delivery (individual and inter-personal levels), we are able to use a public health lens to better understand the issue.

### **School Garden Intervention Outcomes**

School garden programs have shown promising results for enhancing students' experiences with fresh produce. Basic interactions with agriculture such as farm visits and walking garden tours are not enough to allow for meaningful connection to be established (Hess & Trexler, 2011). To develop new schema and foster more complex connections about where food originates and how it impacts health, children must be provided with hands-on gardening experiences to allow for construction of new meanings (Hess & Trexler, 2011). Aside from increasing agri-food system understanding and changing dietary behaviors, school garden-based programs have positive impacts on children's weight status, engagement in the classroom, and willingness to attend school (Dring et al., 2020; Junior Master Gardener & Texas A&M AgriLife Extension Service, 2019; Parmer et al., 2009). Furthermore, activity-based learning in outdoor settings helps improve students' higher order thinking to promote analysis and construction of innovative ideas through collaboration with their peers (Acharya et al., 2020; Dring et al., 2020). These newfound behaviors and skills often extend into the home where children share their experiences with family members and friends (Junior Master Gardener & Texas A&M AgriLife Extension Service, 2019), thus increasing exposure on a societal level. Because of this expansion of knowledge, school garden programs are unique in that they aim to modify the social

environment in which children learn and their families engage, rather than focusing on individual behavioral changes (McLeroy, 1988).

### **Implementation Challenges**

While the benefits of school garden programs are evident, implementation of programs involving many organizational components and member constituents poses challenges. It is unreasonable to expect each individual school to require the same resources and support, and a “one-size-fits-all” approach does the program a disservice (Fair et al., 2018, p. 462). Groups and personnel implementing school garden-based programs should seek to evaluate the needs of schools on a case-by-case basis to achieve optimal results. Fair et al. (2020) argues, “When researchers deliver interventions that fail to consider how organizational characteristics may influence adoption, implementation, and sustainability of the intervention, there are missed opportunities to gather information on the compatibility of that particular intervention in a variety of contexts” (p. 462). Evans et al. (2016b) sought to take this inclusive approach by gathering data from students, parents, teachers, volunteers, and school principals regarding personal feelings about implementation of Texas, Grow, Eat, GO!, a multi-faceted obesity prevention program which combined LGEG with Walk Across Texas (WAT) for physical activity. However, it should be noted data collected from involved personnel was largely concerned with factors influencing implementation success rather than seeking insight into the feelings and concerns of people actively implementing the program. Since organizations have the opportunity to provide social support for changes in health behavior, the members of the organization instituting the health promotion program need to feel supported in doing so as well (McLeroy, 1988).



### *The Role of Extension Agents*

The university cooperative extension network was formalized in 1914 by the Smith Lever Act, which created a partnership between the USDA and land-grant universities (National Institute of Food and Agriculture, 2021a). According to the National Institute of Food and Agriculture (2021b), extension “emphasizes taking knowledge gained through research and education and bringing it directly to the people to create positive changes” (para. 1). Nutrition education and youth leadership development are two areas of focus for the extension service, making FTS programming a central component of delivery.

Extension employees, often referred to as agents, work directly with schools to implement school gardens, serving as an essential resource and providing support to teachers (Ingram & Keshwani, 2020). Teachers and other school personnel such as administrators and program coordinators are then responsible for continuing use of the curriculum in the classroom. Thus, implementation of curriculum begins with extension agent training, development, and personal competency. Therefore, omission of their concerns from previous research inquiries does not align with the acknowledgement that extension agents play a vital role in program success and level of implementation (Evans et al., 2016b; Ingram & Keshwani, 2020).

As part of the land-grant university’s mission, Texas A&M AgriLife Extension Service recommended extension employees seek to ensure fidelity of implementation and promote full implementation of LGEG to increase the impact on youth and families (Junior Master Gardener & Texas A&M AgriLife Extension Service, 2019). Based on the model by McLeroy et al. (1988), extension agents in this study would be considered program advocates, which are those who build a linkage between the end user of and the developers of the innovation: a critical relationship for the stimulation of diffusion. McLeroy et al. (1988) also suggests upper-level

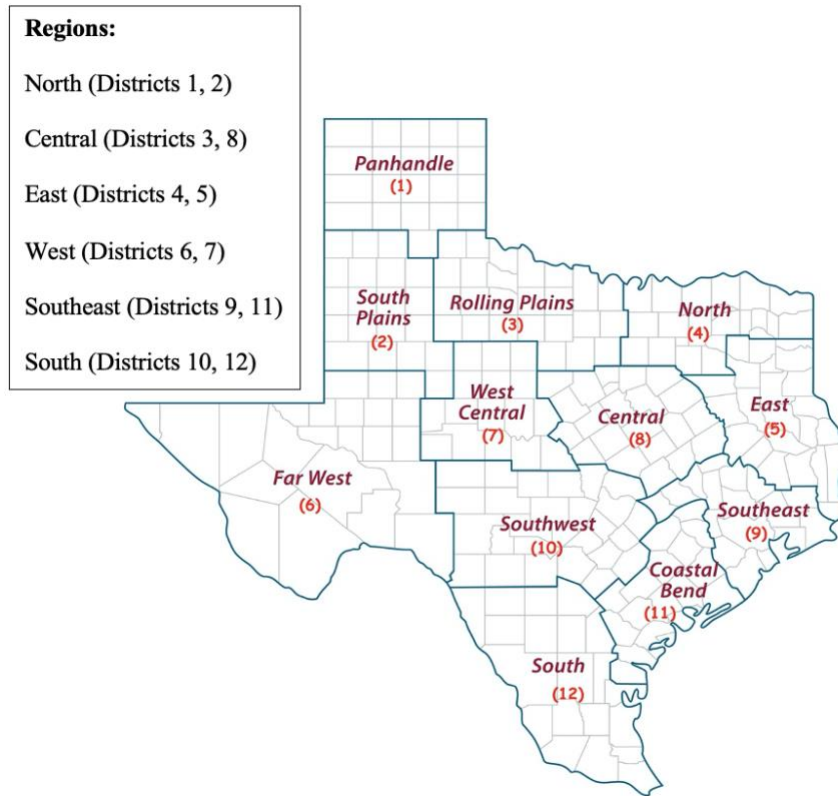
organizational support is critical for program advocates to successfully implement something new. However, extension employees' personal concerns regarding implementation of LGEG must first be explored in order for upper-level management to provide them with adequate and targeted support and achieve this objective.

### **Scope of the Study**

This thesis research explored the concerns of Texas A&M AgriLife Extension agents working to implement LGEG curriculum in two different regions of the state: North and South. More specifically, the first study focused on extension agents in District 12 of the South region, while the second study focused on agents in Districts 1 and 2 of the North region, namely the Panhandle and the South Plains. These areas were chosen based on personal communication with program leaders and extension specialists as well as analysis of previous LGEG program impact report documents. Because the number of extension agents implementing LGEG in District 12 is proportionate to the number of extension agents implementing the program in both Districts 1 and 2, both districts from the North region were included in the second study to maintain equivalent sample sizes. Figure 2 illustrates the division of the state into regions and districts by Texas A&M AgriLife Extension Service.

**Figure 2**

*Texas A&M AgriLife Extension Service District Map*



*Note.* Adapted from *The 12 Texas A&M AgriLife Extension Districts*, by AgriLife Today, 2015 (<https://cdn.agrilifetoday.tamu.edu/wp-content/uploads/2015/06/1-District-Regions-by-the-numbers.jpg>) In the public domain.

Extension agents' concerns were first examined within the limits of each region, followed by a comparison across the two regions to determine areas of similarity and contrast. This thesis followed a two-journal article format with each sample representing a respective region of the state. Using interpretative phenomenological analysis (IPA), the data from each sample was analyzed at the group level, followed by searching for connections between emergent themes across the two groups (Smith et al., 2009).

## **Rationale**

In previous research regarding LGEG, extension agents are highly valued as an essential component of program success but rarely questioned about individual concerns which may affect their ability to carry out implementation. According to Hall et al. (1973), implementation precedes impact. In other words, before LGEG curriculum can be an impactful program, questions about foundational requirements for implementation must first be answered to find areas for improvement. More specifically, individual change agents cannot begin to understand or facilitate impact until their personal concerns about the change itself are addressed (Hall et al., 1973). This study aimed to identify the nature of concerns of extension agents have to give power to a group of voices behind LGEG curriculum implementation. Results of this study may inform future program development efforts and uncover contrasting areas of improvement between Texas A&M AgriLife Extension Service districts. Additionally, exploration of two different regions of the state may highlight areas where organizational structure of the extension network as a whole can be strengthened.

## **Purpose and Objectives**

The purpose of this study was to explore the concerns of extension agents working to implement LGEG curriculum in different Texas A&M AgriLife Extension Service districts. This research sought to gain a better understanding of the feelings, attitudes, and reactions extension agents had about LGEG curriculum implementation to acknowledge the significance of their role in program effectiveness. The study's objectives were to: (a) determine participants' backgrounds in extension and experiences with LGEG curriculum implementation, (b) identify participants' concerns regarding LGEG curriculum implementation, (c) ascertain themes existing among participants' shared experiences with LGEG curriculum implementation at the

district/regional level, and (d) conduct a cross case analysis to determine similarities and differences among LGEG curriculum implementation at the statewide level.

## **Theoretical Framework**

### **Theory of School Garden-based Learning**

The effectiveness of school garden-based learning is centered around two components: experiential education and environmental awareness (Acharya et al., 2020). Dewey (1938) describes experiential learning as occurring in a social environment where new knowledge is organized by real-life experiences that provide context for the information. In the case of school gardens programs, the garden would be the learning environment which provides context for the learner. More specifically, facilitation of learning in a natural setting such as a school garden, provides context needed for the development of environmental awareness, which is defined by Acharya et al. (2020) as “awareness of the physical environment and a sense of connectedness with the land, and all that grows on it” (p. 3). In Acharya et al.’s (2020) school garden study, experiential learning is also referred to as “activity-based learning” (p. 2). The underlying notion about activity-based learning is the opportunity for the learner to make meaning of their own experiences, fostering a sense of connectedness to new material (Acharya et al., 2020). Rather than storing and regurgitating information, the learner acquires lifelong knowledge through development of new schema (Hess & Trexler, 2011), and this cognitive process is enhanced when learning occurs in a natural setting (Acharya et al., 2020).

These ideas about school gardens and the learning environment they provide are rooted in the theory of constructivism. Constructivism is a combination of perspectives forming one theoretical lens focusing on the idea that people construct knowledge as they attempt to make sense of their experiences (Merriam & Bierema, 2014). Piaget (1972) and Vygotsky (1987) are

two major contributors to this theory. Piaget (1972) focused on stages of cognitive development occurring from childhood to adulthood, concluding the capacity to build meaning strengthens with maturity. According to Vygotsky's (1978) work on constructivist theory, learning by doing allows for sociocultural perspectives to emerge, resulting in an outcome personally relevant to the learner.

The idea that new experiences will be interpreted differently on an individual basis also emphasizes the importance of equally addressing the concerns of all constituents involved in school garden-based curriculum implementation. To assume students, parents, teachers, administrators, and extension agents will have the same reactions and feelings about a new program undermines the program's effectiveness (Fair et al., 2018). This problem is not unique to school garden-based programs, however. A need for increased and sustained collaboration among constituents of curriculum implementation has been identified by researchers in many contexts (Hall et al., 1973).

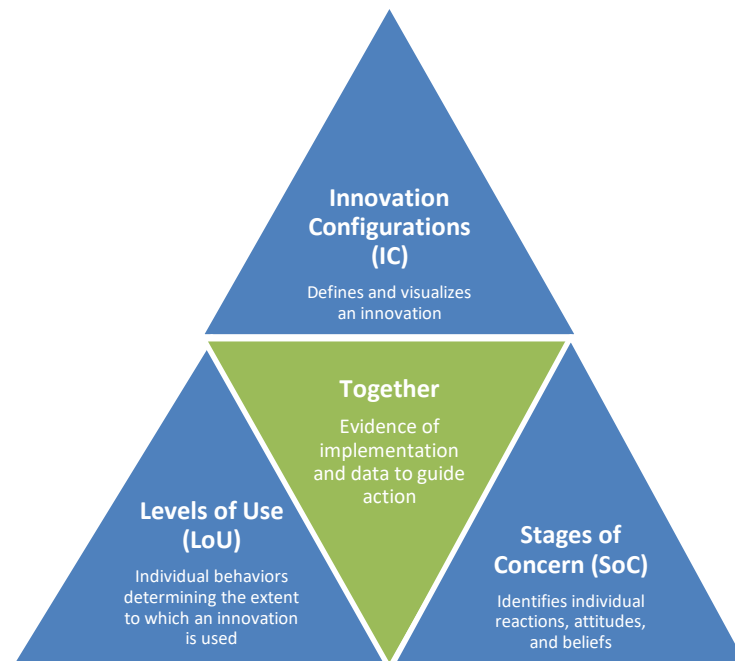
### **The Concerns-based Adoption Model**

Hall et al. (1973) developed the Concerns-Based Adoption Model (CBAM) to serve as a tool for attending to where people are in the change process, recognizing differences among concerns and emphasizing the influence a collaborative approach has on achieving organizational outcomes. The CBAM has been most often utilized in previous studies regarding new program or curriculum implementation in schools, proving to identify varying needs and deepen communication among groups of people involved in the change process (de Vocht et al., 2017; Khoboli & O'toole, 2012). This model transfers to school garden-based curriculum implementation where Fair et al. (2018) indicated a need for "continued and expanded collaboration between school administration, staff, and researchers" (p. 472). As shown in Figure

3, the model consists of three diagnostic dimensions, each targeting different components of adoption and implementation of change: Innovation Configurations (IC), Levels of Use (LoU), and Stages of Concern (SoC) (George et al., 2006).

### Figure 3

*The Three Diagnostic Dimensions of the Concerns-based Adoption Model*



*Note.* Adapted from *Concerns-Based Adoption Model (CBAM)*, by Southwest Educational Development Laboratory, 2006 (<https://sedl.org/cbam/cbam-916.jpg>). In the public domain.

Essentially, when evaluating the adoption of a particular change, the IC dimension represents the *what*, LoU represents the *how*, and SoC represents the *who* (George et al., 2006). These dimensions intertwine to foster successful implementation and indicate future areas for improvement.

## ***Innovation Configurations***

The Innovation Configurations dimension is most often used at the beginning of the change process to define the innovation, including operational features that describe its use (George et al., 2006). In this study, the innovation in question is LGEG curriculum, which has been defined and formulated through research conducted by Junior Master Gardener. Because the curriculum has already been pilot tested and restructured multiple times, it is fairly well defined as an innovation and the IC dimension is not relevant for this particular study. However, it is still important to define the innovation in question for contextual purposes.

### **The Innovation – Defining LGEG Curriculum**

Learn, Grow, Eat, GO! (LGEG) is a 10-week, research and evidence-based curriculum designed by Junior Master Gardener (JMG). According to JMG, “LGEG grows good kids through an interdisciplinary program combining academic achievement, gardening, nutrient-dense food experiences, physical activity, and school & family engagement” (Junior Master Gardener, 2016a, para. 2). It has four main components: classroom lessons (Learn), gardening (Grow), vegetable tastings and cooking demonstrations (Eat), and physical activity (GO!). Classroom lessons vary by topic, with some relating to human nutrition, and others relating to plant biology. Examples of lesson topics in the curriculum include the USDA My Plate nutrition plan, what plants need to grow, and identifying processed foods compared to healthy snacks. With ideal implementation, as lessons are being taught in the classroom, students are simultaneously assisting with growing a vegetable garden and applying their knowledge to what they see outdoors. When vegetables are ready to harvest, they are picked and tasted by the children, as well as used in recipe demonstrations to show how these vegetables can be



incorporated into meals at home. Lastly, the students engage in physical movement while helping with garden maintenance and other facilitated activities.

Extension agents are equipped with a curriculum guidebook, which includes directions for teaching classroom lessons and supplies needed for each, as well as a planting schedule, vegetable growing list and recipes associated with the vegetable list.

### ***Levels of Use***

The Levels of Use dimension focuses on behavioral indicators that determine the extent of an individual's usage of an innovation (George et al., 2006). While the Levels of Use dimension was not used in this study to directly observe behavioral indicators, it should be noted the level of use of LGEG curriculum may vary among participants depending on their job description, specific role in implementation, or district in which they work.

### ***Stages of Concern***

Given the phenomenological focus of this study, Stages of Concern (SoC) was the dimension most heavily relied upon to gain a more holistic understanding of the underlying experiences of individuals working to implement LGEG curriculum. Hall et al. (1973) defines concerns as attitudes, feelings, or reactions regarding a particular innovation. While such sentiments may include fears, anxieties, or worries, the term "concern" does not necessarily align with negativity (Hall et al., 1973). The SoC dimension is designed to determine what an individual is concerned about, giving insight into how those concerns may impact their willingness and ability to adopt change (Hall et al., 1973). The seven stages of concern are: Awareness, Information, Personal, Management, Consequence, Collaboration, and Refocusing, with each succeeding stage typically associated with more complex concerns. Table 1 provides definitions of each stage and examples of common expressions associated with each concern.

**Table 1**

*Indications and Common Expressions of Each Stage of Concern*

Code (Stage of Concern)	Indications and Common Expressions
Awareness	Little knowledge of and involvement with the innovation is indicated. “I don’t really know what this innovation entails.”
Information	Interest in learning more details about the innovation is indicated. “I am not as knowledgeable about this innovation as I want to be.”
Personal	The individual is uncertain about their role in the innovation and their adequacy to meet its demands. “I doubt my ability to accept such a big change and make it work.”
Management	Focus on management requirements such as efficiency, organization, and time commitment are indicated. “I am worried about the time it is taking me to prepare all of the materials.”
Consequence	The individual is focused on the impact of the innovation on students and their outcomes. “I care about how this is affecting students’ attitudes toward learning.”
Collaboration	The individual is focused on cooperation with others to enhance the use of the innovation. “I would like to see this innovation expanded for use by interdisciplinary teams.”
Refocusing	The individual is focused on the universal benefits of the innovation and possibly better alternatives. “I think the innovation would be more effective if we used a different approach.”

Note. Adapted from *Measuring Implementation in Schools: The Stages of Concern*

*Questionnaire* (p. 8), by A. A. George, G. E. Hall, and S. M. Stiegelbauer, 2006, Southwest

Educational Development Laboratory. Copyright 2006 by Southwest Educational Development

Laboratory.

## Methods

Guided by the theoretical framework, this study intended to take a phenomenological approach to achieving the research objectives, emphasizing the importance of how people develop conscious meaning from their experiences. The qualitative practice of phenomenology focuses on the essence of a shared experience, seeking to uncover mutual understanding while dismissing prior external beliefs about the phenomenon being studied (Merriam & Tisdell, 2016). Moustakas (1994) recommended conducting informal, open dialogue interviews with people who have lived out the experience in question. This allows the researcher to create a trusting environment for participant(s) to share a comprehensive account of their experiences, inviting them to be active proponents of the research question (Moustakas, 1994).

Given the phenomenological nature of the study, participants were purposively selected with the assistance of regional program leaders who were able to verify the following selection criteria: (a) employed as an extension agent of Texas A&M AgriLife Extension Service, and (b) had previous experience with LGEG curriculum implementation in the respective district of analysis. To acknowledge the nature of this relationship, participants' identities were protected throughout the study by making their choice to participate confidential and assigning pseudonyms, which were only known by the researcher.

Based on recommendations for a phenomenological study (Merriam & Tisdell, 2016; Moustakas, 1994) this study was qualitative in nature and employed semi-structured focus groups using open-ended questions. The focus groups opened with questions regarding participants' backgrounds and experiences with extension work in general and progressed with questions pertaining more specifically to LGEG implementation as an extension agent.

Introductory questions were followed by concerns-based questions, adapted from the Concerns-Based Adoption Model Stages of Concern (SoC) Questionnaire (George et al., 2006).

The focus group audio recordings were manually transcribed, and the raw data was analyzed using an interpretative phenomenological analysis (IPA) approach (Smith et al., 2009). Guided by processes and principles designed to discover the shared meaning of a particular experience, the data for each focus group was analyzed at multiple levels, beginning with individual statements, and ending with super-ordinate themes or categories (Smith et al., 2009). While IPA is not one definitive method and provides flexibility for the researcher to frame analysis methods to fit the type of data, Smith et al. (2009) provided a general set of steps which were followed for this study: (a) reading and re-reading, (b) initial noting, (c) developing emergent themes, (d) searching for connections across emergent themes, (e) moving to the next case, and (f) looking for patterns across cases. After the first case in District 12 was analyzed using steps a-d, step e was accomplished by identifying a new area of the state. Steps a-d were replicated for the study conducted with extension agents in Districts 1 and 2. Finally, step f was completed by conducting a cross case analysis between the two regions, which appears in Chapter 4 of this thesis.

### **Researcher Reflexivity**

While total objectivity is not the aim of qualitative research, it is necessary to acknowledge personal values and previous experiences that could influence interpretations of the data, and describe the practices used for bracketing to allow participant experiences to be accurately represented. The researcher in this study is a graduate student at Texas A&M University and has previously conducted research under Texas A&M AgriLife Extension as a graduate assistant. Additionally, the researcher in this study has a history of interest in the

implications of participatory approaches to implementation and adoption, advocating for participant-centered methods and theoretical perspectives. Ahern's (1999) tips for reflexive bracketing were referenced to reduce the influence of the researcher's presumptions on the interpretation of the data.

### **Trustworthiness Measures**

This research considered and implemented techniques to establish the four trustworthiness measures outlined by Lincoln and Guba (1985): credibility, transferability, dependability, and confirmability. Credibility is described as confidence in the truth of the findings, which can be established through triangulation, peer debriefing, and member-checking (Lincoln & Guba, 1985). Triangulation occurs when multiple data sources are used to ensure comprehensiveness (Lincoln & Guba, 1985), which was done in this study through the use of focus group transcripts, field notes, and program impact report documents. Peer debriefing was used by obtaining data interpretations from a colleague dissociated from the study to prevent researcher bias, and member-checking was completed throughout the focus groups by asking participants to confirm the researcher's initial interpretations and understandings of their words. Transferability, or providing applicability of the findings to other contexts (Lincoln & Guba, 1985), was achieved through the collection of thick and descriptive data from the participants. The aim here was to avoid superficial accounts of experiences and obtain a deeper understanding of participants' experiences with LGEG curriculum implementation. This allows other researchers to determine the transferability of the findings to their own context. Dependability establishes consistency among findings, allowing for the study to be repeated (Lincoln & Guba, 1985). To achieve this trustworthiness measure, a methodological journal was kept throughout the duration of the study to maintain consistent implementation of the research protocol, along

with an audit trail. In addition, this research has been reviewed and approved by all committee members to confirm trustworthiness. Finally, confirmability attests the findings of the research are supported by the data and shaped by the respondents rather than the researcher (Lincoln & Guba, 1985). To achieve this, a reflexive journal was kept throughout the study to keep record of bracketing techniques, and any researcher bias was discouraged through the previously mentioned measures of member-checking and peer debriefing.

## 2. EXPLORING EXTENSION AGENTS' CONCERNS ABOUT IMPLEMENTATION OF SCHOOL GARDEN-BASED CURRICULUM IN TEXAS A&M AGRILIFE DISTRICT 12

### **Introduction and Literature Review**

Childhood obesity is a prevalent and momentous problem throughout the United States, with a most recently reported obesity rate of 19.3% in 2018 (Fryar et al., 2020). This health crisis has been directly linked to low fruit and vegetable consumption in the United States introducing significant negative health impacts at an early age (Evans et al., 2016a). As youth obesity rates climb, addressing health complications as soon as possible is critical given that food preferences and dietary habits are formed in the first few years of a child's life (Evans et al., 2016a). The Healthy Texas Initiative was created in 2015 to address this issue on a statewide scale, with the mission of administering educational programs and activities to assist Texans in making healthier lifestyle choices (Healthy Texas, 2020). Nutrition education in the form of school garden-based curriculum is one component of this initiative. Learn, Grow, Eat, GO! (LGEG) is the primary curriculum implemented in Texas schools, including components of classroom nutrition lessons, gardening education, cooking demonstrations, and physical activity. LGEG is the curriculum of focus for this study.

School gardening programs such as LGEG have shown promising results for enhancing students' experiences with fresh produce. Aside from increasing agri-food system understanding and changing dietary behaviors, school garden-based programs have positive impacts on children's weight status, engagement in the classroom, and willingness to attend school (Junior Master Gardener & Texas A&M AgriLife Extension Service, 2019). Furthermore, activity-based learning in outdoor settings helps improve students' higher order thinking to promote analysis and construction of innovative ideas through collaboration with their peers (Acharya et al.,

2020). These newfound behaviors and skills often extend into the home where children share their experiences with family members and friends (Junior Master Gardener & Texas A&M AgriLife Extension Service, 2019), thus increasing exposure on a societal level.

While benefits of school garden programs are evident, implementation of programs involving many organizational components and member constituents poses challenges. It is unreasonable to expect each individual school to require the same resources and support, and a “one-size-fits-all” approach does the program a disservice (Fair et al., 2018, p. 462). Instead, groups and personnel implementing school garden-based programs should seek to evaluate the needs of the schools on a case-by-case basis to achieve optimal results (Fair et al., 2018).

LGEG is currently administered using the Texas A&M AgriLife Extension Service, with extension agents serving as the primary implementors of the curriculum.

In previous research about LGEG, Evans et al. (2016b) sought to take a more inclusive approach by gathering data from students, parents, teachers, volunteers, and school principals regarding personal feelings about implementation of school garden curriculum. However, it should be noted data collected from extension agents in this study was largely concerned with program implementation success rather than seeking insight into the feelings and concerns of the agents themselves regarding implementation. This omission does not align with the agreed upon notion that extension agents and networks play a vital role in program success and level of implementation (Evans et al., 2016b; Ingram & Keshwani, 2020). Extension employees work directly with schools to implement school gardens, serving as an essential resource and providing support to teachers (Ingram & Keshwani, 2020).

To acknowledge this gap in the literature, this study aimed to explore the concerns of extension agents working to implement LGEG curriculum through a phenomenological lens.



More specifically, this study focused on extension agents working in Texas A&M AgriLife Extension Service District 12. District 12 is part of the South region of Texas, where the Health Texas Initiative was piloted due to a high percentage of medically and nutritionally underserved and underrepresented people (Healthy Texas, 2020). Despite health disparities in this region, an annual report for fiscal year 2019 revealed the South region led the state in LGEG program participation, making up 32.6% of the sample (Junior Master Gardener & Texas A&M AgriLife Extension Service, 2019). While the South region is comprised of both Districts 10 and 12, between these two districts, District 12 had the highest frequency of pre-survey responses for program impact, and 65% of the counties in this district participated in LGEG, indicating widespread dissemination of the curriculum.

In addition, the regional program leader and program directors of Healthy Texas indicated this district has high levels of extension agent engagement coupled with varied levels of career experience. It was concluded that District 12 would best represent the South region for this study because of active involvement in LGEG programming. Both JMG and the Texas A&M AgriLife Extension Service recommended extension employees seek to ensure fidelity of implementation and promote full implementation of LGEG to increase the impact on youth and families (Junior Master Gardener & Texas A&M AgriLife Extension Service, 2019). However, extension employees' personal concerns regarding implementation of LGEG must first be explored to provide them with adequate support and achieve this objective.

### **Theoretical Framework**

The effectiveness of school garden-based learning is centered around two components: experiential education and environmental awareness (Acharya et al., 2020). The underlying notion about activity-based learning is the opportunity for the learner to make meaning of their

own experiences, fostering a sense of connectedness to the new material (Acharya et al., 2020). Rather than storing and regurgitating information, the learner acquires lifelong knowledge through the development of new schema (Hess & Trexler, 2011), and this cognitive process is enhanced when the learning occurs in a natural setting (Acharya et al., 2020). These ideas about school gardens and the learning environment they provide are rooted in the theory of constructivism. Constructivism is a combination of perspectives forming one theoretical lens focusing on the idea that people construct knowledge as they attempt to make sense of their experiences (Merriam & Bierema, 2014). The idea that new experiences will be interpreted differently on an individual basis emphasizes the importance of equally addressing the concerns of all constituents involved in school garden-based curriculum implementation. To assume students, parents, teachers, administrators, and extension agents will have the same reactions and feelings about a new program undermines the program's effectiveness (Fair et al., 2018). This problem is not unique to school garden-based programs, however. A need for increased and sustained collaboration among constituents of curriculum implementation has been identified by researchers in many contexts (Hall et al., 1973).

Hall et al. (1973) developed the Concerns-Based Adoption Model (CBAM) to serve as a tool for attending to where people are in the change process, recognizing differences among concerns and emphasizing the influence a collaborative approach has on achieving organizational outcomes. The CBAM has been most often utilized in previous studies regarding new program or curriculum implementation in schools, proving to identify varying needs and deepen communication among groups of people involved in the change process (de Vocht et al., 2017; Khoboli & O'toole, 2012). This model transfers to school garden-based curriculum implementation where Fair et al. (2018) indicated a need for "continued and expanded

collaboration between school administration, staff, and researchers” (p. 472). The model consists of three diagnostic dimensions, each targeting different components of adoption and implementation of change: Innovation Configurations (IC), Levels of Use (LoU), and Stages of Concern (SoC) (George et al., 2006).

Essentially, when evaluating the adoption of a particular change, the IC dimension represents the *what*, LoU represents the *how*, and SoC represents the *who* (George et al., 2006). These dimensions intertwine to foster successful implementation and indicate future areas for improvement. The Innovation Configurations dimension is most often used at the beginning of the change process to define the innovation, including operational features that describe its use (George et al., 2006). In this study, the innovation in question is LGEG curriculum, which has been defined and structured through research conducted by Junior Master Gardener. The Levels of Use dimension focuses on behavioral indicators that determine the extent of an individual’s usage of an innovation (George et al., 2006). While the Levels of Use dimension is not used in this study to directly observe behavioral indicators, it should be noted the level of use of LGEG curriculum may vary among participants depending on their job description and specific role in implementation.

Given the phenomenological focus of this study, the Stages of Concern (SoC) was the dimension most heavily relied upon to gain a more holistic understanding of the underlying experiences of individual extension agents working to implement LGEG curriculum. Hall et al. (1973) defines concerns as attitudes, feelings, or reactions regarding a particular innovation. While such sentiments may include fears, anxieties, or worries, the term “concern” does not necessarily align with negativity (Hall et al., 1973). The SoC dimension is designed to determine what an individual is concerned about, giving insight into how those concerns may impact their

willingness and ability to adopt change (Hall et al., 1973). The seven stages of concern are Awareness, Information, Personal, Management, Consequence, Collaboration, and Refocusing, with each succeeding stage typically associated with more complex concerns. Table 1 of this document defines each of these stages and lists common expressions of concern associated with each.

### **Purpose and Objectives**

The purpose of this study was to explore the concerns of extension agents working to implement LGEG curriculum in Texas A&M AgriLife Extension Service District 12. This research sought to gain a better understanding of the feelings, attitudes, and reactions District 12 extension agents have about LGEG curriculum implementation to acknowledge the significance of their role in program effectiveness. The study's objectives were to: (a) determine participants' backgrounds in extension and experiences with LGEG curriculum implementation, (b) identify participants' concerns regarding LGEG curriculum implementation, (c) ascertain themes existing among participants' shared experiences with LGEG curriculum implementation at the district/regional level.

### **Methods**

Guided by the theoretical framework, this study took a phenomenological approach to achieving the research objectives, emphasizing the importance of how people develop conscious meaning from their experiences. Moustakas (1994) recommended conducting informal, open dialogue interviews with people who have lived out the experience in question. This allowed the researcher to create a trusting environment for participant(s) to share a comprehensive account of their experiences, inviting them to be active proponents of the research question (Moustakas, 1994).

## **Study Participants**

Selection of participants for this study was accomplished by working with extension specialists, project coordinators, and program directors of Junior Master Gardener and Healthy Texas, both part of the Texas A&M AgriLife Extension network. These organizations work directly with extension agents to implement LGEG curriculum and enhance program development, making them the best suited individuals for accessing the sample. Conversations with personnel who have overseen LGEG implementation gleaned additional information about important constituents involved and areas of the state needing further exploration, resulting in a networking sample.

Upon narrowing the focus of the study to District 12, the regional program leader for that district assisted with participant recruitment to ensure verification of the following selection criteria: (a) employed as an extension agent of Texas A&M AgriLife Extension Service, and (b) had previous experience with LGEG curriculum implementation in the respective district of analysis. Eight extension agents were determined to meet this criteria, and five of those agents agreed to participate in the study.

The recruitment process was conducted via email, beginning with an initial email from the regional program leader to establish rapport between the participants and the researcher. After being provided with a study description and informed consent documents, participants were given the chance to respond directly to the researcher and indicate their willingness to participate through a survey link. This allowed their participation decision to remain unknown to the regional program leader and reduced conflicts of interest or breaches of confidentiality. Participants were also assigned pseudonyms, which were only known by the researcher, to

further protect their identity throughout the study. All five participants attended the focus group on the designated date and time.

### **Data Collection**

Based on recommendations for a phenomenological study (Merriam & Tisdell, 2016; Moustakas, 1994) this study was qualitative in nature and employed semi-structured focus groups using open-ended questions. A focus group were chosen over individual interviews because it allows for an additional type of data to be collected, which is the interactive discussion between individuals who have knowledge of a particular topic (Merriam & Tisdell, 2016). Discussions such as these allow participants to reflect upon others' experiences and consider how their own experiences align or differ. For the researcher, this data collection methodology aids in understanding and distinguishing between what is truly the shared experience of a group, and what may be more personal to one individual only.

The focus group lasted approximately 90 minutes each and was conducted virtually using the Texas A&M Zoom Web Meetings platform. Audio and video recording transcriptions were used as the primary data source, with field notes used for triangulation. Field notes included summarization of verbal statements as well as nonverbal observations of body language, voice inflections, and rapport among participants. Peer debriefing and member checking was also employed during and after the focus group to ensure trustworthiness. For example, participants were sometimes asked throughout the focus group to authenticate field notes by asking questions that checked for accurate understanding. To establish trust between the researcher and participants, the purpose of the study was reiterated at the beginning of the focus group, and participants were reminded of the extent to which their responses would be valued and protected.

The focus group opened with questions regarding participants' backgrounds and experiences with extension work in general and progressed with questions pertaining more specifically to LGEG implementation as an extension agent. Introductory questions were followed by concerns-based questions, adapted from the Concerns-Based Adoption Model Stages of Concern (SoC) Questionnaire (George et al., 2006). To acquire information about the types of concerns participants were experiencing, each question was framed by one of the stages of concern. Questions pertaining to Awareness concerns were not asked, because one of the selection criteria for participating in the study was experience with LGEG implementation, so all agents had awareness of the curriculum. Questions about lower stages of concern (Information and Personal) were asked first, followed by questions about Management concerns, concluding with questions about more complex stages of concern (Consequence, Collaboration, Refocusing). George et al. (2006) recommended asking questions in sequential order to remain consistent with the hypothesized order in which an individual moves through stages of concern as their experience with the innovation progresses. Table 2 outlines examples of interview questions and the associated stage of concern they aimed to address.

**Table 2**

*Interview Questions Framed by the Stages of Concern*

Stage of Concern	Example of Interview Question
Information	What are your impressions and personal feelings about LGEG curriculum itself?
Personal	What do you think about your role in LGEG implementation?
Management	What are the requisite conditions for you to implement LGEG?

Stage of Concern	Example of Interview Question
Consequence	What do you believe is the impact of the LGEG program on youth?
Collaboration	What groups of people do you work closely with to implement LGEG?
Refocusing	What are your goals, hopes, and aspirations for LGEG programming in the future?

*Note.* Questions framed by the Awareness SoC were not asked because one of the selection criteria for participating in the study was experience with LGEG implementation, so all agents had awareness of the curriculum.

Due to the semi-structured nature of the focus group, Table 2 is not a comprehensive list of all questions asked during the interviews. The participants were often asked follow-up questions to allow for elaboration on some topics. Additionally, depending on the nature of the conversation, some questions were answered before being asked as agents began to move through the stages on their own. When this occurred, the researcher paraphrased participants' answer(s) and asked them to confirm the interpretation to be sure the questions were indeed answered fully and there was no additional response to be added.

### **Data Analysis**

The focus group audio recording was manually transcribed, and the raw data was analyzed using an interpretative phenomenological analysis (IPA) approach (Smith et al., 2009). Guided by processes and principles designed to discover the shared meaning of a particular experience, the data was analyzed at multiple levels, beginning with individual statements, and ending with super-ordinate themes or categories (Smith et al., 2009).



While IPA is not one definitive method and provides flexibility for the researcher to frame analysis methods to fit the type of data, Smith et al. (2009) provided a general set of steps which were followed for this study:

1. Reading and re-reading. Becoming familiar with the original data through careful listening of the recordings and reading of the transcripts and field notes is the first step in centering participants at the focus of the analysis (Smith et al., 2009). Transcripts and field notes were read through multiple times, each time taking note of first impressions and when new observations arose, bracketing them for later review. Repeated readings also allowed for the discovery of how the interview flowed progressively and how participants' trust was built as it continued.

2. Initial noting. Smith et al. (2009) recommended approaching this step with an open mind, taking note of any expression which sparks natural interest. Participant expressions of particular interest were underlined, representing individual units of analysis, and initial comments were made about participants' direct meaning. Linguistic and conceptual comments were also made following the first round of initial noting (Smith et al., 2009). At this point in time, body language, tone, and level of confidence when speaking were considered, and conceptual connections to participants' shared experience were made.

3. Developing emergent themes. Expressions with similar underlying meaning were first grouped together, and then condensed into phrases or key words that represented a theme for the grouping. Phrases were formulated based on participants' explicit meaning and the researcher's interpretations of the data (Smith et al., 2009). These phrases were referred to as "sub-ordinate themes" for organizational purposes in this study. For example, one participant indicated, "In order for the program to actually be implemented

and done, it falls on me.” This expression was attributed to the sub-ordinate theme of “sense of sole responsibility” because the participant revealed their feeling of being responsible for the program’s success.

4. Searching for connections across emergent themes. Abstraction was used to identify patterns and associate common sub-ordinate themes together, forming new clusters called “super-ordinate” themes (Smith et al., 2009). For the purpose of this study, the super-ordinate themes were categorized by each of the seven stages of concern. This step was accomplished by using the coding scheme in Table 1 of this thesis to align each sub-ordinate theme with the appropriate stage of concern. This higher level of interpretation often required going back to the original units of analysis (individual quotes) and looking for similar terms used. For example, the sub-ordinate theme of “sense of sole responsibility” was considered a Personal concern because expressions under this sub-ordinate theme were focused on the demands placed upon extension agents to implement LGE (Newlove & Hall, 1976). Thus, “Personal” was deemed the super-ordinate theme for any expressions that indicated participant feelings of a looming sense of personal responsibility for program success. Individual quotes and sub-ordinate themes were compared to multiple data sources regarding common expressions of concern to aid in triangulation of the data interpretations (George et al., 2006; Huang, 2010; Newlove & Hall, 1976). Peer debriefing of interpretations was also used to ensure credibility and confirmability.

Smith et al. (2009) includes two additional steps which fall outside the scope of this study: moving to the next case and looking for patterns across cases. These steps are typically used when conducting more than one individual interview or analyzing more than one group (Smith et

al., 2009). Because this study aimed to gather highly descriptive data about one group of extension agents working in the same district, data analysis ended with connections between themes that emerged within the group.

## Results

The first objective was achieved by asking introductory questions about the extension agent’s career experience and work with LGEG curriculum specifically. Participants’ career experience in extension ranged from approximately two years to more than five years. Their experience with LGEG implementation had a similar time frame, as the most experienced extension agents were hired when the curriculum was first introduced to their region in 2016.

Concerns-based questions yielded more information about the specific types of concerns this group of extension agents were experiencing in regard to LGEG curriculum and implementation. Participant expressions reflected six out of the seven stages of concern. As reported in Table 3, Personal concerns were most prevalent throughout the focus group, followed by Consequence and Management concerns.

**Table 3**

*Frequency of Expressions Associated with Each Stage of Concern for District 12*

Code (Stage of Concern)	Number of Expressions (%)
Information	6 (3)
Personal	49 (27)
Management	39 (21)
Consequence	40 (22)
Collaboration	13 (7)
Refocusing	37 (20)

*Note.* N = 184. Concerns associated with the stage of Awareness were not observed due to the high experience levels of the extension agents. All extension agents had worked with LGEG curriculum for at least two years, and thus had awareness of the curriculum.

When asked about the first time they were introduced to LGEG curriculum, responses were associated with Information concerns, as some participants indicated eagerness to learn more about its components. Ruby explained her initial reactions to the new curriculum by saying:

Once I sat down and saw all of the components of the curriculum and the lessons that it entailed...without having read it, just looking at it...it was definitely overwhelming. But it was fun once you got involved with it!

Other participants agreed with Ruby and indicated the amount of information was “overwhelming” and they had to “run with it” as the program was new and starting from the ground up. All participants indicated they attended an initial training for LGEG, but this evoked more Information concerns from Elena who noted, “When Mia and I got trained they went over the supplies, they told us how to get volunteers to help with the process, and what different schools had done. But there was no actual training for the gardening.” Lack of gardening resources and knowledge continued to be a concern for several of the agents throughout the focus group discussion.

Concerns about the level of training received quickly shifted toward the Personal stage, as participants began to discuss feelings of incompetency and the need for more guidance during the initial phases of LGEG implementation. Two participants stated even though expectations for program success remained high from the start, their roles felt undefined for the first two years. One participant laughed and said, “At least today we can say we know what we’re doing!” While participants indicated confidence in their ability has heightened since the beginning of their LGEG career, their sense of sole responsibility for program success seemed to remain the same. Four out of five participants specifically referenced this feeling, as it became a central theme

throughout the focus group. Some reoccurring phrases used in regard to implementation success were, “it falls on me” and “it leaves a lot up to us.” Tasha elaborated on this sense of pressure and personal responsibility by saying:

We really have to take it upon ourselves and have that go-getter attitude to make sure that we know everything. So that whenever we get asked these questions from teachers - which we do - we are prepared, and we don't sound or seem like we don't know what's going on with the program.

Ruby agreed with this sentiment when she added:

I think Tasha and her last statement there just kind of summed it all up. There is a disconnect between what we are given and how we need to implement it. It really just falls on us to make the modifications or not do it at all. We kind of risk not meeting our individual requirements as agents, you know, our goals.

“We all just want to do a good job here,” Tasha concluded.

The “disconnect” mentioned by Ruby continued to be a topic of conversation as the participants began discussing the materials, time, and resources needed to implement LGEG, introducing Management concerns. Aside from not receiving garden-specific training, the agents also felt they were not provided enough resources to problem solve and make decisions about gardening conflicts. Some participants mentioned having to research gardening solutions on their own time, on top of implementing a 10-week long, time-intensive curriculum. Participants explained access to experienced Master Gardeners is extremely helpful for solving agricultural related problems that arise in the school gardens. For example, some participants described issues with squirrels, rabbits and beetles infesting their gardens, or expressed concerns about unexpected weather events ruining a harvest. With little gardening experience themselves,

participants said they “had no idea what to do” and “didn’t know how to protect against that.” However, access to expert personnel and resources varied among participants depending on their respective counties. “When you come from a really small, rural community like Duval or maybe Willacy, or Jim-Hogg, you don’t have those resources,” Elena said, referring to Master Gardeners and other horticultural experts. Tasha echoed this statement and continued:

You can luck out and have a really good agriculture agent or like Elena said, you can go to a county that is already established with Master Gardeners and you’re set and ready to go. But sometimes you’re in a rural county. Or in my case, when I came in, there hadn’t been agents in a while and there was no Master Gardener program. We were starting from scratch and it’s difficult to find enough time in the day to make sure you implement everything. And then aside from that, you have to research some stuff on your own as well so that you can be able to properly implement it.

Additionally, participants explained some LGEG lessons and class activities require a lot of materials, some of which schools do not already have. Depending on the school, art courses may not be offered, or teachers may already be teaching multiple subjects, limiting their willingness to implement an additional program. Agents noted acquiring the materials for these lessons is their responsibility and adds additional time to their plate. When discussing this issue, participants frequently referred back to the Personal concern that program success falls on them.

When asked about the visible impact of LGEG on students and families, participants discussed the rewarding nature of their position, mentioning their observations of student growth, including positive changes in behavior and health choices. They also discussed their conversations with parents which indicated the students’ desire to continue gardening at home and encourage their loved ones to have healthy habits. However, some aspects of LGEG

curriculum raised Consequence concerns about future implementation. Participants explained the curriculum focuses mostly on nutrition compared to gardening techniques, and some of these lessons can be repetitive. Additionally, LGEG curriculum is targeted for third grade students, but implemented across multiple grade levels. Some participants worried schools, teachers, and students may become bored with the curriculum if it remains the same each year. Tasha elaborated on this concern:

I feel that there's a risk that I might lose interest in the school administration, or that there's going to be less enthusiasm from the teachers because they know that the students they have now have already been through the program a couple of times. So, it puts me in a situation where I'm wondering if this still going to be relevant and interesting for them two years down the line. I might still have those responsibilities to implement these programs, but the teachers might be over it. At the risk of sounding kind of negative, but it's the reality that we're kind of dealing with.

Two other participants agreed and said they had similar experiences in their own schools. "Even though we're in different counties and it's different for everyone, some things are relative with our feelings and the way LGEG programming is," Vince added. In reference to this shared experience, the participants revealed Collaboration concerns as they emphasized the importance of working together for efficient program implementation. "We have to share the gardening resources that we create ourselves so that we can get implementation ready to go. We really rely on each other," Tasha said. While there was some mention of collaboration with school administration and non-teaching staff, most Collaboration concerns revolved around a partnership with each other as extension agents implementing the same curriculum. In general,

the participants seemed to feel as though they're all in the same boat and navigating similar challenges together, forming a strong cohort.

Aside from the challenges mentioned during the focus group, participants exhibited many Refocusing concerns, thinking long-term about the future of LGEG. A central theme regarding program improvement was the need for more agent flexibility and expandability of the curriculum. Some solutions for this were introduced when Tasha suggested:

It would be nice to have more information that gives us the flexibility to tweak some resources that we can give teachers, or some vegetable variety, some different gardening methods, so that if we have teachers that are returning several years in a row, it still continues to be an interesting program for them.

To avoid losing student interest, Elena suggested separating the curriculum into parts to provide an enhancement by grade level, and Mia suggested expanding the number of vegetables on the LGEG growing list. Currently, there are only six options to choose from, according to the agents. These changes, coupled with increased access to gardening resources, could make LGEG the “powerhouse program” Tasha stated. Elena agreed and elaborated further on the impact the program could potentially have for local communities:

If there was a way to grow the program to where it evolves regardless of grade level, and then somehow find the bridge between school gardens and community gardens... I think if we could get this level of engagement with adults, it would have amazing outcomes.

Despite the room for growth identified by the participants, they agreed altogether that LGEG is the strongest program they implement as extension agents. Tasha explained this by saying:



LGEG is by far the strongest program that we have. It's the one that involves most of the staff, it's the one that's the most interdisciplinary, it's the one that has the most rewards - physical rewards - stuff that we can actually see from our participants.

### **Discussion**

Participant responses from this focus group tended to reflect the stage of concern associated with the phase of implementation being discussed, indicating they generally moved through the stages in the theorized order. However, when discussing higher levels of concern (Consequence, Collaboration, and Refocusing) they tended to relate their feelings back to lower levels of concern, primarily Personal. This may indicate even though they were able to think broadly about the impact of LGEG and its areas of needed improvement, their personal inability to enact those changes prevented them from fully focusing higher levels of concern. Extension agents repeatedly mentioned their need for more information, resources, and even routine training, and the lack thereof seemed to heighten their feelings of personal incompetency. Ideally, increased experience with and usage of the innovation [curriculum] would alleviate Personal concerns as the user becomes more familiar with it and confident in using it (Hall et al., 1973). However, this is not always the case, and Personal concerns can be extended when there is lack of guidance and resources (George et al., 2006). This is exhibited in the case of the extension agents in District 12 because they frequently noted the need for more resources, assistance, and guidance to effectively implement the curriculum and feel successful in their job role.

It is also noteworthy that Collaboration concerns were low compared to other higher levels of concern (Consequence and Impact). This is likely due to the fact that (a) inconsistencies existed with regard to accessible expert personnel as some agents had help from horticultural

specialists while others did not; and (b) the extension agents were primarily focused on Personal concerns which may have prevented them from thinking about collaborating with other groups of people. This phenomenon is consistent with George et al.'s (2006) research which states, "respondents with relatively intense personal concerns might, in effect, block out more substantive concerns about the innovation" (p. 33).

### **Conclusions and Recommendations**

These results confirm the ability of the Concerns-based Adoption Model to determine where implementation may be "stuck" and informs personnel about where to target program development. As noted by Hall et al. (1973), an innovation may not be fully perceived as impactful if individual concerns are not first addressed. Because this particular group of extension agents focused mainly on Personal concerns, it is recommended future efforts be geared toward addressing extension agents' individual needs. According to Khoboli and O'toole (2012), one effective way to do this is through professional development opportunities which allow implementors ample time to work through feelings associated with lower levels of concern. Through this, the agents should be able to approach higher levels of concern with more optimism and confidence in the future (Khoboli & O'toole, 2012). Additionally, Hord et al. (2006) notes when addressing Personal concerns, it is often not enough to simply provide more materials and tangible resources to aid in management, or even to emphasize the impact of the innovation; this alone will not resolve Personal concerns. Instead, the individual needs to feel as though the assistance is in direct response to their Personal concerns. Professional development opportunities have potential to address Personal concerns more holistically through both encouraging personal growth and providing additional resources. In fact, some participants hinted at this solution when they expressed the need for routine trainings and check ins.

Using the Concerns-based Adoption Model to assess extension agents' concerns about LGEG implementation should be considered in other Texas A&M AgriLife Service districts to determine areas of similarity and contrast. Smith et al. 2006 outlines two additional steps in IPA which were not used in this study but could be used in future studies to fully understand the essence of the shared experience. These two steps are: (a) moving to the next case, and (b) looking for patterns across cases. Exploring the concerns of agents in other districts may provide insight into areas of organizational development and addressing concerns on a statewide level could potentially alleviate inconsistencies in implementation. In doing so, LGEG can be implemented as intended and reach full program impact (Hall et al., 1973).

### 3. EXPLORING EXTENSION AGENTS' CONCERNS ABOUT IMPLEMENTATION OF SCHOOL GARDEN-BASED CURRICULUM IN TEXAS A&M AGRILIFE DISTRICTS 1 AND 2

#### **Introduction and Literature Review**

Childhood obesity is a prevalent and momentous problem throughout the United States, with a most recently reported obesity rate of 19.3% in 2018 (Fryar et al., 2020). This health crisis has been directly linked to low fruit and vegetable consumption in the United States introducing significant negative health impacts at an early age (Evans et al., 2016a). As youth obesity rates climb, addressing health complications as soon as possible is critical given that food preferences and dietary habits are formed in the first few years of a child's life (Evans et al., 2016a). The Healthy Texas Initiative was created in 2015 to address this issue on a statewide scale, with the mission of administering educational programs and activities to assist Texans in making healthier lifestyle choices (Healthy Texas, 2020). Nutrition education in the form of school garden-based curriculum is one component of this initiative. Learn, Grow, Eat, GO! (LGEG) is the primary curriculum implemented in Texas schools, including components of classroom nutrition lessons, gardening education, cooking demonstrations, and physical activity. LGEG is the curriculum of focus for this study.

School gardening programs such as LGEG have shown promising results for enhancing students' experiences with fresh produce. Aside from increasing agri-food system understanding and changing dietary behaviors, school garden-based programs have positive impacts on children's weight status, engagement in the classroom, and willingness to attend school (Junior Master Gardener & Texas A&M AgriLife Extension Service, 2019). Furthermore, activity-based learning in outdoor settings helps improve students' higher order thinking to promote analysis

and construction of innovative ideas through collaboration with their peers (Acharya et al., 2020). These newfound behaviors and skills often extend into the home where children share their experiences with family members and friends (Junior Master Gardener & Texas A&M AgriLife Extension Service, 2019), thus increasing exposure on a societal level.

While benefits of school garden programs are evident, implementation of programs involving many organizational components and member constituents poses challenges. It is unreasonable to expect each individual school to require the same resources and support, and a “one-size-fits-all” approach does the program a disservice (Fair et al., 2018, p. 462). Instead, groups and personnel implementing school garden-based programs should seek to evaluate the needs of the schools on a case-by-case basis to achieve optimal results (Fair et al., 2018).

LGEG is currently administered using the Texas A&M AgriLife Extension Service, with extension agents serving as the primary implementors of the curriculum. In previous research about LGEG, Evans et al. (2016b) sought to take a more inclusive approach by gathering data from students, parents, teachers, volunteers, and school principals regarding personal feelings about implementation of school garden curriculum. However, it should be noted data collected from extension agents in this study was largely concerned with program implementation success rather than seeking insight into the feelings and concerns of the agents themselves regarding implementation. This omission does not align with the agreed upon notion that extension agents and networks play a vital role in program success and level of implementation (Evans et al., 2016b; Ingram & Keshwani, 2020). Extension employees work directly with schools to implement school gardens, serving as an essential resource and providing support to teachers (Ingram & Keshwani, 2020). Furthermore, a previous research study, conducted with Texas

A&M AgriLife Extension Service District 12 and featured in Chapter 2 of this thesis, found extension agents' outstanding concerns to be salient upon effective program implementation.

To acknowledge this gap in the literature and expand upon previous research, this study aimed to explore the concerns of extension agents working to implement LGEG curriculum through a phenomenological lens. More specifically, this study focuses on extension agents implementing LGEG in Texas A&M AgriLife Service Districts 1 and 2, which make up the organization's North region. The North region of the state ranked fourth out of six total districts for participation in LGEG programming, representing 12.2% of the sample (Junior Master Gardener & Texas A&M AgriLife Extension Service, 2019). At the individual district level, the percentage of counties participating ranged from 36.4% in District 1 to 40% in District 2. This lower level of participation provides direct contrast to District 12 where nearly 2/3 of the counties participated. Additionally, program coordinators and extension specialists proposed the North region could provide noteworthy distinctions based on level of participation and differences in climate from the South region, where District 12 resides. In narrowing the focus of this sequential study to the North region, the regional program leader for this area of the state suggested including extension agents from both Districts 1 and 2 rather than one district alone due to a limited number of agents implementing LGEG in this region. Including both districts in the North region helped achieve an equivalent sample size compared to the first study with District 12 agents.

### **Theoretical Framework**

The effectiveness of school garden-based learning is centered around two components: experiential education and environmental awareness (Acharya et al., 2020). The underlying notion about activity-based learning is the opportunity for the learner to make meaning of their

own experiences, fostering a sense of connectedness to the new material (Acharya et al., 2020). Rather than storing and regurgitating information, the learner acquires lifelong knowledge through the development of new schema (Hess & Trexler, 2011), and this cognitive process is enhanced when the learning occurs in a natural setting (Acharya et al., 2020). These ideas about school gardens and the learning environment they provide are rooted in the theory of constructivism. Constructivism is a combination of perspectives forming one theoretical lens focusing on the idea that people construct knowledge as they attempt to make sense of their experiences (Merriam & Bierema, 2014). The idea that new experiences will be interpreted differently on an individual basis emphasizes the importance of equally addressing the concerns of all constituents involved in school garden-based curriculum implementation. To assume students, parents, teachers, administrators, and extension agents will have the same reactions and feelings about a new program undermines the program's effectiveness (Fair et al., 2018). This problem is not unique to school garden-based programs, however. A need for increased and sustained collaboration among constituents of curriculum implementation has been identified by researchers in many contexts (Hall et al., 1973).

Hall et al. (1973) developed the Concerns-Based Adoption Model (CBAM) to serve as a tool for attending to where people are in the change process, recognizing differences among concerns and emphasizing the influence a collaborative approach has on achieving organizational outcomes. The CBAM has been most often utilized in previous studies regarding new program or curriculum implementation in schools, proving to identify varying needs and deepen communication among groups of people involved in the change process (de Vocht et al., 2017; Khoboli & O'toole, 2012). This model transfers to school garden-based curriculum implementation where Fair et al. (2018) indicated a need for "continued and expanded

collaboration between school administration, staff, and researchers” (p. 472). The model consists of three diagnostic dimensions, each targeting different components of adoption and implementation of change: Innovation Configurations (IC), Levels of Use (LoU), and Stages of Concern (SoC) (George et al., 2006).

Essentially, when evaluating the adoption of a particular change, the IC dimension represents the *what*, LoU represents the *how*, and SoC represents the *who* (George et al., 2006). These dimensions intertwine to foster successful implementation and indicate future areas for improvement. The Innovation Configurations dimension is most often used at the beginning of the change process to define the innovation, including operational features that describe its use (George et al., 2006). In this study, the innovation in question is LGEG curriculum, which has been defined and structured through research conducted by Junior Master Gardener. The Levels of Use dimension focuses on behavioral indicators that determine the extent of an individual’s usage of an innovation (George et al., 2006). While the Levels of Use dimension is not used in this study to directly observe behavioral indicators, it should be noted the level of use of LGEG curriculum may vary among participants depending on their job description and specific role in implementation.

Given the phenomenological focus of this study, the Stages of Concern (SoC) was the dimension most heavily relied upon to gain a more holistic understanding of the underlying experiences of individual extension agents working to implement LGEG curriculum. Hall et al. (1973) defines concerns as attitudes, feelings, or reactions regarding a particular innovation. While such sentiments may include fears, anxieties, or worries, the term “concern” does not necessarily align with negativity (Hall et al., 1973). The SoC dimension is designed to determine what an individual is concerned about, giving insight into how those concerns may impact their



willingness and ability to adopt change (Hall et al., 1973). The seven stages of concern are Awareness, Information, Personal, Management, Consequence, Collaboration, and Refocusing, with each succeeding stage typically associated with more complex concerns. Table 1 of this thesis document defines each of these stages and lists common expressions of concern associated with each.

### **Purpose and Objectives**

The purpose of this study was to explore the concerns of extension agents working to implement LGEG curriculum in Texas A&M AgriLife Extension Service Districts 1 and 2. This research sought to gain a better understanding of the feelings, attitudes, and reactions District 1 and 2 extension agents have about LGEG curriculum implementation to acknowledge the significance of their role in program effectiveness. The study's objectives were to: (a) determine participants' backgrounds in extension and experiences with LGEG curriculum implementation, (b) identify participants' concerns regarding LGEG curriculum implementation, (c) ascertain themes existing among participants' shared experiences with LGEG curriculum implementation at the district/regional level.

### **Methods**

Based on recommendations for future research, this study uses a replicated methodology from the previous study conducted with extension agents in District 12. A summary of the methods used are provided in this section. The fifth step in interpretative phenomenological analysis, as outlined by Smith et al. (2006), is moving to the next case. This study serves as the second case being explored as part of a larger thesis study.

Guided by the theoretical framework, this study took a phenomenological approach to achieving the research objectives, emphasizing the importance of how people develop conscious

meaning from their experiences. Moustakas (1994) recommended conducting informal, open dialogue interviews with people who have lived out the experience in question. This allowed the researcher to create a trusting environment for participant(s) to share a comprehensive account of their experiences, inviting them to be active proponents of the research question (Moustakas, 1994).

### **Study Participants**

Given the scope of the study and the recommended number of participants for a focus group (Merriam & Tisdell, 2016), eight extension agents were purposively selected based on the following selection criteria: (a) employed as an extension agent of Texas A&M AgriLife Extension Service, and (b) had previous experience with LGEG curriculum implementation in District 1 or 2. A regional program leader of Texas A&M AgriLife Extension Service assisted with participant recruitment to ensure verification of selection criteria. The recruitment process was conducted via email, asking participants to indicate their willingness to participate through a simple “yes or no” survey link. Results from this survey were only visible by research personnel to limit conflicts of interest between the extension agents and the regional program leader. At this point in the study, communication between research personnel and participants began, and the regional program leader was no longer involved in participant recruitment.

During the recruitment process, agent availability was limited, making it difficult to find a mutually convenient time for a focus group. While six agents agreed to participate, only three were available on the same date and time. It was decided to conduct two separate focus groups of three agents each. However, for the purpose of this study, the agents’ responses from each focus group were treated as one cohesive voice and written in the results as one narrative. This allowed for the essence of a shared experience to still be reflected in the results of the study.

Additionally, there were a mixture of extension agents from District 1 and 2 in each of the focus groups, so both districts were represented in each group.

Upon receipt of informed consent documents, participants were assigned a pseudonym, only known to the researcher, to ensure any data collected from that point forward was not personally identifiable. Following mutual agreement on a date and time, participants were instructed to join the virtual meeting from a location most preferable to them. A reminder email was sent 48 hours prior to the start of the focus group. Six out of the eight identified extension agents agreed to participate in this study. All six participants attended the focus groups on the designated dates.

### **Data Collection**

Qualitative data for this study was collected in the form of semi-structured, open-ended focus group questions. The focus group was approximately 90 minutes in length and conducted virtually using the Texas A&M Zoom Web Meetings platform. Audio and video recording transcriptions were used as the primary data source, with field notes used for triangulation. Participants were sometimes asked throughout the interview to authenticate field notes by asking questions that checked for accurate understanding. To establish rapport, the purpose of the study was reiterated at the beginning of the focus group, and participants were informed of the extent to which their responses would be valued. The focus groups opened with questions regarding participants' backgrounds and experiences with extension work in general and progressed with questions pertaining more specifically to LGEG implementation as an extension agent.

Introductory questions were followed by concerns-based questions, adapted from the Concerns-Based Adoption Model Stages of Concern (SoC) Questionnaire (George et al., 2006). To acquire information about the types of concerns participants were experiencing, each question

was framed by one of the seven stages of concern. Questions about lower stages of concern (Awareness – Personal) were asked first, followed by questions about Management concerns, concluding with questions about more complex stages of concern (Consequence – Refocusing). George et al. (2006) recommended asking questions in sequential order to remain consistent with the hypothesized order in which an individual moves through stages of concern as their experience with the innovation increases. Throughout the focus groups, the researcher occasionally paused to summarize key points, using member-checking, and asking participants to verify the information gathered. At the conclusion of the focus groups, participants received one final email thanking them for their time and contribution to the study.

### **Data Analysis**

Before beginning analysis, the focus group audio recordings were manually transcribed, and the audio recordings were played against the complete transcript multiple times to further ensure credibility. Data for this study was analyzed using an interpretative phenomenological analysis (IPA) approach (Smith et al., 2009). Guided by processes and principles designed to discover the shared meaning of a particular experience, data was analyzed at multiple levels, beginning with individual statements, and ending with super-ordinate themes or categories (Smith et al., 2009). While IPA is not one definitive method and provides flexibility for the researcher to frame analysis methods to fit the type of data, Smith et al. (2009) provided a general set of steps which were followed for this study: (a) reading and re-reading, (b) initial noting, (c) developing emergent themes, and (d) searching for connections across emergent themes. Steps a and b serve to immerse the researcher in the data, allowing them to familiarize themselves with it, take note of initial impressions, and practice bracketing throughout data

analysis. Initial noting included underlining particular quotes of interest, interpretations of participants' meaning, and making connections to field notes regarding tone and body language.

Steps c and d involve more interpretation of the data, using the Concerns-based Adoption Model and its subsequent manuals (George et al., 2006; Hall et al., 1973; Newlove & Hall, 1976). Expressions with similar underlying meaning were first grouped together, and then condensed into phrases or key words that represented a theme for the grouping. Phrases were formulated based on participants' explicit meaning and the researcher's interpretations of the data (Smith et al., 2009). These phrases were referred to as "sub-ordinate themes" for organizational purposes in this study. For example, one participant indicated, "We are really having to adjust the planting schedule here and found it works best to plant in the summertime." This expression was attributed to the sub-ordinate theme of "adapting to fit" because the participant revealed their inclinations to adapt the curriculum in a way that fits the capacity of their school and district. Abstraction was then used to identify patterns and associate common sub-ordinate themes together, forming new clusters called "super-ordinate" themes (Smith et al., 2009). For the purpose of this study, the super-ordinate themes were categorized by each of the seven stages of concern. For example, the sub-ordinate theme of "adapting to fit" was considered a Refocusing concern because expressions under this sub-ordinate theme were focused on adaptations that have made the curriculum work better in the agent's respective area. (Newlove & Hall, 1976). Thus, "Refocusing" was deemed the super-ordinate theme for any expressions that indicated participants ability to consider or implement curriculum improvements.

## **Results**

In inquiring about participants' backgrounds in extension and experience with LGEG, it was found agents' experience in the extension field ranged from five to 25 years, while their

experience with LGEG ranged from two to five years. LGEG was first implemented in Texas A&M AgriLife’s North region in 2016, shortly after it was piloted. Three of the six agents attended the initial training for LGEG in Amarillo, Texas in 2015, while others began implementing the program later. The agent with the least LGEG implementation experience began expressing concerns very early on in the focus group, before concerns-based questions were asked, frequently noting her lack of knowledge compared to the other agents.

Agents’ concerns were revealed throughout the focus group as questions progressed according to the model. Six out of the seven stages of concern were expressed, with Awareness concerns not observable due to the fact that all agents had been introduced to LGEG for at least two years and possessed awareness of it. Table 4 reports the frequency of expressions associated with each stage of concern for this group of extension agents in the North region. Refocusing concerns were the most common, followed by Consequence and Collaboration concerns.

**Table 4**

*Frequency of Expressions Associated with Each Stage of Concern for Districts 1 and 2*

Code (Stage of Concern)	Number of Expressions (%)
Information	5 (2)
Personal	25 (8)
Management	56 (19)
Consequence	73 (25)
Collaboration	57 (19)
Refocusing	80 (27)

*Note.* N = 296. Concerns associated with the stage of Awareness were not observed due to the high experience levels of the extension agents. All extension agents had worked with LGEG curriculum for at least two years, and thus had awareness of the curriculum.

Information concerns seemed to be largely associated with the agents' initial introduction to LGEG. The need for more gardening information was immediately present after the first teacher/leader training. The agents who began implementing LGEG as gardeners themselves seemed to agree that if they did not have an agricultural background, their initial impressions of the curriculum would have been different. When asked about their initial introduction to LGEG during training, Linette, with no previous gardening experience and two years of experience with LGEG implementation said, "I was thinking, it [curriculum] doesn't tell you when to plant, or how to plant, or when you're going to harvest these vegetables to do the tasting with!" Dawn, the most experienced agent, admitted, "It would have been nice if we had a bit more structure to it [curriculum]. Especially for new agents who maybe don't have a really strong nutrition or gardening background, it doesn't give enough specific information." However, these types of concerns appeared to be less significant, if present at all, in the current stage of implementation as agents learned by doing.

As agents were questioned about their individual roles in implementation, Personal concerns such as feelings of being overwhelmed and pressured to "do it all" became evident. Many participants mentioned the complexity of LGEG and its various parts, as well as concerns about other job duties taking precedence over their role in LGEG implementation. A common theme that emerged was the inability to be in multiple places at once. Joyce noted, "I cannot come in and do these lessons each week. I just physically do not have the time with everything else. We're a rural community, but we have four school districts, and everybody is wanting some of my time." Linette expressed similar concerns when she stated, "I would love to get it going in some of the schools, but it also scares me a little because I know I can't go to all of the schools and teach all of it." When asked what the agents need to feel more successful in their role, Kelly

said, “I need another me so I can hit more schools and classrooms.” However, it should be noted most Personal concerns were followed with statements of confidence in their ability to problem solve such as, “we’re making it work” or “we have adapted.”

Additionally, five out of the six agents mentioned having a program assistant, intern, or volunteer group they frequently utilize for assistance in completing their responsibilities of LGEG implementation. A few agents explained despite help from external personnel, the majority of their job duties are still related to 4-H programming, leaving less time for their role in LGEG implementation. The requirement of good time management skills became a topic of conversation as the participants began to move toward Management concerns. All six agents referred to the high level of planning and preparation it takes to have successful implementation throughout the year, as well as the multiple requisite conditions that must be in place before beginning the program. Dawn explained:

It takes some intense planning, building of relationships, purchasing of materials...I mean, it’s good and I like teaching it, our teachers love it, and our kids love it, but it’s not a pickup and go teach it next week kind of thing.

Having the school equally on board with the program is another condition that must be met, according to Celia, who added, “and I definitely think being sure your school understands the commitment and what all the program is going to entail is important.” Despite the descriptions of implementation management being “intense”, “heavy”, and “a lot to handle”, agents were able to provide examples of their strategies for mitigating the workload. For example, Celia explained her preferred implementation strategy this way:

On Mondays I teach in School 1, on Tuesdays I teach in School 2, and on Wednesdays I teach in School 3. I teach the same lesson at all of those schools that week, that way we



buy all of the supplies at the first of the week. So, if we're doing the paint stick lesson, we get enough supplies for all of those kids and we get enough of the recipes for all of those schools. It just will save you some craziness because it is a lot.

Along with time requirements for the agent and needing the school's commitment, participants also discussed their concerns about efficiency of implementation and the curriculum itself. Efficiency was questioned with regard to three main aspects: the order in which curriculum lessons are expected to be taught, the disconnect between the curriculum and the growing season in the North region, and delivery of the program evaluation survey. Five out of six agents expressed their frustrations with the ordering of the lesson plans, arguing it doesn't always fit logically with the schedule of the gardens. Dawn gave the following example regarding a lesson where students assign each other gardening chores such as adding soil and watering. "I mean, that's a good concept and those are good skills that kids need to have, but it doesn't fit! It's in like, Lesson 5, so if you're doing them in order...you've already planted your garden maybe!" she said. "And that's part of the disconnect between the lessons and the garden. There's a disconnect. Like you said about the order... it doesn't really make sense," Linette added.

The term "disconnect" was also used to describe problems associated with climate constraints in the North region which prevent agents from following the order of the curriculum. This issue was evident to Linette when she first reviewed the curriculum during training:

My first impression was...this is a really long curriculum. And then I was trying to figure out why the growing season in the curriculum does not work in the Panhandle, because if you look at their schedule on the curriculum, it has planting in February.

Joyce echoed this sentiment when she mentioned the high possibility of having snow on the ground this time of year. “I agree with Joyce,” Sabrina said, “planting in February is not possible. Even with a greenhouse.” Participants went on to note, because the growing season in the North region does not align, they often deviate from the vegetables listed in the curriculum or change the schedule completely. As a result, the vegetables harvested from their gardens might not be associated with the recipes the curriculum provides. Again, the agents explained how they make it work:

Dawn: “One year we just grew radishes. That was it! That was all we grew was radishes...”

Linette: “But radishes aren’t in the curriculum! That’s the disconnect...I mean, do you not find that to be...”

Dawn: “Yes. Well, they’re listed as one of the vegetables that will grow in less than 30 days, but they aren’t part of the tastings. So, I just let the kids research recipes for radishes!”

While the agents were able to find a solution to this issue, they still admitted it is not an efficient use of their time, and it poses challenges for evaluation when students are asked questions about vegetables they were not exposed to. Dawn first began expressing her concerns about the efficiency of the evaluation by saying:

Number one, many schools do not have the capabilities for you to do that evaluation in the classroom and then do it on the computer. They don’t. And you have 10 weeks with them, so you can’t schedule an eleventh week and take an entire class period just to do the evaluation. So that’s an issue.

Kelly continued by sharing her feelings while highlighting the disconnect of the curriculum to their location:

Swiss Chard is not available in the Panhandle and it stays on the survey. Eating habits are such a big part of the survey and it is only 20% of what we do in the classroom. I don't believe the survey reflects the curriculum of what all of LGEG is.

Sentiments such as this one sparked the expression of Consequence concerns as agents began to discuss the impact of the LGEG program. All of the agents agreed recipe tastings were the most impactful part of the program because they allow children to try new vegetables they otherwise might not have been exposed to. However, they were largely concerned the evaluation is not reflecting the true impact of the program. Sabrina, for example, was eager to share her thoughts on this issue:

I'm glad that [evaluation] was brought up, because that's probably the biggest thing I see with this. We do so much with these kids, with the curriculum, with the recipe tastings and the recipe demos...and when we get the results at the end of the year I'm always so disappointed because the program, I felt like, was in most years a really big success and I don't have the data to back it.

Celia conveyed a similar message, indicating she has begun asking students additional evaluation questions to gain her own insight into what was most impactful:

You see what they're learning, and you see the great time that they're having. One of the questions I asked them myself was, 'have you ever cut vegetables at home before?' and I was amazed how many said no and then were comfortable helping their parents when they got through with the program. I think there's so much they can learn from the program that we're not showing through the evaluation survey.

In addition to concerns about impact being accurately reflected through program evaluation, some agents were worried about consistent implementation given the various people who play a part in its success. Out of the six agents present, two said they teach the Learn portion of the curriculum themselves, and four said they have their teachers do it, while the agent supplements the rest of the program. Some concern was raised about turning over responsibility to the teachers, with fear the lesson might not be taught thoroughly. Linette described her lived experience with inconsistent delivery:

At my middle school, one teacher taught it and one did not. So, that was hard. In fact, I don't even think they took their kids out to the garden. Teachers are overwhelmed, and this was a rough school, but it is something you have to think about because if they're coming in for the tastings and you're talking about My Plate or the garden, and they haven't had that lesson or even been to the garden...they're clueless.

The other agents who share curriculum delivery responsibilities with their teachers emphasized the importance of forming good relationships with teachers and schools to prevent this from occurring. Participants described implementation of LGEG as a "team effort" and "partnership," indicating their movement into the Collaboration level of concern. All agents agreed collaboration is essential for program success, and without it, they'd be "overwhelmed" and "lost." Joyce discussed her feelings of contentment with how well collaboration is working in her schools:

I think we have it divided up really good. The teachers come to me if they need supplies and it's a really good partnership between my agency and the schools, as well as myself and the teachers. We make this work, they enjoy it, they have fun with it.

"I can't imagine doing it any other way," Sabrina added, "because it would be a challenge."

While most agents felt relationships between teachers and school personnel were strong, they had concerns about collaboration with other groups involved, specifically program specialists. One agent explained they noticed this as a missing piece during their first training for LGEG. “I think part of the problem is that sometimes our specialists have a hard time relating to what is actually happening in the county, how things are actually implemented and all the logistics of implementing something,” Dawn said. Celia nodded in agreement, while Dawn continued on to explain that she wishes there was more communication to reach mutual understanding. She also hypothesized this might be the reason for a disconnect between the curriculum and their respective region of the state.

Despite implementation concerns discussed above, participants had mostly positive remarks about collaboration and said they felt it was one of the main reasons why LGEG is so successful for them. Collaboration seemed to be present in many ways such as Healthy Texas youth ambassadors assisting with recipe tasting preparation, school maintenance crews helping build garden beds, agricultural and horticulture agents working with children in the garden, and program assistants completing helpful tasks as needed. Two of the agents also mentioned the benefit of having a more experienced agent mentor them through the process. “If I was a new person, I really think they need to reach out to an agent that’s been doing this for a while,” Dawn said, “go with them and talk with them about how they’re implementing it.” Celia added that her mentor was particularly helpful when she first started and overall, the agents seemed to have a strong sense of relationship with their coworkers, leaning on each other for support when needed.

Even throughout the focus group, participants asked each other follow up questions such as, “Can you tell me what seeds you’re using?” or, “Could you share what you’ve done for evaluation with me?” They expressed genuine interest in each other’s programs and wanted to

learn more about how they could implement things more efficiently. This type of conversation consumed the majority of the focus group, as agents expressed many Refocusing concerns. In addition to learning from each other, participants explained multiple situations in which they had already adapted the curriculum to fit their school's needs and district's resources.

Examples included addition of new seasonally appropriate vegetables to the curriculum, using more age-appropriate art supplies to accommodate teachers comfort level, rearranging the order of lessons to align with planting season, and adding their own personal spin on some lessons to take learning a step further. For example, Joyce encourages her students to think about food on a larger scale:

We talk about the food we're buying in the grocery stores and how somebody has to do this on a larger scale. This is what farmers do every day. When we have stuff not turn out and get frost...we talk about that. What are they going to do? Yeah, we can go to the grocery store and buy food, but what does a farmer do? So, I kind of do some bigger implications by linking it further down the food chain.

In another example, Dawn explains that she tries to teach manners etiquette during the recipe tastings:

I tell them they have to taste it, but they don't have to swallow it and they're in charge of keeping their opinion to themselves. I don't want them to tell me if they love it or if they hate it. We are giving everybody their own chance to decide.

Dawn also shared her idea to plant pumpkins since they teach the curriculum in the Fall, and while pumpkins aren't in the curriculum, she used a recipe from the Better Living for Texans program instead. "We would like some recipes that are different or just more options for recipes," she added. "Especially if you want them to try some vegetables that aren't on that list.

Or even expanding that list would be great!” Other agents agreed, while Joyce mentioned she struggles to find some of the more specialty recipe ingredients, like mint and sugar snap peas, in such a rural town. “If we want them to try these recipes, we need local fruits and vegetables on the list that are available in every grocery store and are not a special trip to go get,” she suggested.

A few participants mentioned expanding the list may allow students to spend more time in the garden, picking and eating from it, because they’d be able to grow things according to the local climate. “There’s a recipe with bok choy, but we aren’t planting bok choy!” Linette said. “I want us to make these recipes with what we’re harvesting.” Celia added that her students are usually only able to eat leaf lettuce and spinach from the garden, since that’s all they can feasibly grow while staying within the bounds of the curriculum. Kelly and Sabrina were disappointed to note that their students have yet to eat anything they’ve planted and harvested themselves, because Summer is the only time they’ve been able to plant to harvest before the freeze, but the kids aren’t in school then.

Alongside garden and curriculum improvements, agents also discussed in detail their hopes for re-writing the evaluation to better reflect program impact and increasing involvement of parents. Again, many of the agents had already implemented their own ideas for improvement by adding in their own evaluation questions in addition to the existing one, sending home extra harvest for children to share with their families, and helping teachers disseminate recipes to parents for cooking at home.

Toward the end of the focus group, participants were asked to share their visions and goals for the future of LGEG programming. Dawn thought LGEG could take it to the next level by reaching parents and families, while Linette explained that she wished it was more inclusive

and adaptable for other contexts outside of just schools, such as community gardens. Sabrina's vision focused on connecting her students more with the gardening aspect, and Kelly stated her belief that the curriculum needs to be more financially accessible along with more affordable supplemental materials for teachers to use in the classroom, such as books. Joyce and Celia seemed to be more content with their current state of implementation, as Joyce indicated her main goal was simply to sustain the program in her current schools, because she felt like her relationship with her teachers couldn't be any better. Celia struggled to find an answer to this question:

I don't know...I mean, new goals? I really feel like our program is going awesome already. I think everybody is really excited about it and I think after doing it for so many years, I don't really change up the lessons now that I feel like I have them set the way I want them.

### **Discussion**

According to (Hall et al., 1991), when Refocusing concerns are highest, coupled with high Collaboration and Consequence concerns, it most likely indicates individuals who are highly experienced in using the innovation and are considering or already implementing alternative forms of it. This proved to be true for the extension agents in Districts 1 and 2, because each agent revealed a way in which they had changed LGEG curriculum to better fit their school's needs and resources. In fact, while the extension agents generally moved through the stages of concern in sequential order, their ability to focus on program improvements was evident from the start of the discussion. Oftentimes, when a lower-level concern (Information, Personal, Management) was stated, the participant followed up with an adaptation they've made, a solution that has worked, or a resource that helped them alleviate that concern. This group



exhibited a significant ability to problem solve, likely due to their access to various types of assistance. Each agent, at some point throughout the study, mentioned a person or resource who has made their job easier. For some agents, this was a grant to fund a greenhouse, an intern to assist in evaluation survey delivery, or a horticulture agent to manage the garden despite their own lack of gardening skills.

Because of this, the tone of the participants remained optimistic as they exhibited confidence in their ability to overcome challenges they face. There was no point in the focus groups where agents seemed truly stuck or unable to think through a concerning situation. Even for the least experienced agents, they seemed to feel generally supported in their role and trusting of more experienced agents to guide them through implementation. While they did not seem to feel significantly inhibited by challenges, expressions of the lowest levels of concern (Information and Personal) were still mainly associated with the agents who had been implementing LGEG for the shortest period of time. Therefore, in conjunction with the Concerns-based Adoption Model (Hall et al., 1973), amount of experience with the innovation did seem to play a role in the types of concerns the participants expressed. Lower-level concerns were less present in agents who had been implementing LGEG since the program's inception. One of the two most experienced agents, for example, was unable to think of specific improvements for LGEG moving forward, because she believed the program was already working at a fairly optimal level of success. This indicated full attainment of the Refocusing stage, reaching data saturation for this participant.

### **Conclusions and Recommendations**

Given the heightened level of personal competency of extension agents in this focus group, it is recommended Districts 1 and 2 focus on strengthening the relationship between newer incoming

agents and more experienced agents to continue a mentorship climate and foster an inviting work environment. Agents in this focus group also provided evidence of strong creativity and high expectations for LGEG programming but may need additional resources to implement their innovative ideas. Some examples include the need for more funding to build quality greenhouses that can withstand harsh weather conditions, affordable books or supplemental materials for the teacher and classroom, and an expanded vegetable list that aligns with the growing season of the North region. To address this, it is recommended program specialists check in with extension agents periodically to maintain understanding of current implementation issues within the context of this specific district. The results of this study provided detailed insight into implementation of LGEG in Texas A&M AgriLife's North region. To comprehensively understand implementation on a statewide level, it is recommended the concerns of extension agents in other districts be explored as well.

The results of this study, combined with the results of the previous study in District 12 provide insight into the differences between implementation challenges in the North and South regions of Texas A&M AgriLife Extension Service. However, LGEG implementation in other areas of the state may pose different challenges and thus spark additional concerns.

#### 4. CONCLUSIONS

This section consists of the final step in interpretative phenomenological analysis as outlined by Smith et al. (2006), which is looking for patterns across cases, or a cross-case analysis. This step involves looking at the data for both cases simultaneously, the only step in this process where this should occur. Prior to this step, the data for each case was kept separate to avoid premature analysis and biased influence over the conclusive data. Smith et al. (2009) recommends searching for similar themes across cases and highlighting areas where themes are vastly different. This “helps the analysis move to a more theoretical level as one recognizes, for example, that themes or super-ordinate themes which are particular to an individual case also represents instances of higher order concepts which the cases therefore share” (Smith et al., 2009, p. 101). In other words, while phenomenological analysis can uncover the shared experience among individuals in one case, it also functions to paint a larger conceptual picture of the shared experience between multiple cases, allowing the researcher to move from the part to the whole. In the context of this thesis, looking for patterns across cases is an important for determining what is considered to be a shared experience among the participants, and at what level that experience is shared. For example, some concerns were shared only by agents at the regional level, and others were shared across agents in both regions. Comparing the two cases allows for this distinction.

##### **Cross-case Analysis**

Before delving into the transcript data, it is important to note the difference between the two groups in terms of general sentiments and overall focus group atmosphere. In this case of District 12, there was a sense of heaviness as participants expressed their concerns. Their tones of voice occasionally depicted feelings of defeat and at times they seemed intensely

overwhelmed. In contrast, when interviewing agents from Districts 1 and 2, there was more abundant laughter, interaction between participants, and a general sense of lightheartedness.

However, it can be said that both groups expressed immense passion for their work with LGEG curriculum, and their personal investment in the program was evident. While Personal concerns were present throughout, their overall concern for the program seemed to extend beyond the self in some sense, be it small or large, because they all expressed great desire to see the program succeed. Both groups also seemed to have some sense of community amongst each other as they discussed sharing resources and supporting one another through implementation challenges and successes.

### **Convergent Themes**

The following are themes that emerged for both District 12 and Districts 1 and 2, highlighting areas of similar concern and focus.

#### ***Need for Extensive Training***

When asked about their initial reactions to the curriculum, both groups of agents admitted they felt overwhelmed and unprepared to implement it. This feeling was particularly heightened for those who had little to no gardening experience, but the participants agreed that little gardening specific training was provided regardless of experience level. Although excited about the program, none of the extension agents could say they left their initial LGEG training feeling competent and equipped for implementation. As a result, this lack of detailed training-initiated Information and Personal concerns very early on in the implementation stages for both groups. Finally, both groups mentioned there were no follow-up trainings after the first introductory training, and they mainly learned effective implementation by trial and error of experience, or

with the help of an experienced colleague for those who were not around at the start of the program.

### ***Curriculum Design Issues***

Concerns about the curriculum itself were actively present for both groups. A few areas where this shared theme specifically emerged were order of the curriculum lessons, vegetable growing list, and planting schedule. The term “disconnect” was used frequently in both groups to explain concerns regarding how the curriculum is designed. The disconnect identified was related mostly to the climate and growing season of each district. Both groups noted that the planting schedule in the curriculum does not necessarily align with the planting schedule of their respective regional climate, and as a result, they often have to teach the curriculum lessons out of order to accommodate. Additionally, the recipes in the curriculum are intended to align with what is on the vegetable growing list. However, if the agents were unable to plant something in the curriculum because of an unaccommodating climate, then the recipes were compromised as well. This led to the agents having to grocery shop for the ingredient instead, or plant something different and find their own recipe. Both groups advocated heavily for more flexibility and gave actionable suggestions such as an expanded vegetable growing list and planting schedules specific to their individual growing season.

### ***Observed and Potential Impact of LGEG***

The participants of both groups had no trouble discussing the impact of the LGEG program, including impactful stories they’ve personally witnessed and their future wishes for increasing impact even more. The passion for this program was illuminated through conversation with the agents about how they’ve seen it positively make a difference in the lives of students and their families. Many of the agents had stories to share about children who initiated lifestyle

changes within their home because of something they learned from the LGEG program. Some agents witnessed families start their own gardens, buying fresh produce at the local grocery store, or expressing interest in trying the LGEG recipes at home. In addition, both groups agreed that their students have heightened enthusiasm on gardening days and enjoy the hands-on activities the program provides.

Both groups of agents also had a lot to contribute in terms of ideas for program improvement to increase impact. It was a priority of all the agents that LGEG continue to be an impactful program, not only for students but for the surrounding community as well. The ability to reach adults and older generations through their children was one advantage they believed LGEG should capitalize on in the future, as they had seen it occur on a small-scale level before, but wanted to see long-lasting, sustainable impacts.

### **Divergent Themes**

The following are themes that may have emerged for both District 12 and Districts 1 and 2, but the way in which the participants were concerned about them differed significantly.

#### ***Allocation of Responsibilities***

Many inconsistencies were present with regard to how agents allocated LGEG implementation responsibilities among other people involved, namely teachers. In District 12, three agents said they teach the entire curriculum themselves, while two agents said they teach everything but the classroom lessons, which the teachers do weekly on their own time. In Districts 1 and 2, only one agent said they teach the entire curriculum themselves. A subordinate theme from the focus group with District 12 was “sense of sole responsibility”; this theme did not occur for Districts 1 and 2. In fact, extension agents in this area often referred to themselves as more of “overseers” and “coordinators” because of active teacher involvement. Even the one

agent from this group who does teach the entire curriculum herself noted she still feels supported in her role and is able to manage her duties. This was not the case with the three agents who implement it all themselves in District 12; they consistently stated their needs for more hands-on help.

### ***Access to Human and Material Resources***

As mentioned previously, the need for more resources, both human and material, was present in both groups. However, the type and amount of resources needed differed. Throughout the focus group discussion, agents from Districts 1 and 2 mentioned receiving help from interns, program assistants, youth volunteers, Master Gardeners, extension agents in other fields (agriculture and horticulture), and non-teaching school personnel, such as administration and maintenance staff. Every agent in this group had multiple sources of physical, hands-on assistance, and half of the agents said they have an intern. For the agents in District 12, there was little mention of extra assistance, with the exception of one agent who had a program assistant and very active school staff involvement. Most of the help for agents in this group seemed to come from within the extension network, but even then, they noted Master Gardeners and agricultural agents aren't always available depending on the county they're working in.

In terms of material resources, the agents in District 12 focused on garden needs specifically. Their current garden structures consist of raised garden beds and container gardens, but they expressed feelings of concern that schools and teachers wanted something more permanent and innovative. In Districts 1 and 2, there was a mixture of raised garden beds and greenhouses. While there were a few agents who mentioned the need for higher quality greenhouses to withstand the freeze and wind, their material needs focused mostly on educational resources such as more books for the students and recipe guides for families.

### ***Extent of Refocusing Abilities***

While both groups expressed Refocusing concerns, they were significantly less present in the District 12 group and the agents in Districts 1 and 2 seemed far ahead in actually implementing their proposed improvements as well as how far forward they were able to think. For example, evaluation of the curriculum was not mentioned at all in the District 12 focus group but was a main topic of concern for agents in Districts 1 and 2. While it is possible the agents from District 12 could have eventually mentioned their concerns about evaluation if given more time to discuss, it is unlikely to have been as concerning for them, as their Personal concerns prevailed. Curriculum evaluation sparked very strong feelings and concerns for the agents in Districts 1 and 2, as they mentioned its inability to capture the true impact of LGEG and had many suggestions for how it should be changed. Because evaluation is the final step in programming, it is evident these agents were able to think far ahead about program improvements. The extension agents in District 12 focused largely on improvements for the curriculum itself, requesting more gardening activities and an expansion of the curriculum to be taught at multiple grade levels, which is something the agents in Districts 1 and 2 had already implemented themselves.

### **Recommendations for Practice**

Recommendations for practice are provided at two levels: regional and statewide. This is because while some of the experience of LGEG implementation was shared between agents in different regions, there were still regional specific factors that influenced program implementation. This aligns with the Concerns-based Adoption Model (Hall et al., 1973) which states that concerns should be addressed on an individual level first, and previous school garden



research which indicates a one-size fits all approach is ineffective (Evans et al., 2016b; Fair et al., 2018; Ingram & Keshwani, 2020).

### **Regional Level**

Specific recommendations for the South and North regions of the Texas A&M AgriLife Extension Service are described in Chapters 2 and 3 of this thesis respectively. In summary, agents in District 12 of the South region had primarily Personal concerns which may be alleviated through professional development opportunities and targeted personalized support, while agents in Districts 1 and 2 of the North region had primarily Refocusing concerns which can be addressed through collaborative conversations with other organizational members about how to act on program improvement ideas. It is recommended to additionally investigate the concerns of agents implementing LGEG in other regions of the extension network (Central, East, West, Southeast) to gain a more comprehensive perspective of the differences existing between regions and highlight other areas of concern that may not have been uncovered in this thesis study. Recommendations for practice in those areas will and should differ from those listed for the South and North regions, because extension agents' concerns and implementation challenges they face will be influenced by different factors. In order to accurately target program development, concerns need to be addressed at the small-scale level first (Hall et al., 1973). These results may inform regional program leaders about the types of concerns their extension agents may be experiencing and how those concerns could be inhibiting LGEG implementation within the boundaries of their region.

### **Statewide Level**

Statewide recommendations for practice apply to the Texas A&M AgriLife organization as a whole and focus on strengthening the relationship between extension service districts. These

results suggest there is potential for extension agents in some districts to learn from solutions being implemented by agents in other areas. However, without collaboration among regions, there is no sharing of information, resources, and expertise. Because one of the convergent themes from this study was the “need for extensive training”, it could be beneficial for Texas A&M AgriLife Extension to host statewide professional development opportunities where extension agents can come together and collaborate over LGEG. One participant from District 12 noted, “if we have these concerns and questions, it is likely that other agents do too”. This statement is indicative of the need for increased cohesiveness among Texas A&M AgriLife Extension throughout the entire duration of implementation to ensure achievement of its desired outcomes for LGEG programming. As McLeroy et al.’s (1988) ecological approach to health promotion programs emphasizes, practitioners delivering these programs should aim to move beyond implementation and into institutionalization, which is when the program survives its initial phase of funding and becomes permanently integrated into the target community or organization. However, this can only be achieved when organizational influences on program diffusion are considered (McLeroy, 1988). Two of the ways in which this can be successfully facilitated are sustained support from upper-level management during the implementation phase, and an emphasis on the development of coalition support for the innovation during the institutionalization phase (McLeroy, 1988). Professional development opportunities have the potential to address both of these, because they can serve as dedicated time and space for an organization to provide direct, targeted, and personalized support to its members, as well as clearly communicate how the organizational missions and values align with the program being implemented. With family and community health being a large part of the Texas A&M AgriLife

Extension mission, extension personnel embodiment of those values is important for successful health promotion programming.

Aside from encouraging and facilitating collaboration and cohesion throughout the organization, it is recommended more gardening resources be made available to all implementors of the curriculum, specifically through the LGEG website or other forms of media. Many agents mentioned having to spend personal time outside of work researching gardening tips and advice, which took away from the enjoyment and ease of implementation. Gardening resources could include an expanded list of vegetables and their growing parameters, guidance for navigating emergency gardening situations, and links to external resources for new gardeners. Having this information accessible in one place could relieve some of the inconsistencies in implementation that arise from agents having to make their own adaptations. While the program will be implemented slightly differently depending on location and funding available, the intent of the program should not be lost in transition. Alleviating some of the pressure from extension agents to do their own research may resolve this issue.

Finally, the results of this study demonstrate the need for a more comprehensive exploration of LGEG implementation at the process level, and increased engagement among the various stakeholders involved. Program developers should focus on continuous program improvement to meet the needs of program implementors and recipients with appropriateness to the region, which will allow for sustained impact. This will require a strong partnership between program developers, evaluators, and implementors to be sure all concerns and perspectives are being considered and addressed. The formation of extension agent advisory groups who work with extension specialists and program developers to provide firsthand accounts of implementation concerns and suggestions for improvement based on field experience may be

helpful for achieving a stronger relationship between all stakeholders involved in LGEG programming.

### **Recommendations for Future Research**

To obtain a full statewide perspective on the types of concerns extension agents have about LGEG implementation, all regions of Texas A&M AgriLife Extension Service would need to be explored. This could be done by following the methodological framework of this study and moving to the next case, which would be a different region of the extension network such as Central, East, West, or Southeast. The data from other cases could be compared to the two in this study using Smith et al.'s (2006) IPA approach and looking for patterns across all cases.

Aside from this, all stakeholders involved in LGEG implementation are likely to have unique concerns that influence their role in implementation and thus, program delivery and outcomes. While extension agents play a vital role in LGEG programming, teachers, school administration, and extension specialists all contribute to implementation in some way. Investigating the concerns of multiple constituent groups could strengthen the transferability of this information to other contexts, especially in those where extension agents may not be present, as not all school garden programs are delivered through the university cooperative extension network. Additionally, the remaining dimensions of the Concerns-based Adoption Model not utilized in this study (Innovation Configurations and Levels of Use) may also be applicable in other contexts.

Lastly, there are a variety of factors influencing the outcomes of health promotion programs which should be explored further. While this study was concerned with the influence of Texas A&M AgriLife as an organization on health interventions, McLeroy et al. (1988) lists intrapersonal, interpersonal, community, and public policy as being other determinants of health

behaviors. These factors include, but are not limited to, developmental history of the individual, social networks and support systems, power structures in communities, and legislation at the local, state, and national levels. Health promotion programs and their success depend on a variety of factors, all which need to be explored to gain a holistic understanding of why they may or may not be effective.

### **Concluding Remarks**

Results from this study provide rich, thorough, qualitative descriptions of extension agents' concerns about implementation of LGEG curriculum in two separate AgriLife Extension Service regions: North and South. In addition, these detailed case analyses are intended to inform extension program leaders and specialists about how to target extension agent training and resource allocation in each respective district. Finally, a cross-case analysis of the two districts may provide insight into organizational and statewide factors that influence extension agents' abilities and feelings of personal competency regarding their LGEG implementation responsibilities. These results provide an opportunity for extension specialists to identify areas where organizational culture can be strengthened to increase cohesiveness and belonging among agents, which should, theoretically, result in more effective implementation.

Other school gardening programs utilizing extension networks may benefit from this research and seek to explore individuals' concerns about implementation to address statewide differences that may be inhibiting program success. While the intent of qualitative research is not to generalize, implementation concerns are likely to impact implementation effectiveness in any context (Hall et al., 1973), and therefore, this research may have implications for program development in a variety of areas with respect to the Concerns-based Adoption Model.

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