Identifying Consensus: Using the Delphi Technique

Insights from Extension Education and International Development

Presented at UC ANR Evaluation Capacity Building Training

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Agreement?

Integrating Perspectives

Extension Educator(s)

Clientele

Coalition of Partners

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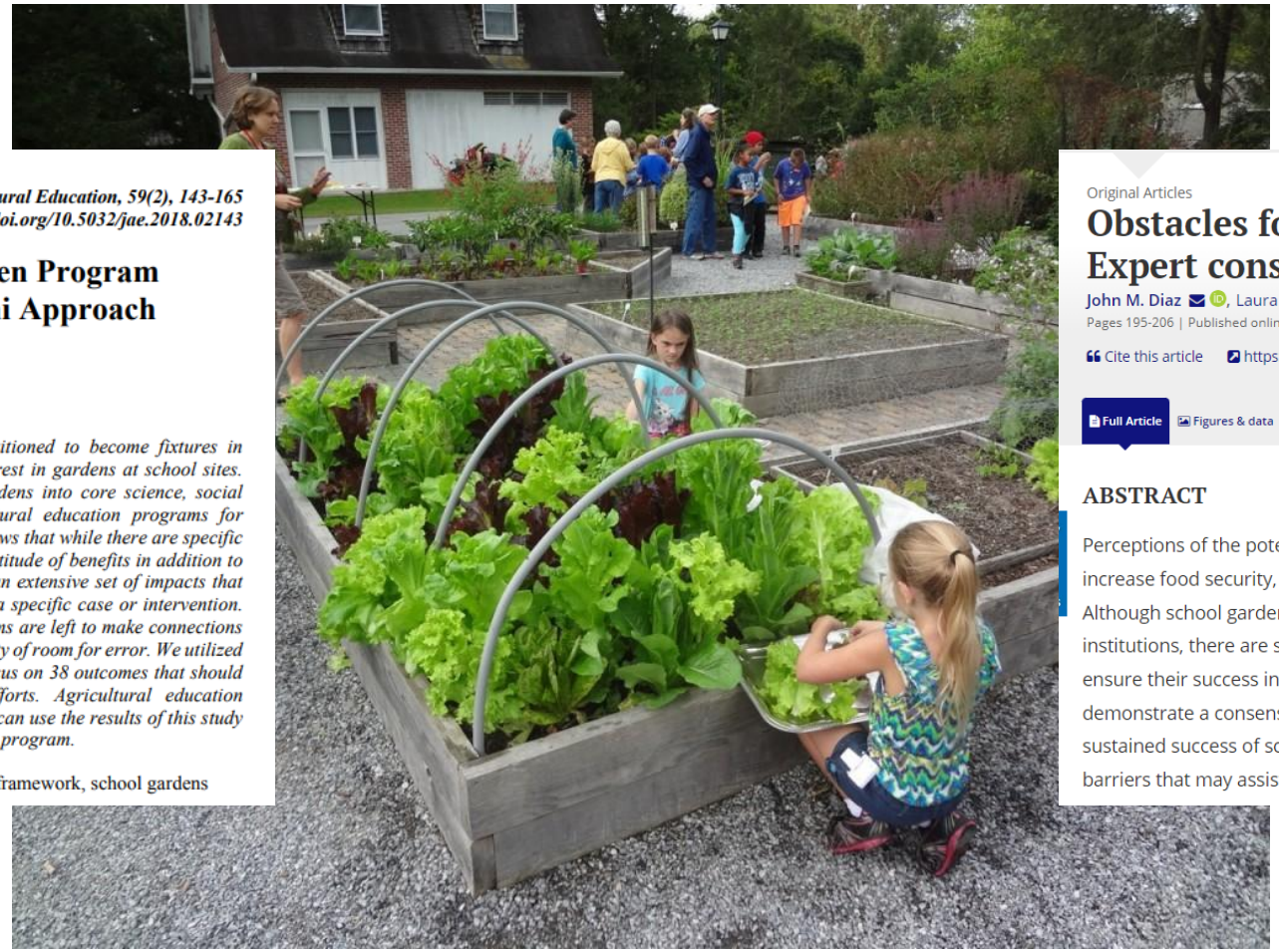
To avoid issues with traditional methods

A structured & streamlined communication and consensus-building process to avoid:

- Off topic discussion
- People that take over
- People that won't talk
- Power dynamics
- Confidence in providing genuine input
- Etc.…

School Gardens



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Outcome Framework for School Garden Program Development and Evaluation: A Delphi Approach

John M. Diaz[1], Laura A. Warner[2] & Susan T. Webb[3]

Abstract

School gardens programs and garden-based education are positioned to become fixtures in educational institutions given recent trends and the national interest in gardens at school sites. Agricultural education professionals have integrated school gardens into core science, social studies, math, and language arts courses as well as agricultural education programs for elementary, middle, and high school curriculum. The literature shows that while there are specific curriculum links being made, school garden programs elicit a multitude of benefits in addition to enhancing student performance. Although the literature outlines an extensive set of impacts that may result from a school garden program, they are grounded in a specific case or intervention. Those who are planning for and evaluating school garden programs are left to make connections based on case study results or intervention trials, which leaves plenty of room for error. We utilized the Delphi approach with a panel of 74 experts to identify consensus on 38 outcomes that should be used to inform program development and evaluation efforts. Agricultural education professionals and other stakeholders connected to school gardens can use the results of this study to provide a solid foundation for an outcome-driven school garden program.

Keywords: Program development, program evaluation, outcomes framework, school gardens

Original Articles

Obstacles for school garden program success: Expert consensus to inform policy and practice

John M. Diaz, Laura A. Warner, Susan Webb & Debra Barry

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ABSTRACT

Perceptions of the potential of school gardens are changing given the pressing need to increase food security, environmental protection, livelihood security, and nutrition. Although school gardens programs appear positioned to become fixtures in educational institutions, there are still a number of impediments that need to be addressed to ensure their success in supplementing education. The purpose of this study was to demonstrate a consensus-driven process to identify the central issues impeding the sustained success of school gardens. We outline practical, logistical, and institutional barriers that may assist in refining support of school gardens for sustained success.

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Community Gardens

Public Horticulture

Impact Indicators for Community Garden Programs: Using Delphi Methods to Inform Program Development and Evaluation

John Diaz[1], Susan Webb, Laura Warner, and Paul Monoghan

Additional index words. logic model, outcome-driven framework, expert consensus

Summary. With growing interest in food system solutions to address poor health outcomes related to preventable chronic diseases, organizations and researchers are examining the value of community gardens as interventions to promote individual and community health. Research suggests that participation in community gardens improves access to fresh, healthy foods and increases fruit and vegetable consumption. In addition to these physical benefits, research also documents a variety of social and communal benefits, by expanding social capital, stabilizing neighborhoods, and cultivating relationships. Unfortunately, most of these studies focus on a specific case, cross case, or intervention studies within a geographically specific locale. Learning lessons from successful community garden programs can be difficult because community gardens often rely on the synergy of a complex network of support agencies that assist in various technical and educational capacities. The purpose of the study was to demonstrate the use of a framework for program development and evaluation that stakeholders, including extension, can adopt to show program outcomes. The framework used a Delphi approach with a diverse panel of community garden stakeholders to reach consensus about program outcomes. The study demonstrated that the panel could reach consensus on a variety of short-, medium-, and long-term outcomes.

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Barriers to community garden success: Demonstrating framework for expert consensus to inform policy and practice

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ARTICLE INFO

Keywords:
Barriers
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Educational and technical assistance
Garden loss
Stakeholder network
Support programs

ABSTRACT

Community gardens receive much attention for the benefits offered to participants and their communities. However, research has documented a variety of barriers and challenges that community gardeners and support organizations face in establishing and maintaining gardens. These issues may dilute service providers' impact, by reducing their attention to the more pressing factors that result in garden failure. Additionally, access to resources to mitigate these challenges and barriers differ from region to region. This demonstrates a significant need to identify the most pervasive barriers, challenges and obstacles in order to refine the focus of support programs and provide concentrated efforts to better position community gardens for success. The purpose of the study was to demonstrate the use of a framework to inform the development of policies and programs that stakeholders, including Extension, can adopt for overcoming the most frustrating impediments to success. It did so by using an underused but appropriately matched tool, the Delphi technique, which can easily be adopted by community garden stakeholders. Because the types of stakeholders are diverse and challenges are complex, the objectives were to determine whether consensus could be achieved and whether a core set of barriers exist. The group agreed upon four barriers, with the highest level of agreement centering on the challenge of time demand for community engagement.

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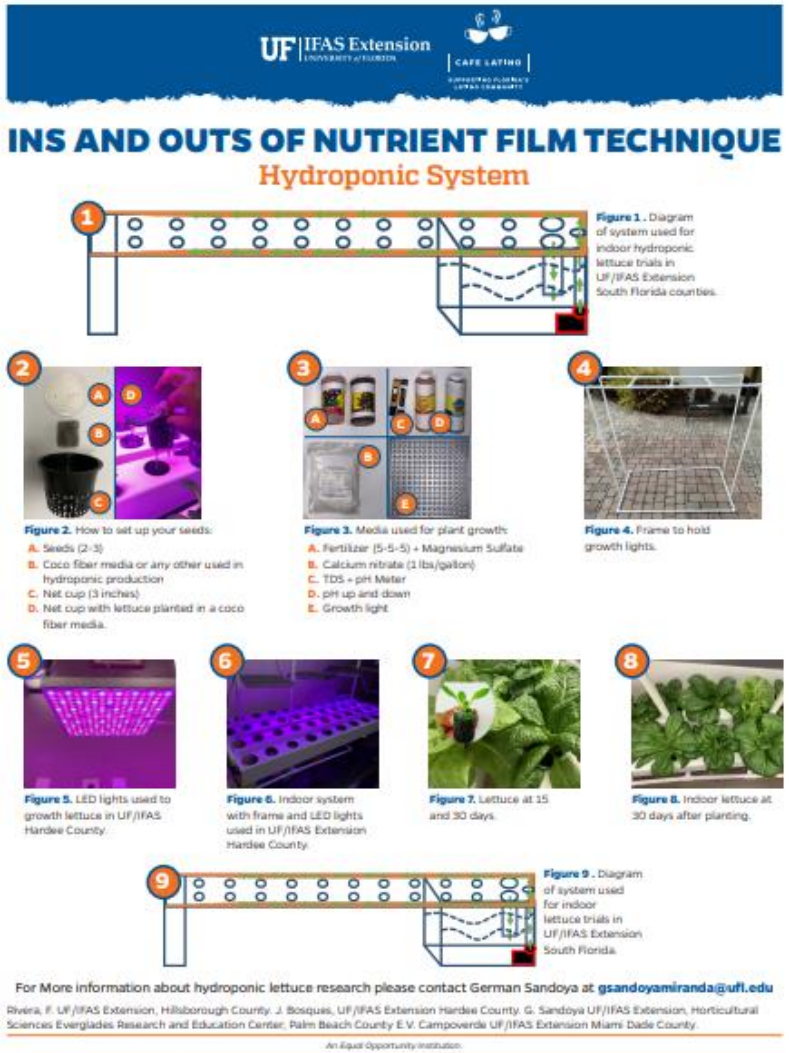
Urban Agriculture



UF IFAS Extension | CAFE LATINO

INS AND OUTS OF NUTRIENT FILM TECHNIQUE

Hydroponic System

Figure 1. Diagram of system used for indoor hydroponic lettuce trials in UF/IFAS Extension South Florida counties.

Figure 2. How to set up your seeds:
- A. Seeds (2-3)
- B. Coco fiber media or any other used in hydroponic production
- C. Net cup (3 inches)
- D. Net cup with lettuce planted in a coco fiber media.

Figure 3. Media used for plant growth:
- A. Fertilizer (5-5-5) + Magnesium Sulfate
- B. Calcium nitrate (1 lbs/gallon)
- C. TDS + pH Meter
- D. pH up and down
- E. Growth light

Figure 4. Frame to hold growth lights.

Figure 5. LED lights used to growth lettuce in UF/IFAS Hardee County.

Figure 6. Indoor system with frame and LED lights used in UF/IFAS Extension Hardee County.

Figure 7. Lettuce at 15 and 30 days.

Figure 8. Indoor lettuce at 30 days after planting.

Figure 9. Diagram of system used for indoor lettuce trials in UF/IFAS Extension South Florida.

For More information about hydroponic lettuce research please contact German Sandoya at **gsandoyamiranda@ufl.edu**

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Sistema Hidropónico: ENSAYO DE LECHUGA EN INTERIOR UTILIZANDO LA TÉCNICA DE LAMINA RE-CIRCULANTE (NFT)

Figura 1. Diagrama del sistema hidropónico utilizado en el ensayo para el crecimiento de lechugas en interior en UF/IFAS Extension en los condados del sur de la Florida.

Figura 2. Como se preparan las semillas:
- A. Semillas (2-3)
- B. Sustrato de fibra de coco u otro utilizado en la producción de hidropónicos.
- C. Recipiente con orificios (3 pulgadas)
- D. Recipiente con orificios con lechuga sembrada en sustrato de fibra de coco.

Figura 3. Materiales utilizados para monitoreo y crecimiento de plantas:
- A. Mezcla de fertilizante (5-5-5) + Sulfato de Magnesio
- B. Nitrato de Calcio (1 lb/ galón)
- C. Medidor de nutrientes disueltos y pH en solución
- D. Solución para aumentar o disminuir el pH
- E. Lámpara LED para el crecimiento de planta

Figura 4. Armazón creado para sostener lámparas para el crecimiento de plantas.

Figura 5. Lámparas LED utilizadas para el crecimiento de lechugas en el servicio de Extensión del condado de Hardee.

Figura 6. Sistema NFT utilizado en interior con armazón y luces LED utilizadas en los condados de Broward, Everglades, Hardee, Hillsborough, Miami Dade.

Figura 7. Lechugas a los 15 y 30 días.

Figura 8. Lechugas en interior luego de 30 días de sembradas.

Figura 9. Figura 1. Diagrama del sistema hidropónico utilizado en el ensayo para el crecimiento de lechugas en interior en UF/IFAS Extension en los condados del sur de la Florida.

Para más información sobre investigación en la producción de Lechugas en Sistemas Hidropónicos favor contactar a Germán Sandoya al siguiente correo electrónico **gsandoyamiranda@ufl.edu**

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Community Development and Public Health

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Achieving Farmworker Health Equity in Colombia: A Participatory Approach to Identifying Needs and Strategies

J. Diaz[1], L. Warner[2], L. Vargas[3], I. Taboada[4], C. Gusto[5], A. Abreu[6], K. Lawson[7], N. Beatty[8]

Abstract

Farmworkers, who are essential to the global food supply chain, are often exposed to a range of occupational hazards that can have negative impacts on their health. Hazards include exposure to pesticides, long working hours, and physical strain, among others. Unfortunately, farmworkers, particularly those in low- and middle-income countries, often lack access to basic healthcare services and face numerous health inequities. Colombia is no exception. The country's agricultural sector is an important part of its economy, but farmworkers in Colombia face significant health challenges. Many work long hours in difficult conditions and lack access to basic healthcare services. To address such challenges, there is a need for greater awareness and action targeting global farmworker health inequities, specifically in Colombia. The study's purpose was to reach consensus among community health workers who serve farmworkers in Colombia on the most pervasive barriers to healthcare access and quality of care, as well as on effective strategies linked to those barriers. Using the Delphi technique, seven barriers and five strategies achieved consensus. The results provide insights for key stakeholders such as extension educators to consider in the development of policy and practice intended to overcome relevant barriers and advance health equity among farmworkers.

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Keywords
Delphi technique; health care access; quality of health care; community-based participatory action research; health disparities

Open Access Article

Evaluating Rural Health Disparities in Colombia: Identifying Barriers and Strategies to Advancing Refugee Health

by John Diaz [1,*], Isabel Taboada [2], Adriana Abreu [2], Lara Vargas [2], Ysabel Polanco [3], Alex Zorrilla [2] and Norman Beatty [2,4]

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Educator Competency Development

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Evaluation and Program Planning

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Expanding evaluator competency research: Exploring competencies for program evaluation using the context of non-formal education

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ARTICLE INFO

Keywords:
Evaluator competency
Context effect
Delphi study
Maturity of the profession
Expert consensus

ABSTRACT

The overlap of competencies between general program evaluation and specific contexts or content will always be reality because evaluators may need unique competencies to answer evaluation questions for particular contexts or content areas. Limited research exists that explores the essential competencies required by professionals who use evaluation as one part of their job portfolio, which leaves unanswered questions regarding the applicability of current evaluator competency models in such settings. We used a modified three-round Delphi technique to identify evaluator competencies for non-formal educators in Cooperative Extension (CE). Our panelists identified 36 competencies in the non-formal educational programming context for CE educators that they considered important to be included in evaluation capacity building efforts. We categorized our 36 identified competencies from the Delphi study into the five competency domains proposed by the American Evaluation Association. Our findings provide information to help guide professional development among non-formal educators related to program evaluation.

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Intercultural Competency Development Model for Extension Professionals: Expert Consensus Using the Delphi Technique

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Abstract. To address concerns about the applicability of existing intercultural competence models to the Extension context, we aimed to develop a systematic intercultural competence framework tailored for Extension professionals through a collaborative and consensual process. A three-phased Delphi approach was utilized with a panel of 36 intercultural competence experts in Extension across academic disciplines to identify and finalize competencies thought to be necessary across career phases. The panel agreed upon 54 competencies in total with 13 competencies to develop in the first year, 37 competencies to develop in the first three years and four competencies in years two through seven.

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Towards intercultural competence: Using consensus to identify essential personality traits for an inclusive extension education workforce

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PDF

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Successes and Challenges

Successes

- Buy-in across groups
- Synergy in program development and evaluation
- Enhance idea and resource sharing
- Diffusions/Adoption of results in other areas

Challenges

- Getting panelists to complete surveys
- Difficult with limited technology audiences
- Perception of length of time
- Initial identification of panelists

Questions?

Email: john.diaz@ufl.edu

- **Questions for Guest Speakers**:

1. What have you found to be the main advantages of using Delphi for needs assessment compared to other methods?
2. Share an example of how you used Delphi for needs assessment. (John: Horticulture needs assessment study & Anil: ECB Model study)
3. Did you face any challenges while using Delphi and if so, what best practices would you advise?