

# Practical Methods to Measuring Outcomes

**October 20, 2020**

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Davis

## **CE ADVISOR PANEL**

**Sheila Barry**, County Director & Livestock/Natural Resources Advisor, San Francisco Bay Area

**Marcel Horowitz**, Healthy Families and Communities Advisor, Capitol Corridor

**Aparna Gazula**, Small Farms Advisor, Santa Clara, Santa Cruz, San Benito Counties

# Agenda

10:00	<b>Welcome &amp; Overview</b>
10:05	<b>Presentation on Outcomes Evaluation</b>
10:50	<b>Break</b>
10:55	<b>Panel of UCCE Academics</b>
11:25	<b>Small Group Discussion &amp; Report Out</b>
11:55	<b>Wrap-up &amp; Training Evaluation</b>
12:00	<b>Adjourn</b>

# Anticipated Outcomes

Participants will gain...

- Understanding of how to define program theory and incorporate ANR's condition changes and public values
- Understanding of defining outcomes and measurable indicators
- Understanding of options for evaluation data collection methods to measure program participant outcomes
- A draft evaluation plan

# Why & How To Use Outcomes Data

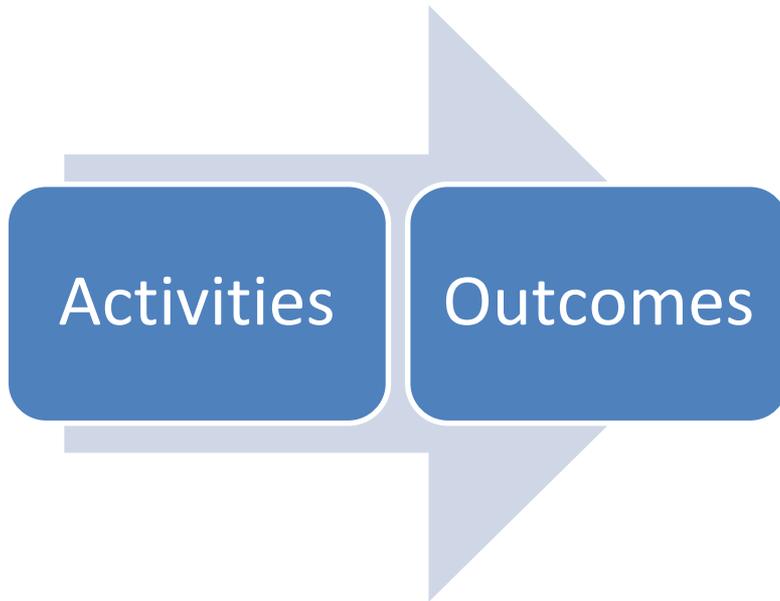
- Program improvement
- Program support
- Accountability
- Communications
- Merit and promotion
- Publications

# Basic Steps for Outcomes Evaluation

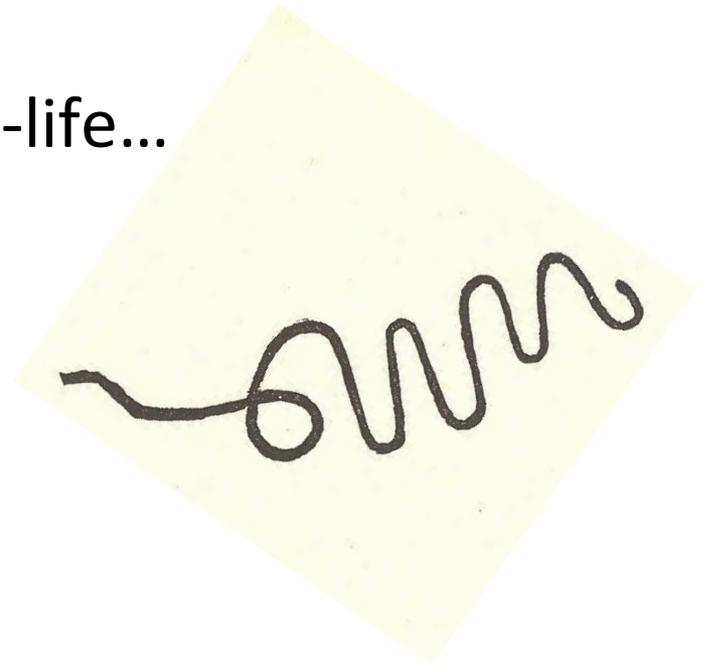
- 1. Develop a program theory**
- 2. Define the intended outcomes**
- 3. Identify the indicators**
- 4. Determine sources of information**
- 5. Choose data collection methods**
- 6. Analyze & interpret data** (attend future trainings!)

# Develop a Program Theory

If this then that...



Real-life...

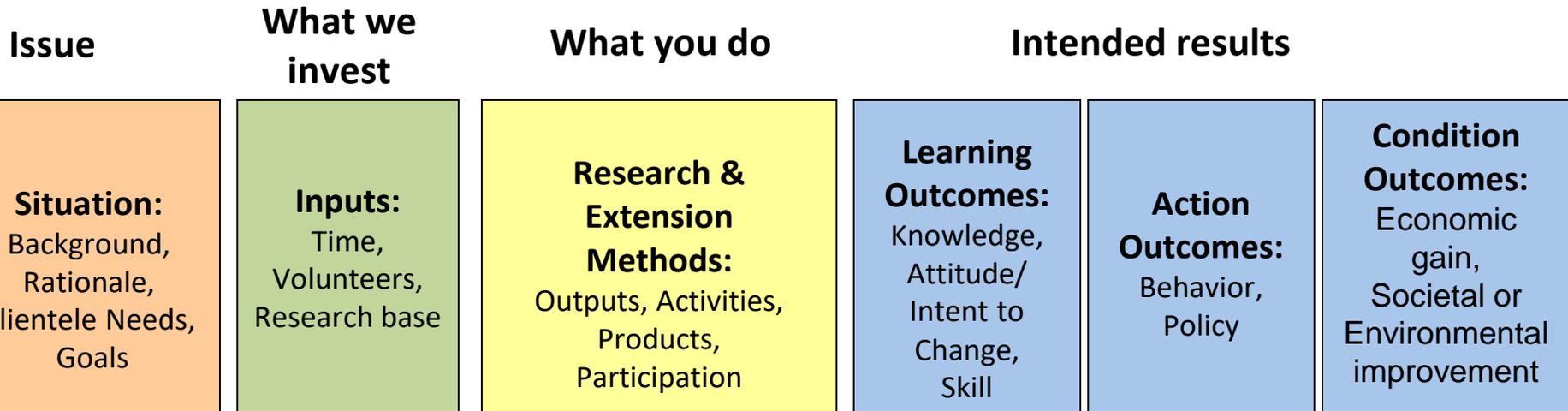


# Leigh Johnson, UCCE San Diego Coastal Resources Advisor, Emeritus



# Program Theory

**Logic Model:** chain of connections showing what difference the program intends to make



# Differentiating Outcomes from Outputs

- **Outcome** is something that *comes out of a program*
- **Output** is *under the control of educator*, whereas outcome is not under the full control of educator.

(Davidson, J. E., 2016)

# Examples of Outputs

## What you do:

- Research
- Workshops
- Field Days
- Meetings
- Services
- Videos
- Blog posts
- Brochures
- Factsheets
- Curriculum
- Evaluation activity
- Working with media

## Participation/Who you reach:

- Participants
- Clients
- Agencies
- Decision-makers
- Customers
- Satisfaction

# Differentiating Outcomes from Impact

- **Outcome** is “so what” of outputs.
- **Impact** is the ultimate “so what.”

# Public Values with respective Condition Changes

## **UC ANR: Safeguarding abundant and healthy food for all Californians**

- Improved food security
- Improved food safety

## **UC ANR: Protecting California's natural resources**

- Improved management and use of land
- Improved air quality
- Protected and conserved soil quality
- Increased ecological sustainability of agriculture, landscapes, and forestry
- Improved water quality
- Improved water-use efficiency
- Improved water-supply security

## **UC ANR: Promoting economic prosperity in California**

- Improved individual and household financial stability
- Enhanced community economic development
- Improved animal management, productivity and efficiency
- Increased agriculture and forestry efficiency and profitability
- Increased emerging food economies and markets

## **UC ANR: Promoting healthy people and communities**

- Improved health for all
- Improved community health and wellness
- Improved access to positive built and natural environments

## **UC ANR: Developing a qualified workforce for California**

- Increased workforce retention and competency
- Increased effective public leaders
- Improved college readiness and access
- Increased civic engagement

## **UC ANR: Building climate-resilient communities and ecosystems**

- Increased preparedness and resilience to extreme weather and climate change

## **UC ANR: Developing an inclusive and equitable society**

- Improved living and working conditions for California's food system and farm workers
- Increased diversity, inclusiveness, and cultural competency in California's workplaces

# UC Master Gardener Example

**What difference are we making?**

**Public Value:**  
Protecting CA  
natural resources

## Learning

# Participants gain knowledge & skills about composting



## Action

# Participants adopt recommended green waste reduction practices



## Condition

Reduced yard waste sent to landfills  
*BioCycle study: 16 households diverted 5.8 tons in 10 months*

Increased ecological sustainability of landscapes



# UC ANR Project Board & E-Book Definitions: for academic program review and reporting

## **Outcomes/Impacts**

- changes in **learning** (knowledge, attitudes, or skill)
- change in **action** (behavior or practice)
- changes in **policy or decision-making** (science-based information applied to decision-making or results from policy engagement)
- changes in **conditions** (social/health, economic, environmental)

# Focusing Your Outcomes Evaluation



Define Intended Outcomes that are...

## **REASONABLE**

- **connected in a logical way to your program activities**

## **REALISTIC**

- **achievable given the situation and resources/inputs**

## **IMPORTANT**

- **represent an important change that is valued by participants and key stakeholders**

# Outcome Indicators

**If the outcome is achieved, how will you know it?**

**What will it look like?**

**What is the evidence?**

## Criteria:

- Tangible
- Specific
- Useful
- Practical
- Culturally responsive
- Adequate

# Logic model with Indicators



UC Statewide IPM Project  
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## Activities

## Outcomes

Program implemented

Targeted growers

Growers learn X

Growers adopt X new technique

Farm profitability increases

# workshops held  
quality of workshops

# and % of growers attending Extension activities

# and % who increase knowledge of X

# and % who now practice research-based technique X

# and % reporting increased profits  
amount of increase

# Practice

***Intended Outcome: Growers have expanded economic opportunities***

*What are some possible outcome indicators?*

- Please add your ideas to the Chat

# Practical Methods for Evaluation Data Collection to Measure Outcomes

# Culturally Responsive Evaluation

*“cultural competence is an ethical imperative”*

*“cultural competence is not a state at which one arrives; rather, it is a process of learning, unlearning, and relearning”*

- American Evaluation Association (AEA), 2011

## Tips

- **work with stakeholders** to develop your evaluation approach that is culturally responsive and equitable
- we cannot know everything about another culture, but we can **continue to ask questions and learn** in service of others
- **practice self-reflection**
- secondary data: might miss some marginalized groups; **identify and contact organizations working with marginalized groups**

Compiled from AEA blogs

# Considerations

## **How might participant characteristics affect your evaluation?**

- Language
- Age
- Abilities: mental, physical, social
- Male-female interactions, communication styles, family relationships, decision-making styles
- Attitudes to conflict
- Concept of time
- Approaches to knowing and ways of knowing

# Ensuring Culturally Competent Evaluation UCCE Example



From Mark Bolda, County Director, Santa Cruz County and Farm Advisor, Strawberries & Caneberries

# Your sources of evaluation information

**Most often  
your program  
participants!**

## **Other sources may include:**

- Existing data
  - Program records, sales records, etc.
  - Pictures, charts, maps, pictorial records
- Others/Non-participants
  - Funders
  - Collaborators
  - Etc.

# Extension Evaluation Data Collection Methods

- **Secondary Data**
- **Observation**
- **Interview**
- **Group assessment**
- **Survey**

# Secondary Data

## Use it for:

- ✓ Behavior change
- ✓ Quantitative data
- ✓ Qualitative data

## Content analysis of existing information

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- Sales records or use records
- Little to no participant burden
- If possible, get pre and post data for comparison
- Document systematically

# Secondary Data

## **UC IPM & MG example:**

“The four local Orchard Supply Hardware stores have a “quick tip” card holder kiosk at the end of each pesticide aisle and “shelf talkers” identifying less-toxic products.

OSH reported a 12% increase in the sale of less-toxic products compared to the more-toxic alternatives.”

# Observation

## Use it for:

- ✓ Skills gained
- ✓ Behavior change
- ✓ Qualitative data
- ✓ Quantitative data, if systematically collected

## Seeing & listening!

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- You likely already do it!
- Less to no participant burden
- When there is physical evidence that can be readily seen
- Confirm fidelity of implementation
- Pre/Post approach for comparison

# Observation

## Field Notes

- Can be in a least structured way
- You can commit observations to memory and make notes later
- Carefully record date, location, relevant information
- Leave a wide margin for analysis later
- Consider creating a simple database to pull out participant outcomes to later report

# Observation

On-farm research - to optimize use of modern technologies to increase aquatic animal welfare and labor efficiencies

**Three farms adopted technology and improved the welfare of thousands of finfish.**

→ Improved animal management, productivity and efficiency

## UCCE Specialist Aquaculture Extension



<https://aquaculture.ucdavis.edu/>

# Observation

## **Observation Guide/Checklist**

- Tool to document what you've seen & heard for later evaluation write-up
- Clipboard in the field or later in the truck

Observation Prompts	Actions You See or Comments You Hear
<p><b>1) Engagement/Delivery</b></p> <p>a. How are students engaging in the activities?</p> <p>b. What is their body language?</p>	
<p><b>2) Learning</b></p> <p>a. Are students expressing what they are learning?</p> <p>b. Is the environment conducive to learning?</p> <p>c. Are students forming new connections? Why? How?</p>	
<p><b>3) Staff friendliness &amp; circulation</b></p> <p>a. Warm tone of voice and respectful language</p> <p>b. Attentive and responsive</p> <p>c. One-on-one interactions with every student</p>	

# Observation Guide: Elkus Ranch Summer Camp (June 25th – Aug. 26th, 2018)

Adapted from

Klink, J. (2014). *Field Day Observation Guide*.  
Environmental Resources  
Center, University of Wisconsin-  
Extension.

Carlson, S. P., Heimlich, J. E.,  
Storksdieck, M., & Meyer, N.  
(2009). *Best practices for field  
days. Assessment tools and  
observation protocols*.  
University of Minnesota  
Extension.

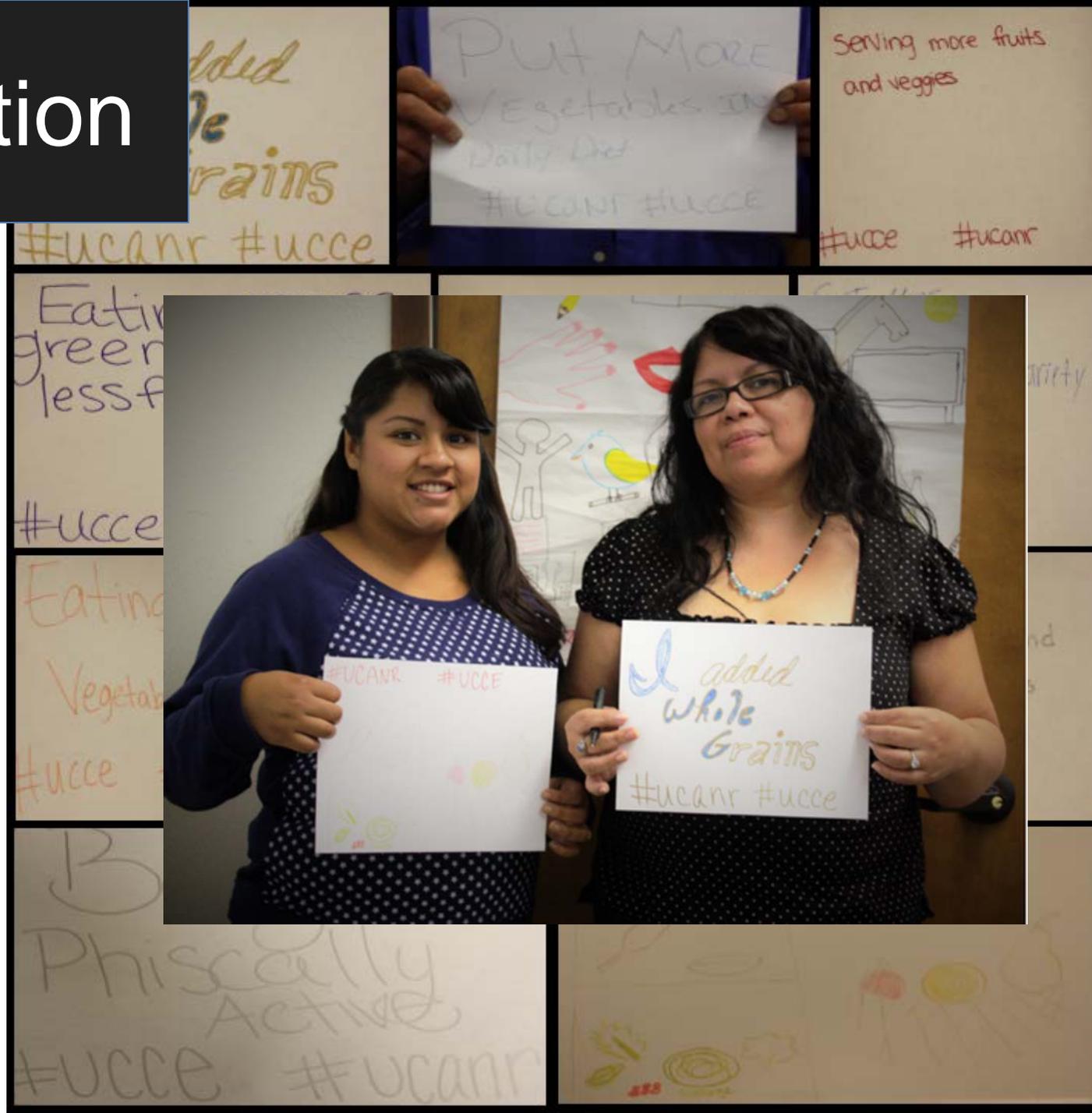
# Observation

## **Photograph/Video**

- Present powerful visuals to illustrate behavior change or adoption
- Can be documented by volunteers, participants, YOU!
- Can be analyzed using evaluative rubrics (e.g. youth photo journals)

# Observation

CalFresh Healthy Living, UC participants document outcomes using #healthyselfie



# Interviews

## Use it for:

- ✓ Self-reported knowledge, attitude, behavior changes
- ✓ When surveys inappropriate
- ✓ Qualitative data
- ✓ Some quantitative data

## Talking and listening to people

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- Range from free-flowing, semi-structured, tightly structured
- Create an interview protocol for consistency
- Can also ask about impact, unintended outcomes, as well as process evaluation questions (ideas for improvement or barriers to implementation)

# Interviews

## Formal interviews

- Collect consistent data overtime; using the same questions
- Institutional Review Board (IRB)

# California Naturalist Program

California Naturalists Project Interview Summer 2017

Location: \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Interviewer \_\_\_\_\_

Version for current CC participants

### Background

1. General demographic questions (age, ethnicity, etc. -this could be a given already)
2. Which Conservation Corps Program are you participating in? How did you find out about it?
  - a. What factors motivated you to participate?
3. When did you first develop interests in the things that made you to want to participate in the program?
4. Growing up, did your family participate in nature-based/outdoor activities ?
5. Growing up, were you interested in nature and/or science?
6. What are some environmental issues facing your community?
  - a. How do you engage with them?
7. Are there particular environmental issues that are important to you (for example, climate change, energy consumption/carbon footprints, water quality (or clean air etc.), air quality, habitat loss, trash and recycling, etc.??)? If yes, what are they and why?
8. Do you see yourself as someone who knows about the environment?

# Interviews

## UCCE Extension, Yana Valachovic, Informs Fire Resilience Policy

### Informal Interviews

Bills informed by UC ANR's work on prescribed fire were signed into law in 2019:

- SB 901 -- provided input
  - AB 38 -- technical adviser
1. Used primary research to inform the discussions
  2. Staffers would send her language, she would review and provide comment
  3. Often follow-up conversations



# Group Assessment

## Use it for:

- ✓ Self-reported knowledge, attitude, behavior change
- ✓ Qualitative data

Uses group processes such as focus groups

- 
- Group processes foster trust and relationship-building in addition to the activity's goals
  - Piggyback off existing meetings
  - About 10 people for a 60-90 min session
  - Can also ask about impact, unintended outcomes, as well as process evaluation questions (ideas for improvement or barriers to implementation)

# Group Assessment

## Ripple Effect Mapping

- Appreciative Inquiry
- Intended and unintended outcomes
- Participatory
- Radiant
- Thinking and Mind Maps (X-mind)
- Qualitative analysis



# Survey

## Use it for:

- ✓ Knowledge change
- ✓ Self-reported knowledge, attitude, behavior change
- ✓ Qualitative data
- ✓ Quantitative data

## Collecting standardized information through structured questionnaires

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- Online is fast and cheap
- Typically used for participant reaction, but potential for much more!
- Consider using for in person and online Extension activities
- Consider survey fatigue, add an incentive or use clickers for better engagement
- Qualtrics!
- Always test your survey (cognitive interviews)

# Survey



Pre/Post

The snail pictured above is a: \*

- White garden snail
- Brown (European) garden snail
- Decollate snail
- Amber snail
- I don't know

UCCE  
Area IPM  
Advisor



The snail pictured above is a: \*

- White garden snail
- Brown (European) garden snail
- Decollate snail
- Amber snail
- I don't know

# Survey

## On-site (or shortly after) post with retrospective- pre

### Shot-hole Borer Workshop

Practice	Abs Before	Abs After	Change
ID pests	29.00%	63.00%	34%
Treat emerging	25.00%	54.00%	29%
Treat common	27.00%	57.00%	30%
Manage wood	32.00%	75.00%	43%
Share to co-workers	37.00%	85.00%	48%
Share to public	40.00%	78.00%	38%



Home - ANR Portal | Edit Survey | Qualtrics Survey

Secure | <https://ucanr.co1.qualtrics.com/ControlPanel/?ClientAction=EditSurvey&S>

Apps ANR CalNat ANR ANR Portal Box - UCD UCR Eskalen Lab: Fusarium ANR PSHB Outlook.com -

Q8 **AFTER** this training, do you intend to do the following practices?

	Absolutely	Somewhat	Slightly	Not at all
<input type="checkbox"/> Identify tree insect pests and diseases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/> Use recommended strategies to treat for emerging tree pests and diseases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/> Use recommended IPM strategies to treat for common tree pests and diseases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/> Use recommended strategies to manage wood and firewood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/> Share information from this workshop with co-workers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/> Share information from this workshop with the public	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10 **BEFORE** this training did you do the following practices?

	Absolutely	Somewhat	Slightly	Not at all	Not applicable
<input type="checkbox"/> Identify tree insect pests and diseases	<input type="radio"/>				
<input type="checkbox"/> Use recommended strategies to treat for emerging tree pests and diseases	<input type="radio"/>				

# Survey

Online  
educational  
materials  
evaluated with  
**follow-up survey**

Downloadable at no  
cost, but asked for  
name, email, employer,  
city, and state to gather  
evaluation information

Did you increase your  
knowledge on the use of  
pesticide handling best  
management practices to  
protect water quality?

75% (9/12) Yes

17% (2/12) No

8% (1/12) Did not answer

# Recap on Methods

- There is no one right method for collecting evaluation data
- Each has a purpose, advantages and challenges
- Consider purpose, participants, and resources available when selecting your method
- The goal is to obtain trustworthy, authentic and credible evidence
- Often a mix of methods is preferred

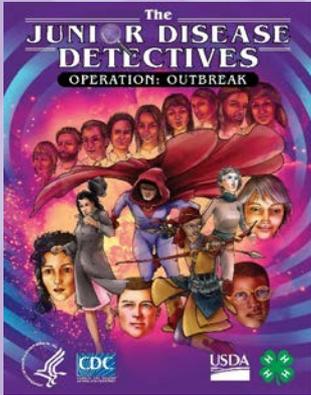


Break

# Panel of UCCE Academics

- **Sheila Barry**, County Director & Livestock/Natural Resources Advisor, San Francisco Bay Area
- **Marcel Horowitz**, Healthy Families and Communities Advisor, Capitol Corridor
- **Aparna Gazula**, Small Farms Advisor, Santa Clara, Santa Cruz, San Benito Counties

# Creating Healthy Communities with the UC 4 - H Disease Detectives Project



Marcel Horowitz, MS, MCHES

Healthy Youth, Families, and Communities Advisor  
Yolo County

Work conducted with:

Anne Iaccopucci, UC 4-H Healthy Living Academic Coordinator

Dorina Espinoza, YFC Advisor, Humboldt/Del Norte Counties

# Taught virtually to three cohorts

The image shows a virtual classroom environment. On the left, a Google Docs document titled "Lesson 7 outline" is open. The document content is as follows:

Lesson 7 outline

1. Students will be able to identify an action step to mitigate the spread of COVID-19.

2. Students will create a public service announcement or other Social Marketing material for other 4th-graders.

III. (10 minutes) Ice breaker:

Bring: 1) a ruler 2) a tape measure OR 6 pieces of paper OR 6 shoes 3) a face mask

- 1) Have everyone measure out six feet with a tape measure, 6 pieces of paper, or 6 shoes spaced 12 inches apart.
- 2) Put a ball of up tissue on your computer.
- 3) Blow on it.
- 4) Does it move? Step back and blow again.
- 5) How far back do you have to go before you cannot move it? Measure that distance.
- 6) Repeat wearing a face mask.

IV. (30 minutes) Examples of PSA's:

Put into chat box

- a) How do influence people's behavior?
  - i) motivate
  - ii) change attitudes
  - iii) educate
  - iv) enforce policy
  - v) influence with peer pressure

On the right, a Zoom meeting window is displayed. The meeting grid shows several participants, including Nic Sir, Marcel Hoppert, Rachel Sifers, Dorina Espinosa, Mason Greeley, Rowan Cavanahman, Carson and Emily Karle, Noah Sifers, Anne Iaccopucci, Emily Charlton, Kalirroi & Eva, and Quinn Craven Pi... At the bottom of the grid, three participants are listed: Madoc Greeley, Ben Traxler, and Aurora. A Zoom Group Chat window is open on the far right, showing a message from "Everyone":

From Me to Everyone:  
Bring: 1) a tissue 2) a tape measure OR 6 pieces of paper OR 6 shoes 3) a face mask

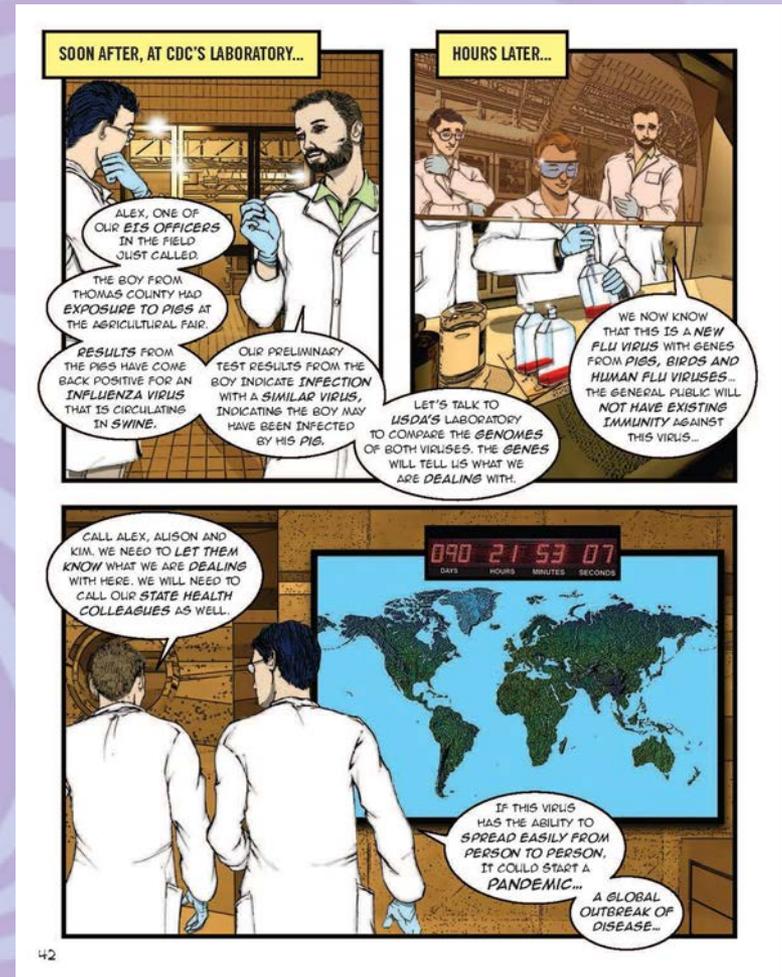
From K. to Everyone:  
can it be double sided tape?

From N. to Everyone:  
hardy har har....

Type message here...

# Lesson Topics

- Public health process
- Disease outbreaks
- Virus transmission
- Epidemiology
- Immunity
- Vaccines
- Prevention
- Public service and policies



# Evaluation

- Met with Vikram, UCCE Evaluation Specialist to develop pre and post Qualtrics surveys.
- Linked them on-line at <https://ucanr.edu/sites/DiseaseDetectives/>
- Evaluated participants knowledge, attitudes and behaviors.
- Evaluated course format as well.

# Knowledge Questions

Which of these things could possibly make you sick from an animal? (check all that apply)

- Eating in the barn with your livestock
- Watching a seahorse at the aquarium
- Feeding your fish
- Collecting feathers in the wild
- Petting or cuddling an animal
- Shoveling manure
- Not washing your hands after grooming your animal
- Wearing leather or wool
- Watching a dog show



# Intent to Change Questions

13A. To quarantine means to stay in a closed room alone when you feel sick. Is it possible for you to do this in your home?  Yes  Maybe  No

13B. If maybe or no, what would make this possible for you?

---

13C. Would you choose to quarantine yourself in you started to get sick with a fever, cough, runny nose, extreme tiredness, were not hungry or felt really bad?

I definitely would

I probably would

I maybe would

I maybe would not

I probably would not

I definitely would not

# Retrospective Behavior Questions

**15. How has your current hand washing (or use of hand sanitizer) behavior changed, compared to before this 4-H Disease Detective project?**

**I wash them...**

...before preparing food?

...at school before eating?

...at home before eating?

...after sneezing or coughing?

...after using the bathroom at home?

...after shopping in a public space, such as a grocery store or retail store?

...after working with animals?

*much more often*

*more often*

*somewhat more often*

*somewhat less often*

*less often*

*much less often*

*does not apply*

# Long term Condition Change

To foster healthy youth, families and communities, this project contributed to the **UC ANR Condition Change of improved health for all**. Specifically, youth adopted healthy lifestyles and decision-making practices and changed attitudes toward, and gained knowledge about, healthy practices.



Always Wear your face mask

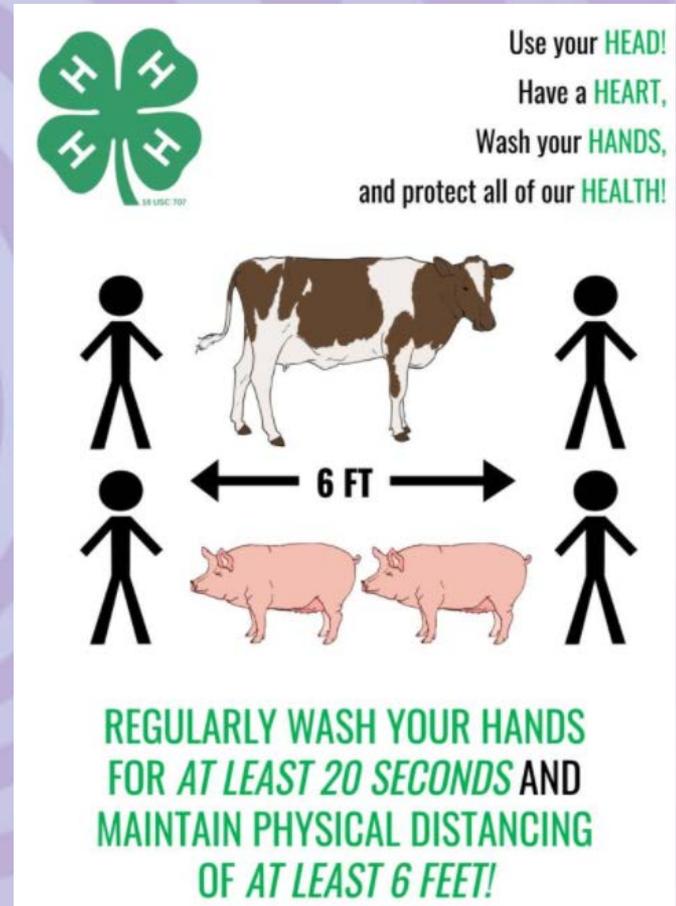
# Measured Behavior Outcomes

After completing the UC 4-H Epidemiology Project, youth reported that

They more often washed their hands:

- before food preparation (78.1%),
- after sneezing or coughing (56.2%), and
- after shopping in a public space (87.5%).

84.4% of youth reported that they were more likely to wear a face mask when out in public, compared to before the project.



# More Measured Outcomes

Youth reported not only improved health behaviors for themselves, but also reported being leaders in the health of their communities.

Many of the young participants (62.5%) reported that they can definitely help control the spread of diseases and 71.9% could envision themselves getting involved in their local community to help slow the spread of disease.

Following project participation, over half of all participants picture themselves choosing a career in medicine, public health, veterinary sciences or epidemiology.



# Publishing and sharing outcomes

- Website at <https://ucanr.edu/sites/DiseaseDetectives/>
- UCANR blogs <https://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=43548>
- Conference poster- in process
- JOE article- in process
- Several national webinars to share approach and materials

**Please unmute and  
turn your video on**

It will be nice to get to  
see & know each  
other!



# MEASURING OUTCOMES ON THE RANGE

SHEILA BARRY  
LIVESTOCK AND NATURAL RESOURCES ADVISOR



**University of California**  
Agriculture and Natural Resources

Cooperative Extension

CONDITION CHANGE

**INCREASED ECOLOGICAL  
SUSTAINABILITY OF  
AGRICULTURE, LANDSCAPES,  
AND FORESTRY**

# California's Invaded, Novel Landscape



Photo from [SarahDawson.net](http://SarahDawson.net)

# MANAGEMENT TO SUPPORT THREATENED AND ENDANGERED SPECIES



# MANAGEMENT TO REDUCE CATASTROPHIC WILDFIRE



# CLIENTELE

- Conservation Organizations
- Resource Management Professionals
- Resource Management Agencies
- Public Landowners
- Ranchers

# RESEARCH

- Ecological sustainability. Compiled research findings and developed a decision support system ([www.grazingimpacts.info](http://www.grazingimpacts.info)).
- Social sustainability. Research using social media to understand park visitor's feelings regarding cattle and grazing in parks (research published in the Journal of Environmental Management).
- Economic sustainability. Developed a cost study of cow-calf production on public land (UC Davis Cost Studies).

# EXTENSION

- Workshops (4) for public land managers and ranchers focused on minimizing conflict between livestock and public in parks.
- Symposium, Grazing for Biological Conservation which led to published proceedings.
- Fact sheet series, UC ANR 8000 series, “Understanding working rangeland”
- Interpretative signage of grazing values and sharing open space.
- Video series, Sharing Open Space and Ranching 101.
- Policy review to share research-based findings e.g. Habitat Conservation Plans, Conservation Strategies.
- Coordinated meetings of two coalition organizations to extend information to policy makers and land managers.

# OUTCOMES

- SHORT-TERM: *Learning*

New practices or concepts from post workshop survey.

- MID-TERM: *Behavior/Policy*

Agencies adopt new conservation strategies. Re-introduce grazing (5 properties, 11,000 acres).

Inclusion of rangeland management experts in planning.

# OUTCOMES/IMPACT

- LONG-TERM: Economic, Environmental, Social/Health condition changes

Increased availability of grazing land □ IMPROVED MANAGEMENT AND USE OF LAND, IMPROVED ANIMAL MANAGEMENT, PRODUCTIVITY, EFFICIENCY

Conserved working lands or populations of species □ INCREASED ECOLOGICAL SUSTAINABILITY

Reduce operating budgets □ IMPROVED ANIMAL MANAGEMENT, PRODUCTIVITY, EFFICIENCY

# MEASURING

- POST WORKSHOP SURVEY
- AGENCY REPORTS AND PRACTICES
- PUBLIC POLICY CHANGE

SHEILA BARRY  
LIVESTOCK AND NATURAL RESOURCES ADVISOR

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**University of California**  
Agriculture and Natural Resources

Cooperative Extension



# Measuring Outcomes on Small Farms

**Aparna Gazula**  
**Small Farms and  
Specialty Crops Advisor**  
**Santa Clara, San Benito,  
and Santa Cruz Counties**

# Program Themes

- 1. Enhance Competitive, Sustainable Food Systems,**
- 2. Improve Water Quality, Quantity, and Security and Preservation of Natural Resources, and**
- 3. Promote Integrated Pest Management for Small Farms and Specialty Crops.**

# Clientele

- **Small and medium size diversified farmers, limited resource socially disadvantaged farmers growing specialty vegetable, fruit, and herb crops**
- **Large scale pepper growers and managers**
- **Pest Control Advisors, crop consultants, processors, and marketers of vegetable and specialty crops**
- **Public and private agencies in the county and the region**

# Public Values & Respective Condition Changes

- **UC ANR: Safeguarding abundant and healthy food for all Californians**
  - Improved food safety
- **UC ANR: Protecting California's natural resources**
  - Protected and conserved soil quality
  - Increased ecological sustainability of agriculture, landscapes, and forestry
  - Improved water quality
  - Improved water-use efficiency
- **UC ANR: Promoting economic prosperity in California**
  - Increased agriculture and forestry efficiency and profitability
- **UC ANR: Developing an inclusive and equitable society**
  - Improved living and working conditions for California's food system and farm workers





**Observations:**

**Behavior change  
Quantitative data**



### Microgreens Workshop Evaluation and Satisfaction Survey

Thank you for participating in today's workshop. We would like to know what you learned & how you feel about the course.

1. Using the scale below, please indicate your level of knowledge before (left columns) and after (right columns) the program for each of the topics provided in the central column. With 1 = low, 3 = medium, and 5 = high.

Before Today's Course						After Today's Course				
1	2	3	4	5		1	2	3	4	5
					I know about the business side of growing microgreens.					
					I know about the crop species used for producing microgreens.					
					I know about the media used for producing microgreens.					
					I know about the materials needed for growing microgreens.					
					I know about the production costs of microgreens.					

2. Please indicate your level of agreement or disagreement with the following statements:

Statements	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
I intend to grow microgreens.					
I intend to grow microgreens as a business.					
I already grow microgreens.					

3. From the information that you learned today, which practices do you intend to adopt?

Please flip & answer the questions on the back!



4. Please evaluate the course was on the following items (Check one for each statement):

Workshop Design and Logistics	Very Poor	Poor	Average	Good	Very Good
Organization of the course					
Length of the course					
Location (easily accessible)					
Size/comfort of the training facility					
<b>Learning Environment</b>					
Time spent on interactive activities					
Opportunities for discussion with other participants					
Opportunities for asking questions or comments					
Answers to my questions					
<b>Instruction</b>					
Ease for me to understand the information					
Relevance of information					
Thorough coverage of material					
Specific examples of how to use the materials					
<b>Overall Rating for the Course</b>					

5. Please tell us what topics you would like presented in future workshops?

6. Other comments.

Thank You!

# Survey: Post-Pre

# Knowledge change Intent to change behavior Need for future information



请在适当的空格内填上 X。

	非常差	差	一般	好	非常好
	1	2	3	4	5
1. 食品安全对你的业务重要吗?					
2. 此次会议达到您的期望吗?					
3. 本次研讨会会增加或提高你对食品安全的知识吗?					
4. 你会推荐本次研讨会给别人吗?					
5. 任何其他意见?					

请在适当空格内填上 X

	肯定不会	应该不会	还没有决定	应该会	肯定会
6. 我计划会议结束后从专家周琪处寻求食品安全方面的帮助					

如果您需要专家周琪帮助您填写相关表格和为您的农场食品安全做准备,请填写下面的联系信息。

名字: \_\_\_\_\_

联系地址: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

电话号码: \_\_\_\_\_  
\_\_\_\_\_

方便访谈的时间: \_\_\_\_\_

谢谢



请在对应的地方填上 X:

	非常不同意	不同意	未决定	同意	非常同意
1. 这个研讨会是否增加了你对加州农业局的健康土壤奖励计划的了解?					
2. 这个研讨会是否增加了你对移动灌溉实验室的了解?					
3. 我将需要从专家周琪处寻求帮助以申请健康土壤计划的奖金					
4. 我将需要从专家 Michael Johnson 处寻求帮助以评估灌溉系统					

5. 如果你打算从专家 Michael Johnson 处寻求灌溉系统方面的帮助,请在此处打勾:

6. 如果你打算从专家周琪处寻求帮助以申请健康土壤计划的奖金,请在此处打勾:

7. 如果您需要以上两项中的任何一项帮助,请留下联系方式:

姓名: \_\_\_\_\_

电话: \_\_\_\_\_  
\_\_\_\_\_

8. 您的农场还有任何需要帮助的吗?比如昆虫防治,病害防治,或者其余的种植方面的问题?如果有,请例举,方便我们帮助您:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Survey:  
Post

Knowledge change  
Intent to change behavior  
Need for future information

# Irrigated Lands Regulatory Program



## Policy Change

- Provided comment on new regulation language during comment period
- Wrote and submitted a white-paper
- Provided ex-officio comment
- Reviewed language of final regulation for outcome

**Please unmute and  
turn your video on**

It will be nice to get to  
see & know each  
other!



# Small Group Discussion

**Discuss the benefit of your project/program for your clientele:**

1. What are the intended learning and action outcome(s) for your participants (individuals or organizations)?
1. What are the outcome indicator(s)?
1. How will you measure? What evaluation data collection method(s) will you use?
1. Which long-term condition change does this contribute toward?

# Worksheet – Outcome Indicators and Sources

Your project/program title: \_\_\_\_\_

Intended Outcome	Outcome Indicators	Data sources	Data collection methods
Short-term (knowledge, attitude) change:			<i>Tip: You collect/observe</i>
Medium-term (behavior change, policy or decision-making) change:			<i>Tip: You collect/observe</i>
Long-term / ANR condition change:			<i>Tip: Can be agency data, existing research, or data you collect/observe</i>

# Report Out

Put in Chat --

*Is there something you might change or do differently in your approach to measuring outcomes?*



# Extension Evaluation Resources

- ANR CE Program Evaluation Resources <http://ucanr.edu/sites/CEprogramevaluation/>
- Toolkit for Assessing IPM Outcomes & Impacts <http://ipmimpact.ucanr.edu/>
- University of Wisconsin-Extension Program Development and Evaluation <http://www.uwex.edu/ces/pdande/index.html>
- Collecting Evaluation Data: An Overview of Sources and Methods <http://learningstore.uwex.edu/assets/pdfs/g3658-4.pdf>
- Using Research Methods to Evaluate Your Extension Program <http://www.joe.org/joe/2002december/a1.php>
- Dillman, D., Smyth, J. D., & Christian, L. M. (2014). *Internet, phone, mail, and mixed-mode surveys. The tailored design method* (4th ed). John Wiley & Sons, Inc, Hoboken, New Jersey.
- Davidson, J. E. (2013). Actionable evaluation basics: Getting succinct answers to the most important questions. Real Evaluation Ltd. NZ.
- Koundinya, V., Klink, J., Deming, P., Meyers, A., & Erb, K. (2016). How do mode and timing of follow-up surveys affect evaluation success? *Journal of Extension*, 54(1).
- Rockwell, S. K., Jha, L., & Krumbach, E. (2003). Success Outcome Markers in Extension (SOME): Evaluating the effects of transformational learning programs. *Journal of Extension*.
- Saldana, J. (2016). *The coding manual for qualitative researchers*. SAGE Publications.

**“Measure what you value  
and others will value  
what you measure.”**

-- John Bare,  
The Arthur M. Blank Family Foundation

## Wrap-Up

Please take the last several minutes to give us feedback

- Click end-of-session evaluation survey link in Chat

Thank you!