



**We'll give everyone a few minutes to join and get settled.**

**Please remain muted unless you want to speak.**

# Creating Impactful and Innovative Team Science Workshops

Laura Hildreth, MS

Jackie Knapke, PhD

Jack Kues, PhD

Angela Mendell, MS

Stephanie Schuckman, MA

# Technology Overview

- If you're using a webcam, check your angle
- Mute yourself
- Know how to unmute yourself
- Chat to "Everyone"
- Answer a poll

# Learning Outcomes

At the end of this workshop, you should be able to:

- Understand the fundamentals of adult learning when teaching team science and the science of teams.
- Describe and apply principles for developing cross-disciplinary team science workshops.
- Develop actionable evaluation strategies.

# Workshop Overview

- Five key principles:
  - Developing and integrating “pre-work”
  - Incorporating adult learning principles
  - Balancing didactic and “hands-on” components
  - Promoting participant self-reflection
  - Actionable evaluation strategies

# How often do you incorporate pre-work into your workshops?

- Pre-work, what's that?
- Never
- Seldom
- Occasionally
- Frequently
- Always

# What is pre-work

Collected prior to workshop

- Registration information
- Assessments
- Surveys
- Reading material



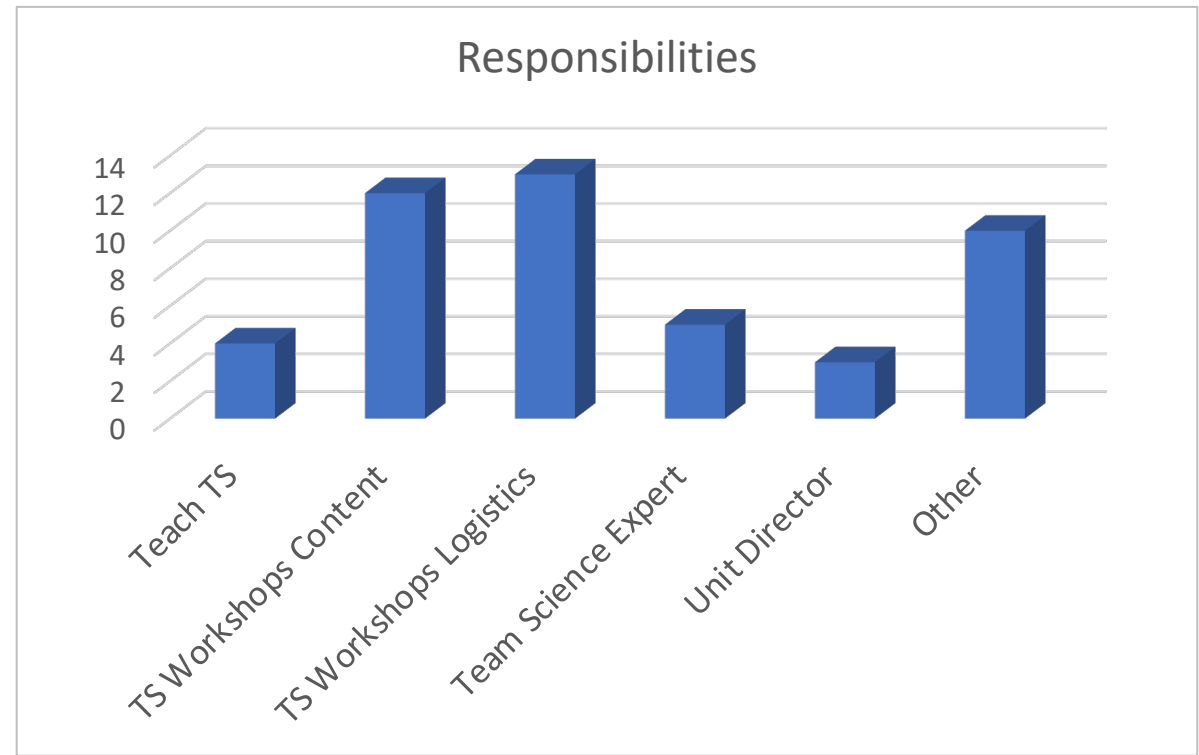
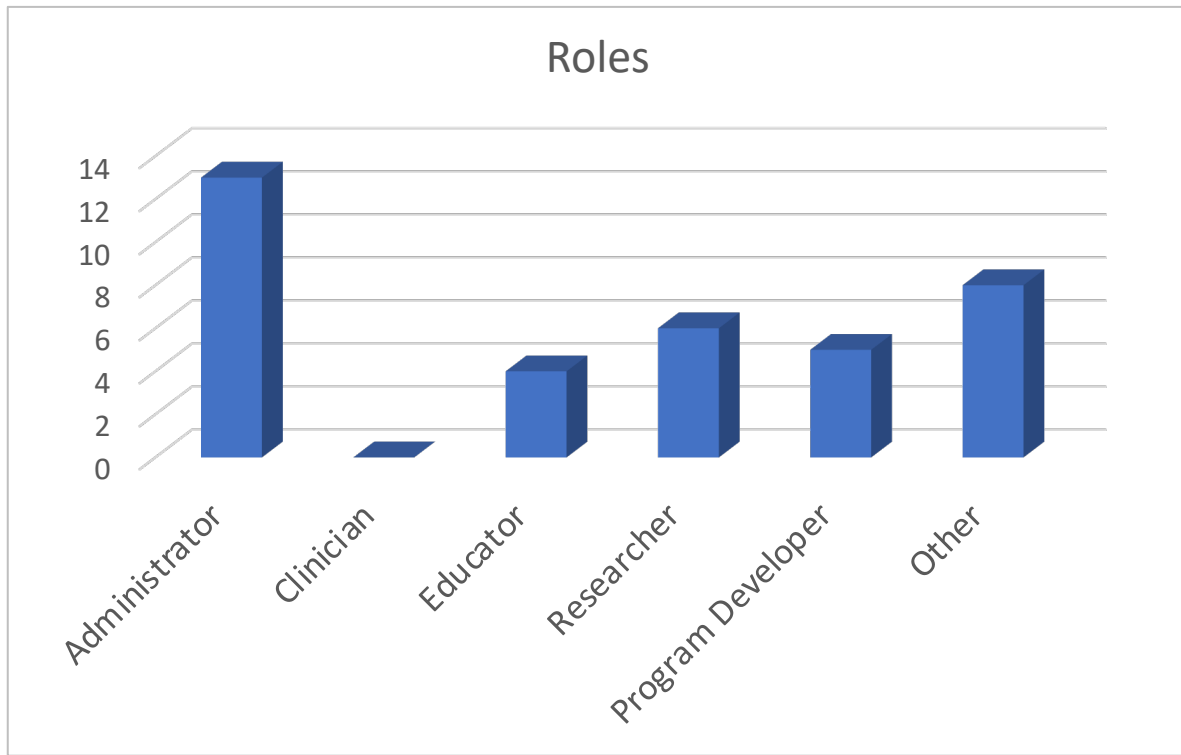
# Purposeful Pre-work

- Learn about audience
  - Who they are
  - What their needs are
- Time efficient





# Who's here today?



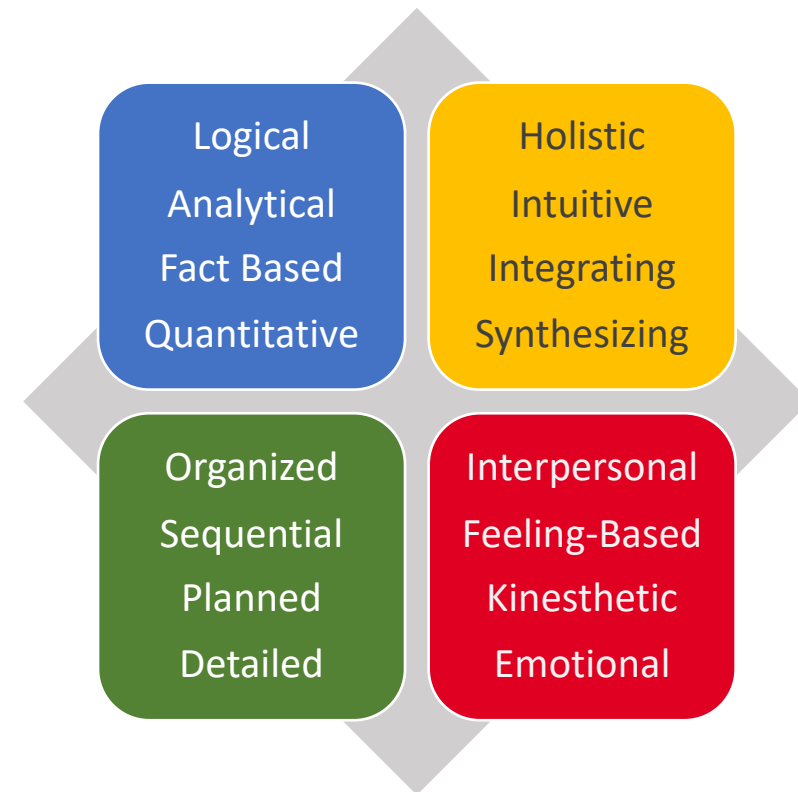
# Purposeful Pre-work

- Workshop customization
  - Informs content
  - Activity design



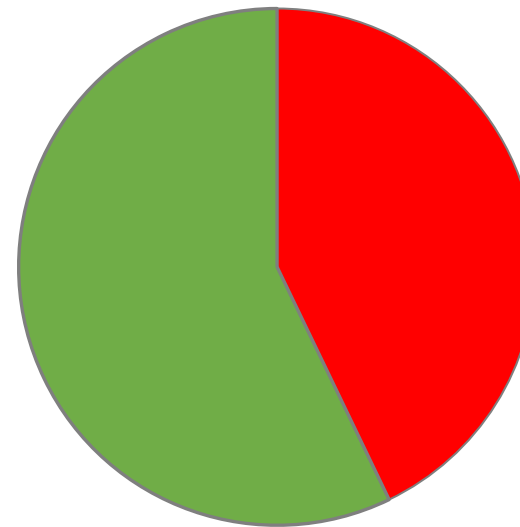
# Example: Communication Styles Assessment

- Highlights different styles
  - 4 colors
- The Whole Brain Business Book
  - By: Ned Herrmann

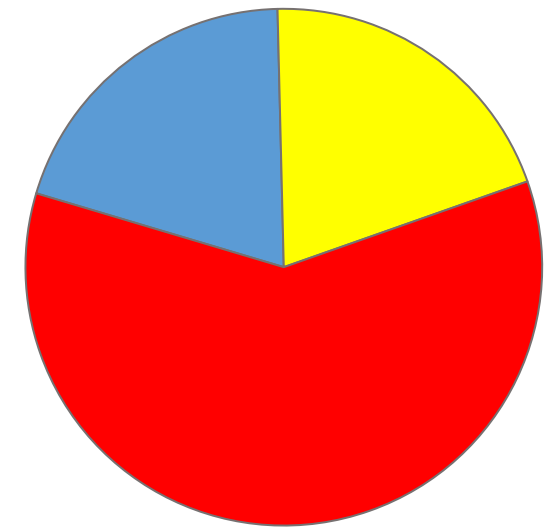


# Example: Communication Styles Assessment

- Style breakdown
- Spend more time
- Are attendees a team
- Opposing styles



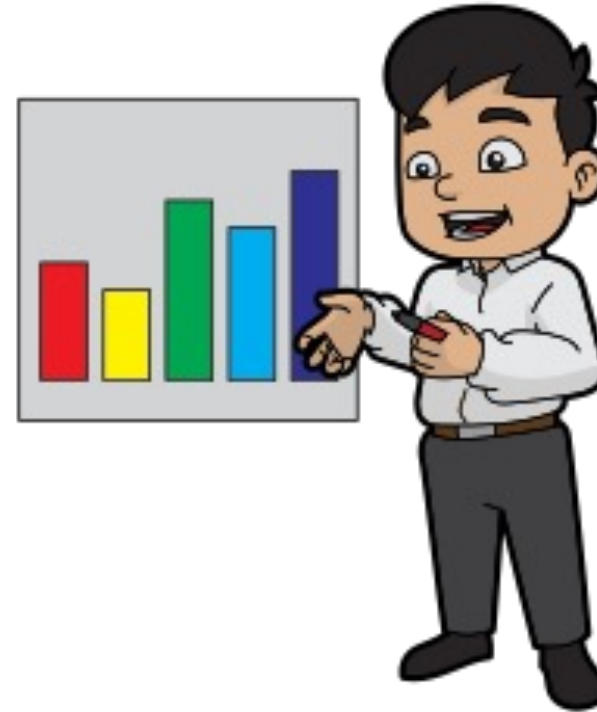
Group 1



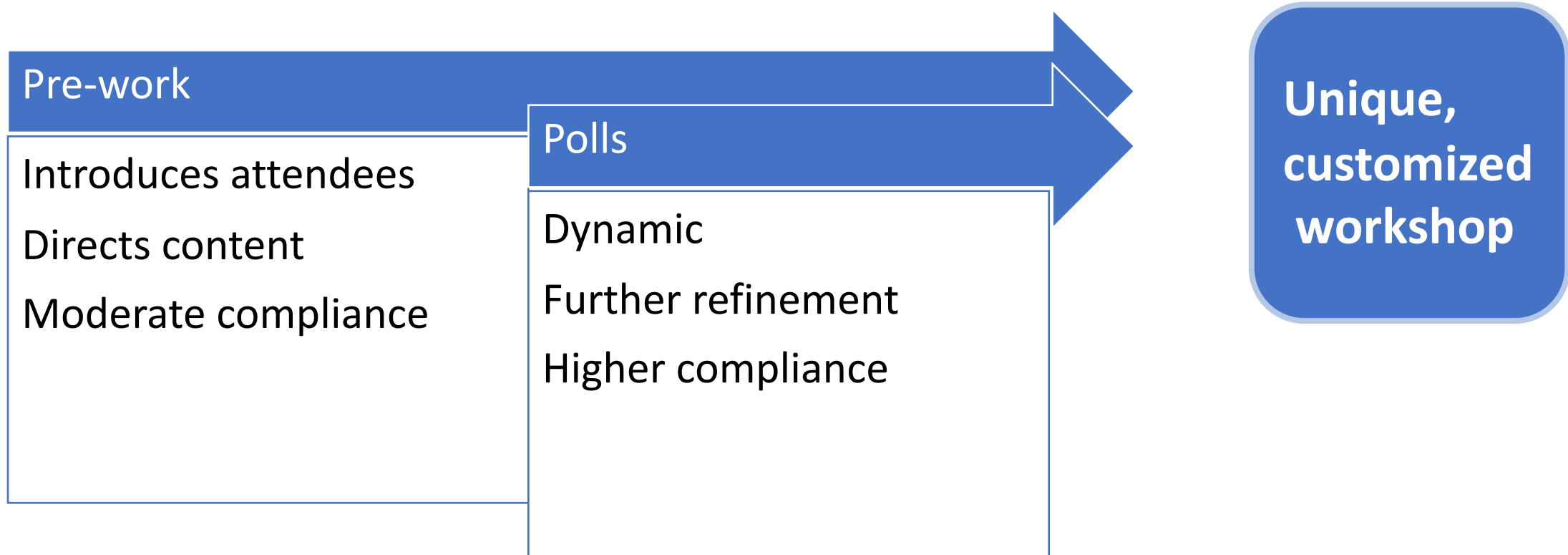
Group 2

# Pre-work in Action

- Integrated into workshop
- Report in aggregate
- Engages attendee
- Connects material



# Pre-work versus Polls



# Pre-work Post Workshop

- Attendees get their results
- Can use for evaluation
- Improves future workshops



# Logistics & Timing

Decisions, Decisions

Which platform should we use?

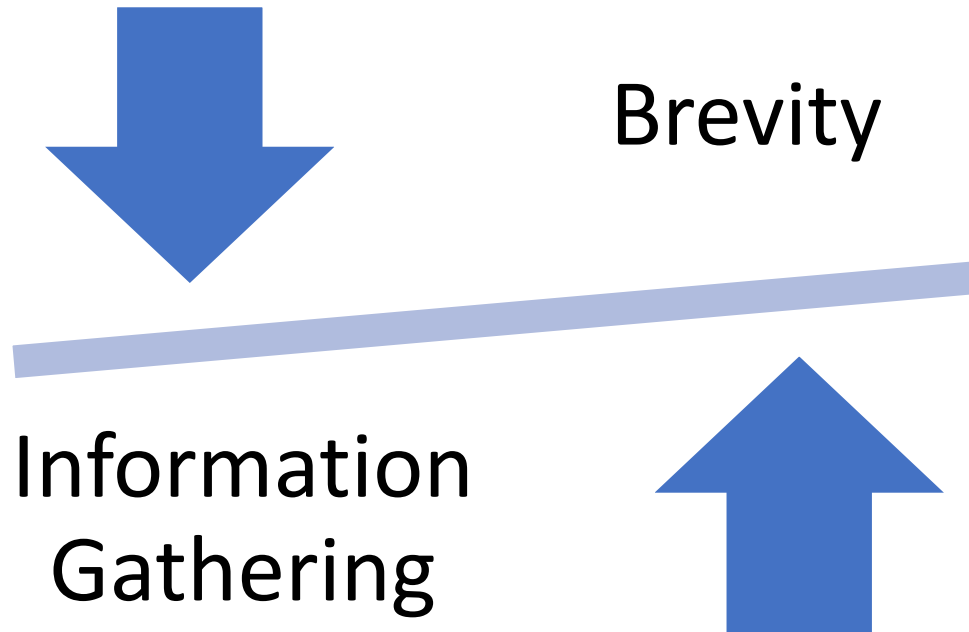
What pre-work would be best?

What's our timeline?





# Pre-work



- It's a balance
- Only a portion will complete
- Avoid required readings

# Build it



- Platform
- Timeline
- Design
- Content

# Test it



- Functionality
- Wording, spelling, typos
- Ask others

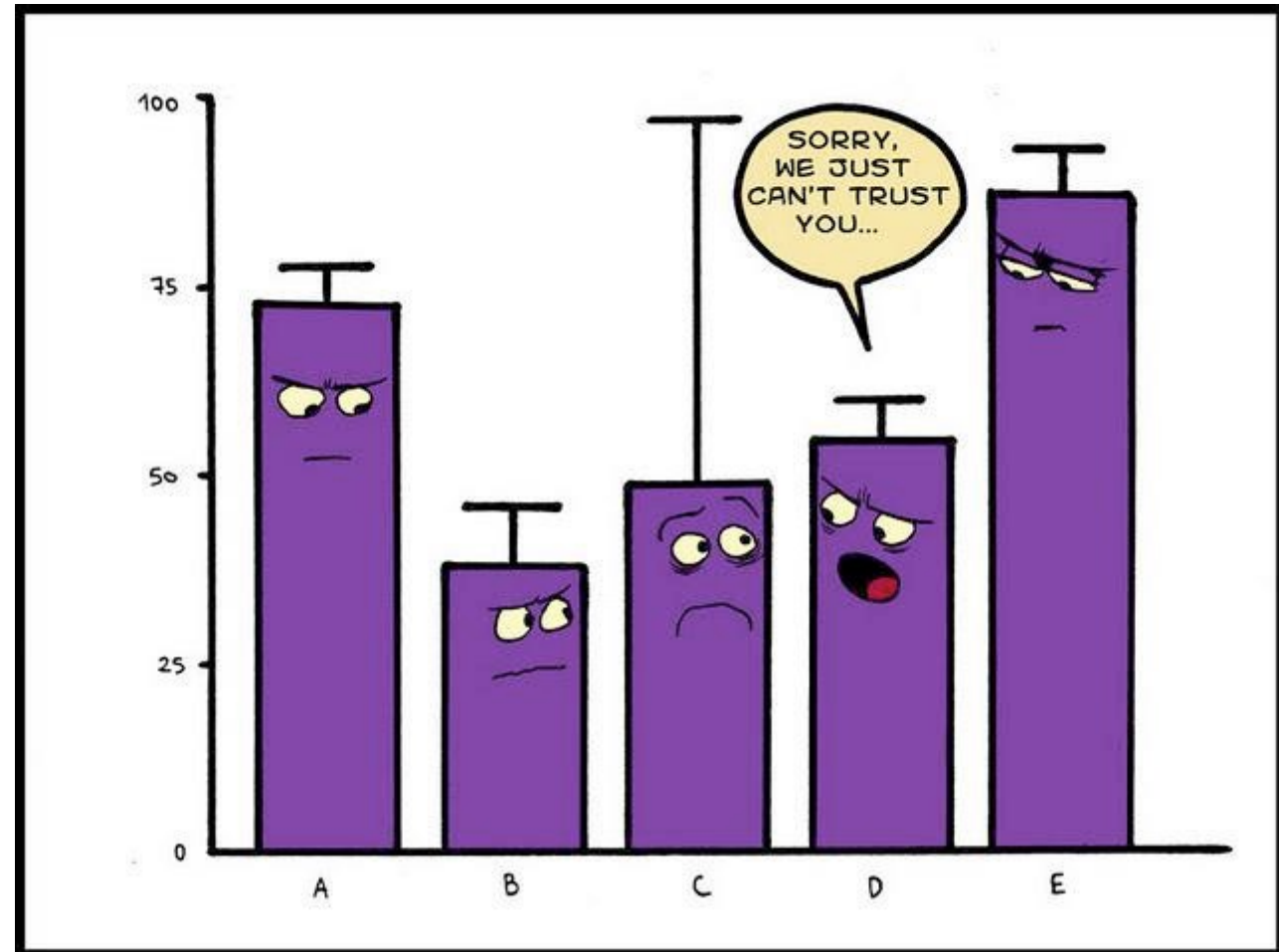
## Send it

- Give time to complete
- Send reminders
- Provide a deadline
- Give time to analyze data

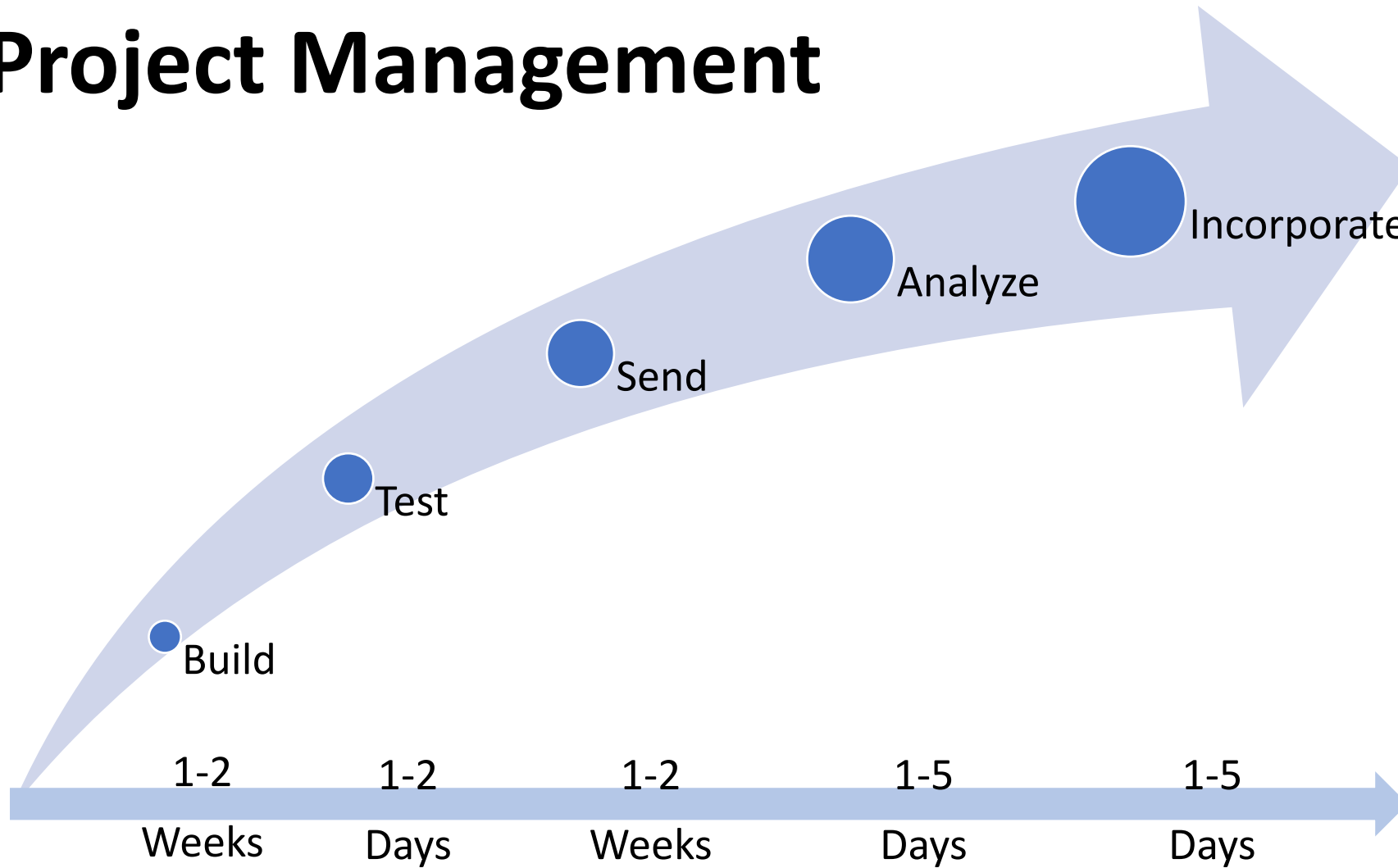


# Incorporate it

- Analyze pre-work
- Consider content
- Display data

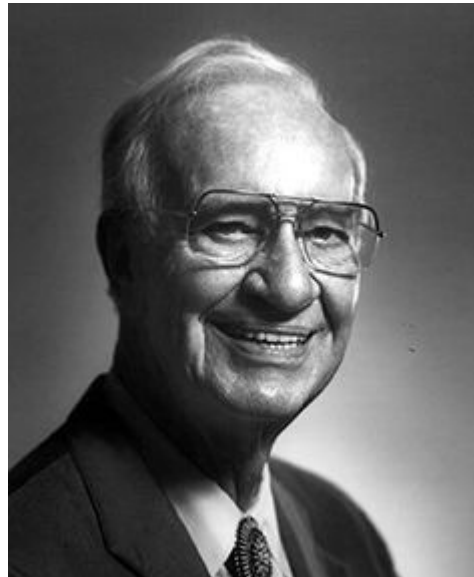


# Project Management



# Principles of Adult Learning

	Greek root	Meaning
Pedagogy	paid + agogus	children + leader of
Andragogy	andr + agogus	man (vs. boy) + leader of



Malcolm Knowles is best-known for developing this theory in the mid-late 20<sup>th</sup> century.

# Andragogy Model: 6 Key Principles

1. Adults need to know **why** they should learn something  
*How will it benefit them?*
2. An adult's self-concept is different from a child's  
Children's self-concept: *dependency*  
Adults' self-concept: *self-direction*





# Andragogy Model: 6 Key Principles

3. Adult learners place high value on their own and others' experience

*Experience is its own form of expertise*

4. Adults bring a different “readiness to learn” than children



Life experience is the best teacher.

— David Letterman —



The best teacher in life is experience.

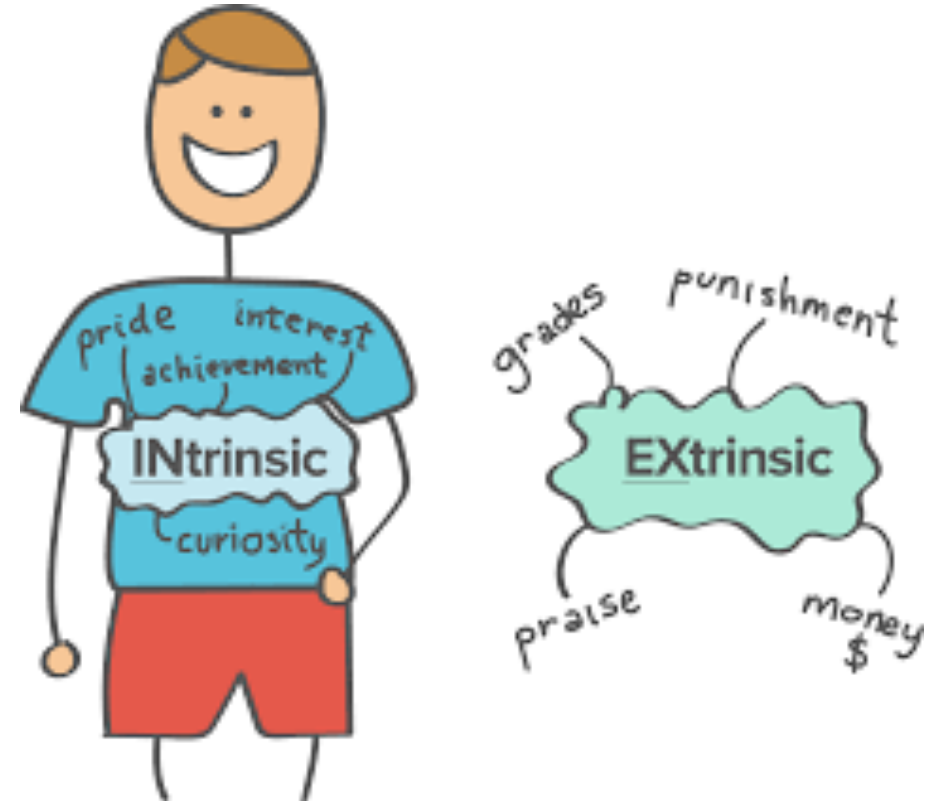
— LeBron James —

# Andragogy Model: 6 Key Principles

5. Adults approach learning with a problem-based orientation

6. Adults are more intrinsically motivated to learn

*Adult priorities: increased job satisfaction, self-esteem, sense of accomplishment, quality of life*



# Case Example:

## Andragogy Principles and Team Science Training

Fall 2016:

- Our first series of 3 workshops: Creating & Assembling a Team, Effective Teams, Leading Effective Teams
- Participants were required to attend as a condition of an internal grant award
- We realized early in the first workshop, many were unhappy about being there, thought they already knew how to work effectively in teams
- Some (particularly senior faculty/PIs) felt insulted that they were forced to attend, felt it was a waste of time

# Case Example: Andragogy Principles and Team Science Training

1. Adults “need to know” *why* they should learn something

Participants didn’t understand why they were required to be there, why they needed to learn what we were trying to teach them

2. An adult’s self-concept is different from a child’s  
Violated their self-concept of “self-directed” learning



# Case Example: Andragogy Principles and Team Science Training

We had to pivot in the last two workshops to incorporate adult learning principles

Some benefits:

- Some were early in team formation
- Participants came in their real teams
- Organized around specific research topics



# Case Example: Andragogy Principles and Team Science Training

3. Adult learners place high value on their own and others' experience

Allowed some of the more seasoned researchers to lead discussions or present solutions to team problems

- *Example: Team Charters*



# Case Example: Andragogy Principles and Team Science Training



## 4. Adults bring a different “readiness to learn”

Focused on topics that were useful to them in their immediate work lives

- *Example: Develop a Team Communication Plan*

# Case Example: Andragogy Principles and Team Science Training



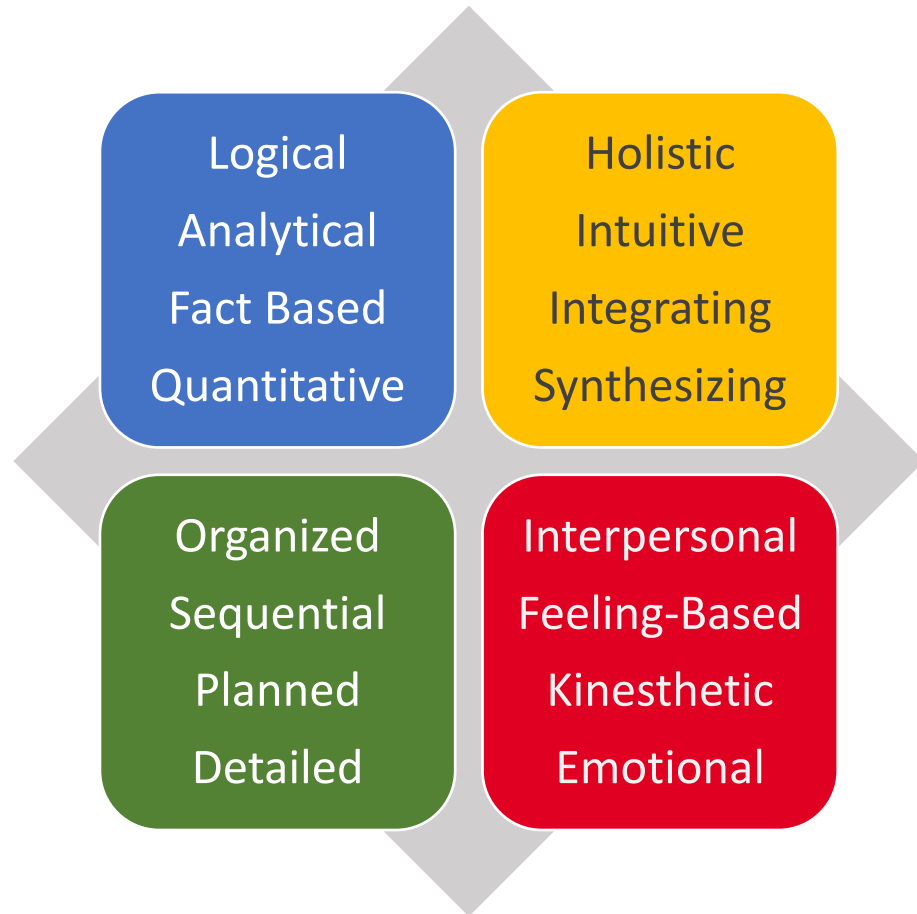
## 5. Adults approach learning with a problem-based orientation

Developed activities that allowed participants to solve (or pre-solve) problems on their teams

- *Example: 5 Dysfunctions*



# Case Example: Andragogy Principles and Team Science Training



## 6. Adults are more intrinsically motivated to learn

Introduced content that contributed immediately to their sense of accomplishment as an individual and/or a team

- *Example: Communication Colors*

# Large Group Chat/Discussion



Think back to workshops you have attended or hosted.

Now that you know a bit more about andragogy, what are some specific ways you can incorporate it into your future workshops?

Type your ideas in the Chat.

## Andragogy Principles:

Adults:

1. need to know **why** they should learn something
2. have a different self-concept from children
3. place high value on their own and others' experiences
4. bring a different "readiness to learn"
5. approach learning with a problem-based orientation
6. are more intrinsically motivated to learn

# Interactivity



## What is an interactive workshop?

- Engages people energetically in learning new information or techniques.
  - Apply new information
  - Analyze problems and figure out solutions
  - Share experiences and ideas

# Interactivity

- **How do you prepare an interactive workshop?**
  - Know your audience
  - Analyze your material / information
  - Plan a balance of didactic and hands-on workshop components
    - Present key information about Team Science
    - Offer an opportunity to apply the material IRL
    - Keep didactic sections under 15 minutes





Didactic sections are “informationally efficient”  
- but they can be boring.

# Interactivity



How To Team Your Dragon

- Activities can help participants process the information in a meaningful way
- It's a balance of practical aspects and learner engagement
  - Be sure to budget enough time
  - Stay in control of your audience

# Interactivity

Take *workshop* literally:

- Engage participants in identifying problems and coming up with possible solutions
- Stimulate their understanding by letting them employ new tools in small groups



# Interactivity

## ACTIVITY

- Create an activity to stimulate understanding of team science techniques (communication, conflict management...) (5 min)

## DISCUSSION

- Presentations and discussion about the activities created by each group (5 min)





# Interactivity

## Prepare a handout

- Note your main points
- When should you distribute it?
  - Before: good for notetaking during the workshop
  - After: summary of main points might distract participants from focusing on the process of the workshop



©1996 by J. Wood

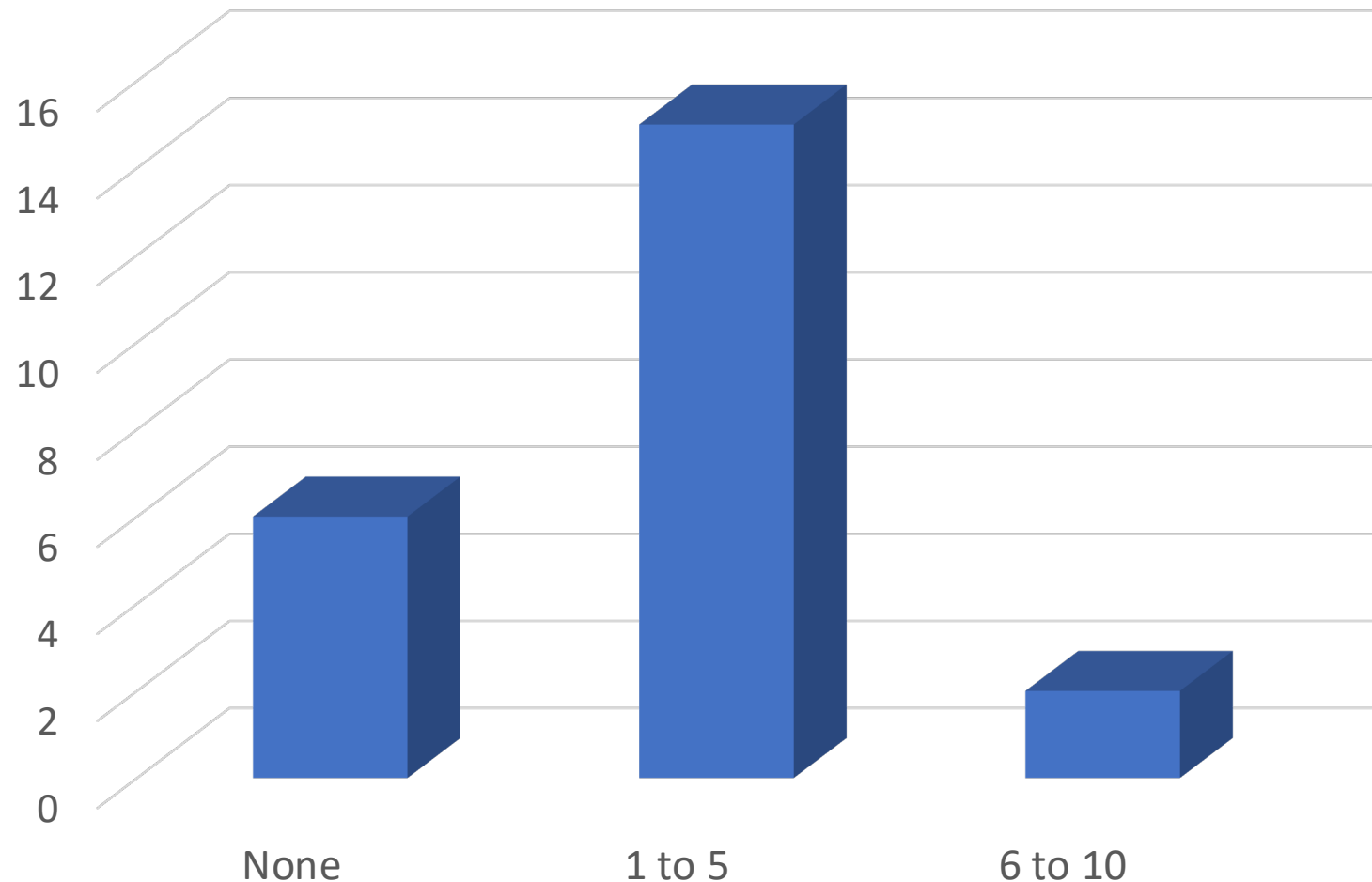
# Interactivity

Tell them what is planned

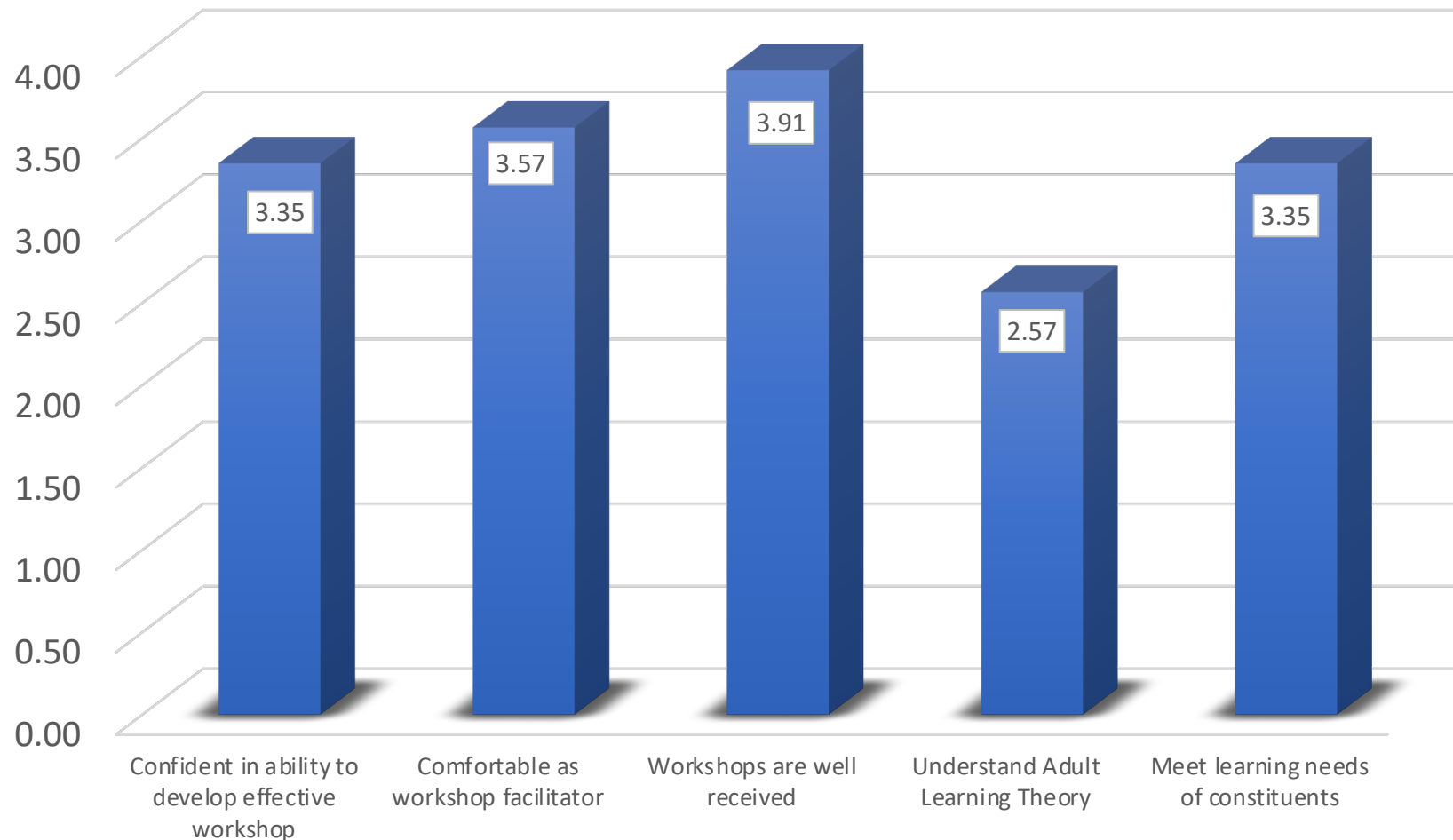
- Announce the interactive nature of the workshop
- Let them know that their experiences and expertise matter to you



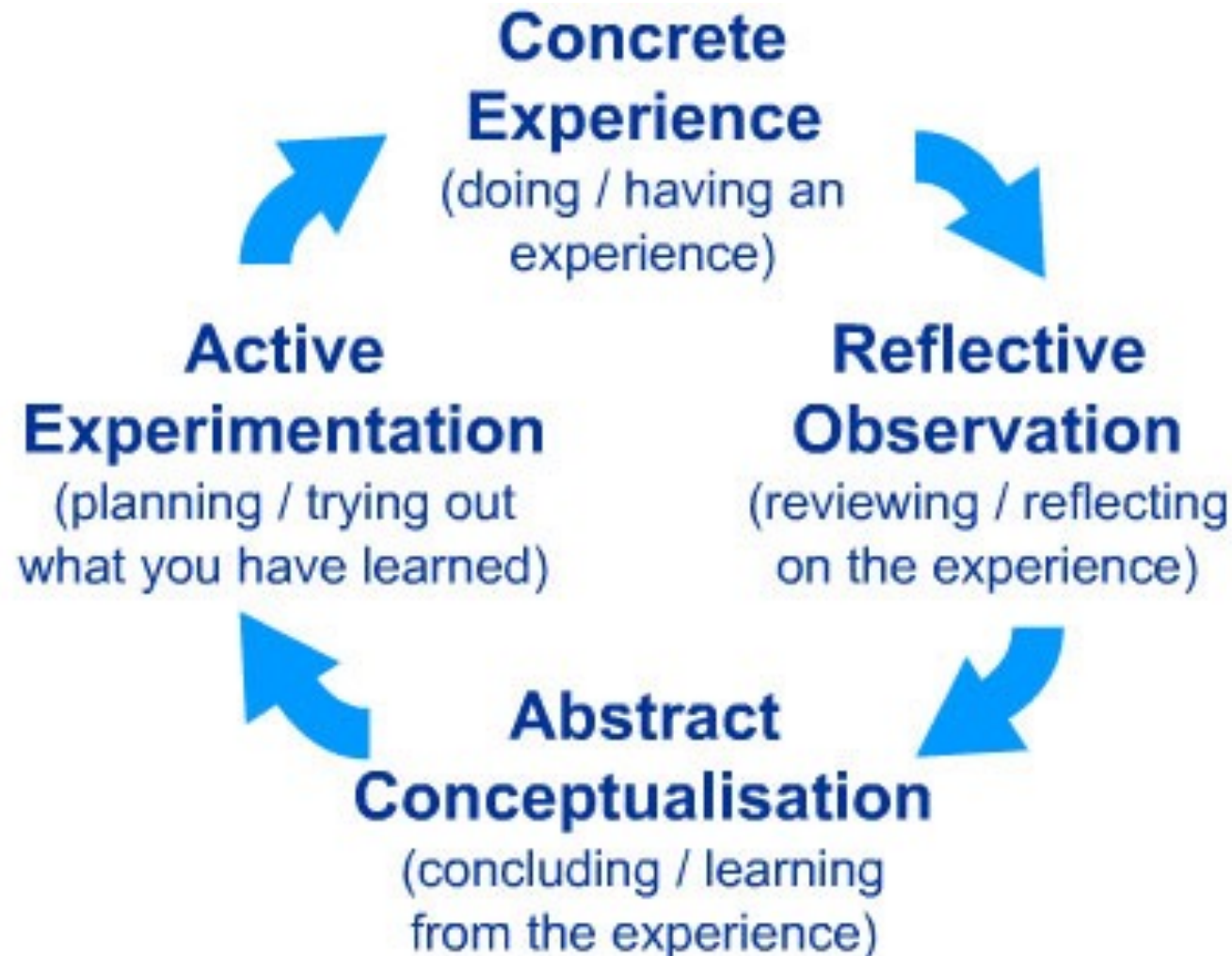
# Number of Workshops Developed in the Past Year



# Mean Scores on Assessment Questions

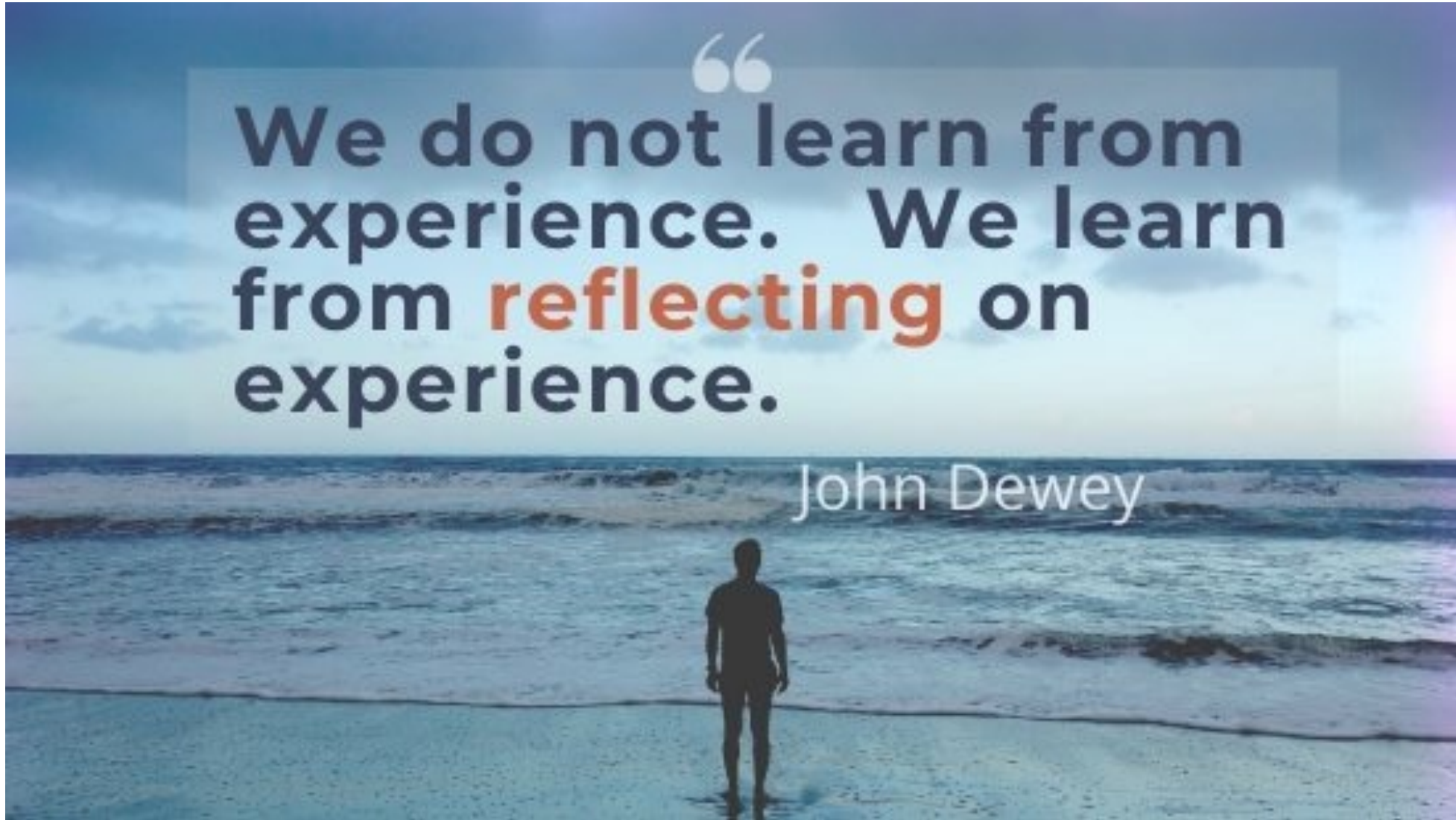


# Kolb's Cycle of Experiential Learning



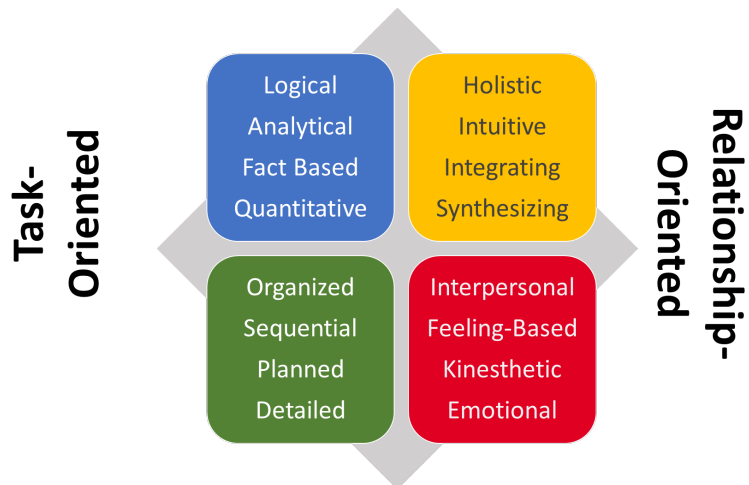
“  
We do not learn from  
experience. We learn  
from **reflecting** on  
experience.

John Dewey



# Hiding in plain sight

## Reflective Observation



## Abstract Conceptualization

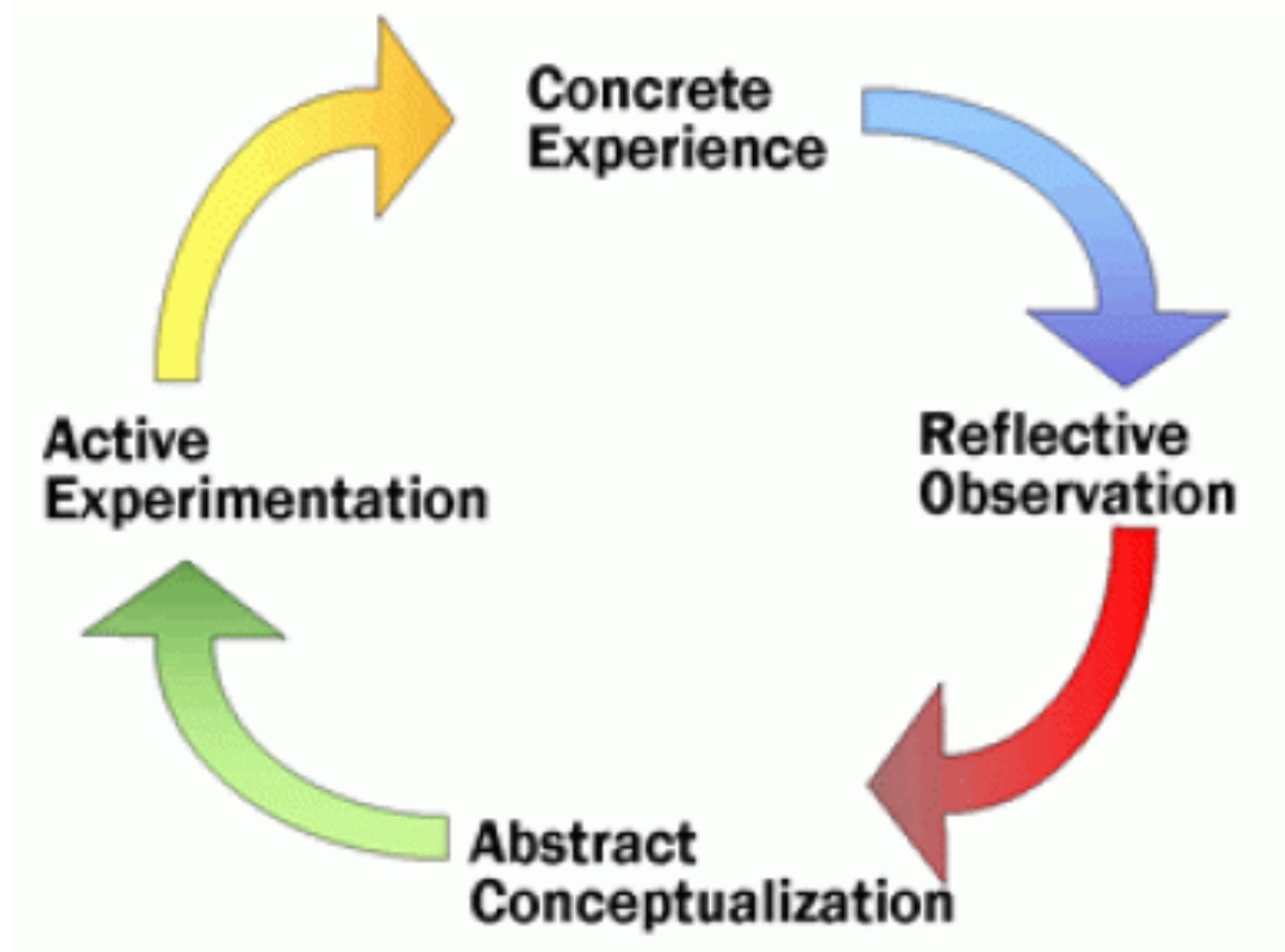


## Concrete Experience

# Facilitating Reflection: *Some good catch phrases*

- “Think of an experience where your new knowledge would have helped you better understand what was happening.”
- “How can you use your new skills to improve a situation you’re currently struggling with?”
- “With your new knowledge, how can you avoid a common problem in the future?”
- “How can you re-interpret some of your recent experiences?”
- “If I knew then what I know now, I would have.....”





# Try it out.....



# Reflection on Self-Reflection: *Some things we've seen and heard*

- Grounding attendees in their own experiences
- Attendees are not always willing to share their experiences
- “Note-takers”- It’s all about learning something new
  - We provide copies of slides and handouts and discourage too much note-taking
- Overcoming “I can’t do this because.....”
- Helping people gain control of themselves and their surroundings

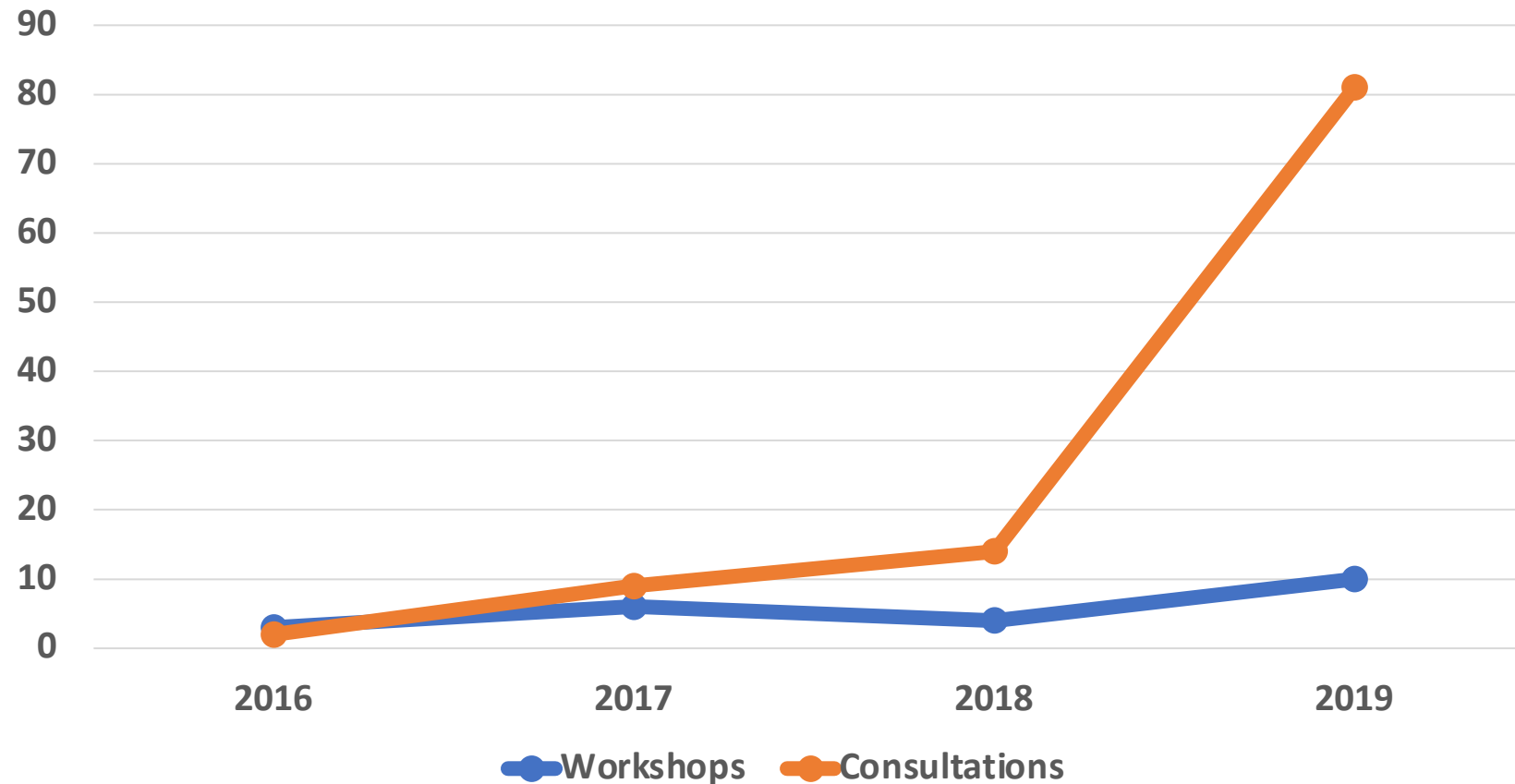
# Evaluation: *We love it when they love us*

- Standard Evaluation Strategies
  - Post-activity evaluations
  - Long-term follow-ups
- A Step Beyond
  - Faculty de-briefs
  - Observers

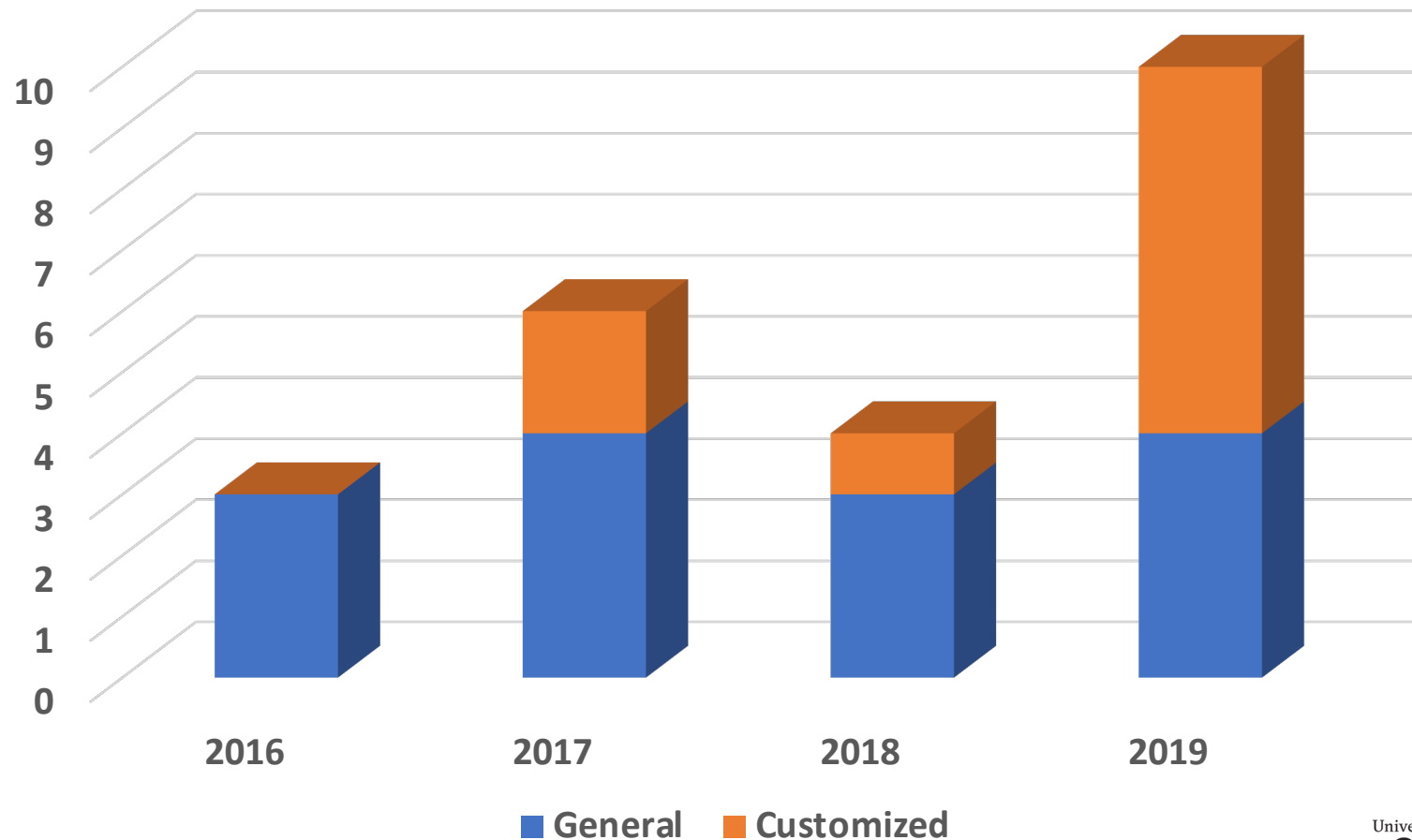
# Impact Metrics: *A deeper dive*

- Consultations from workshop attendees
- Requests for customized workshops

# Workshops and Consultations 2016-2019



# General and Customized Workshops 2016-2019



# A Quick Summary

Five key principles:

- Developing and integrating “pre-work”
- Incorporating adult learning principles
- Balancing didactic and “hands-on” components
- Promoting participant self-reflection
- Actionable evaluation strategies





# Thank you!

Visit our website for more Team Science resources:

<https://www.cctst.org/programs/cis>

Contact us with questions:

[laura.hildreth@uc.edu](mailto:laura.hildreth@uc.edu)

[jackie.knapke@uc.edu](mailto:jackie.knapke@uc.edu)

[jack.kues@uc.edu](mailto:jack.kues@uc.edu)

[angela.mendell@uc.edu](mailto:angela.mendell@uc.edu)

[stephanie.schuckman@uc.edu](mailto:stephanie.schuckman@uc.edu)

# Selected References

Barnett, M.A. *How to Conduct an Interactive Workshop*. University of Virginia Teaching Resource Center.

[https://faculty.virginia.edu/marva/Teaching%20Workshops/conduct\\_workshop.htm](https://faculty.virginia.edu/marva/Teaching%20Workshops/conduct_workshop.htm)

Herrmann, N. & Herrmann-Nehdi, A. (2015). *The Whole Brain Business Book, 2<sup>nd</sup> ed.* McGraw-Hill.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development* (Vol. 1). Englewood Cliffs, NJ: Prentice-Hall.

Knowles, M. S. (1984). *Andragogy in Action: Applying Modern Principles of Adult Learning*. San Francisco, CA: Jossey-Bass.

Knowles, M. S., Holton III, E. F., & Swanson, R. A. (2011). *The Adult Learner*. Oxford, UK: Elsevier.