Orange County/Harvard STEM Innovation Hub

Evaluation Overview and Survey Training

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March 7, 2017

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HARVARD MEDICAL SCHOOL AFFILIATE

HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL

ORANGE COUNTY DEPARTMENT OF EDUCATION

OC STEM INITIATIVE

Objectives for Today

Introductions

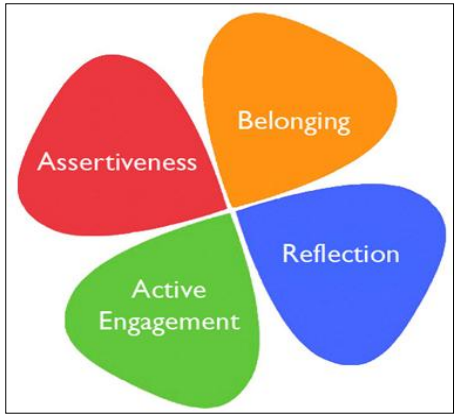
Overview of STEM Innovation Hubs

OC Data Collection Plan
- Program quality observations
- Student outcomes

Questions & Answers

Goal: To provide an interactive forum for discussion of the OC/Harvard STEM Innovation Hub

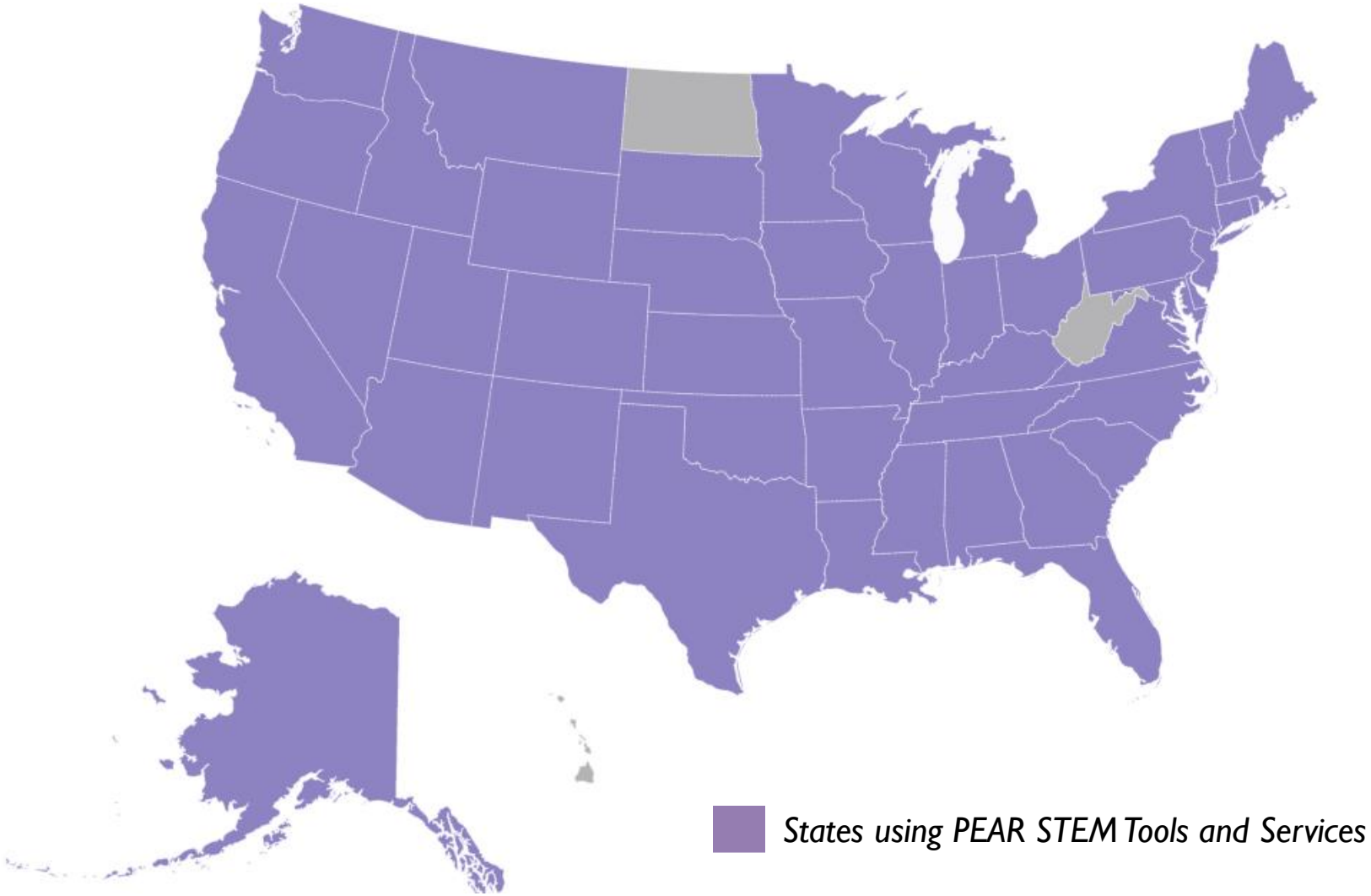
WHAT IS THE PEAR INSTITUTE?



- Integrates research, theory, and practice
- Takes a developmental approach to the study of new models of effective afterschool programming

www.pearweb.org/

PEAR'S NATIONAL REACH: STATES USING TOOLS



BENEFITS OF USING COMMON TOOLS

- Psychometrically strong and standardized
- Specific enough to help improve program quality
- General enough to apply to a range of program types (provides a common language)

PEAR/HARVARD STEM INNOVATION HUBS (2015-2017)

LEARNING GOALS FOR THE HUB

- **Classroom/program similarities and differences**
  - What strengths and challenges will be observed OC STEM classrooms?
- **Changes in students' STEM-related attitudes**
  - How much, if at all, has participation in STEM lessons/activities changed students' feelings toward STEM and 21st century skills?
- **Group similarities and differences**
  - How are different groups of students impacted by afterschool STEM programming?

DATA SOURCES

Program Quality

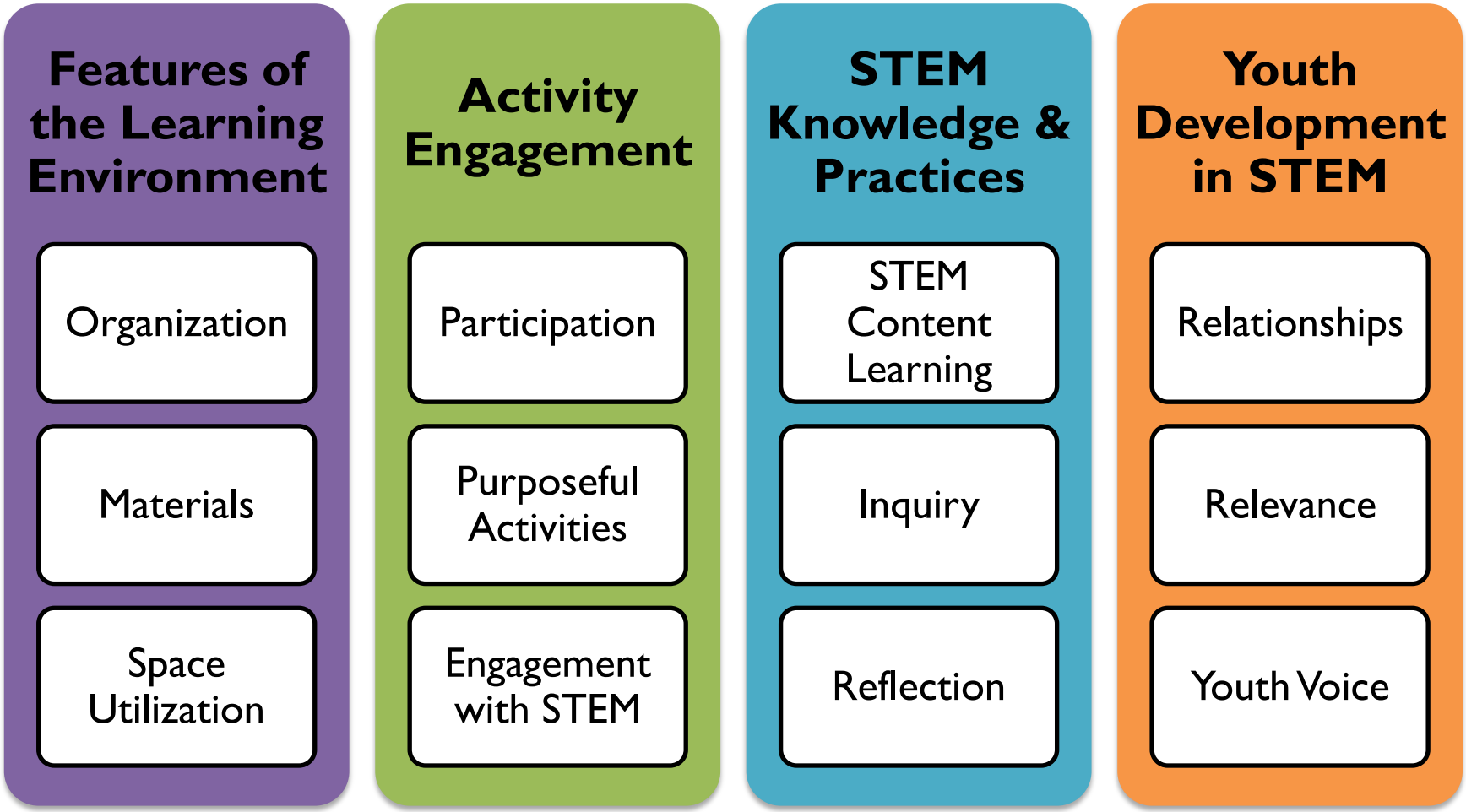
(Dimensions of Success)

Student Outcomes

(Common Instrument

Dimensions of Success (DoS): Program Quality Observations

Dimensions of Success (DoS) Framework



DoS OBSERVATION PLAN

- As DoS observers, you will complete up to 5 observations (classroom Grades 4-8).

Dimensions of Success
a pear observation tool
DoS

TIME START: TIME END:		
Dimension	Evidence	Rating (1-4)
Features of the Learning Environment		
Organization		
Materials		
Space Utilization		
Activity Engagement		
Participation		
Purposeful Activities		
Engagement with		

No interference with regular day
- DoS Professionals observe STEM activities quietly in the background

Constructive feedback given!
- A brief report will be provided back to the teacher

Help understand on hub-level
- Common language across all schools/programs will help hubs understand outcomes

SCHEDULING YOUR DoS OBSERVATION

- When reaching out to nearby schools and OST programs, please be sure to consider the following:
  - While DoS can be used to observe classrooms/ activities from 1st- 12th grade, **DoS is best suited for use in 4th - 8th grade activities**, and should not be used in pre-school settings.
  - Activities should be a minimum a 30 minutes long to a maximum of 2 hours.
  - DoS is not suited for unstructured activities without a facilitator (e.g., self-guided museum tours).
  - Remind the teacher or facilitator that the observation will not interfere with the flow of their activity

- Double-check the date and time 24 hours before, and have a "day-of" contact number for last-minute changes

BEFORE YOUR DoS OBSERVATION

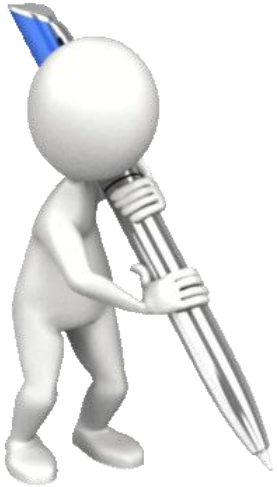
- **Arrive at LEAST 15 minutes early** to find your spot to observe and to introduce yourself to the facilitator. If the facilitator asks you to introduce yourself to the students, tell them:
  - *"I heard you are doing some cool STEM activities and I wanted to come in to observe how they work and what kinds of things you get to do here. You'll see me taking notes—I'm jotting down things about the activity itself and not about individual people in this room, so don't worry. I'll try to stay out of your way as much as possible. Thanks!"*

- **Remind the facilitator that you are not there to help or to teach**, but simply to observe. You will not be able to engage if prompted to do so.

DURING YOUR DoS OBSERVATION

- **Take detailed field-notes as the activity is enacted.** Based on your certification training, note quotes and examples, timings, and interactions that will help build the case for particular ratings on each dimension. Don't worry about ratings as you take notes—only focus on getting the evidence you need.

- **Do not engage the students** with questions or suggestions. Do not assist the facilitator or alter the course of the activity. If students ask you questions, direct them to their facilitator.



AFTER YOUR DoS OBSERVATION

- **Go to a quiet place** at the site or elsewhere where you can immediately review your field-notes and apply the rubric.
- **Start assigning ratings and writing detailed evidence** with specific quotes, interactions, examples that defend that rating. Be sure to keep opinion and suggestions OUT of your evidence. Only stick with what you saw/heard.
- **Remember, you can give suggestions/feedback** during the coaching conversation (see tools to support this at http://pearweb.org/tools/dostool.html).
- **Complete ratings/evidence within 24 hours** of the observation in your DoS rating sheet for live observations and submit your observation online.
- **Be sure to save everything in your rating sheet** on your computer until it is fully uploaded.

UPLOADING YOUR DoS OBSERVATION

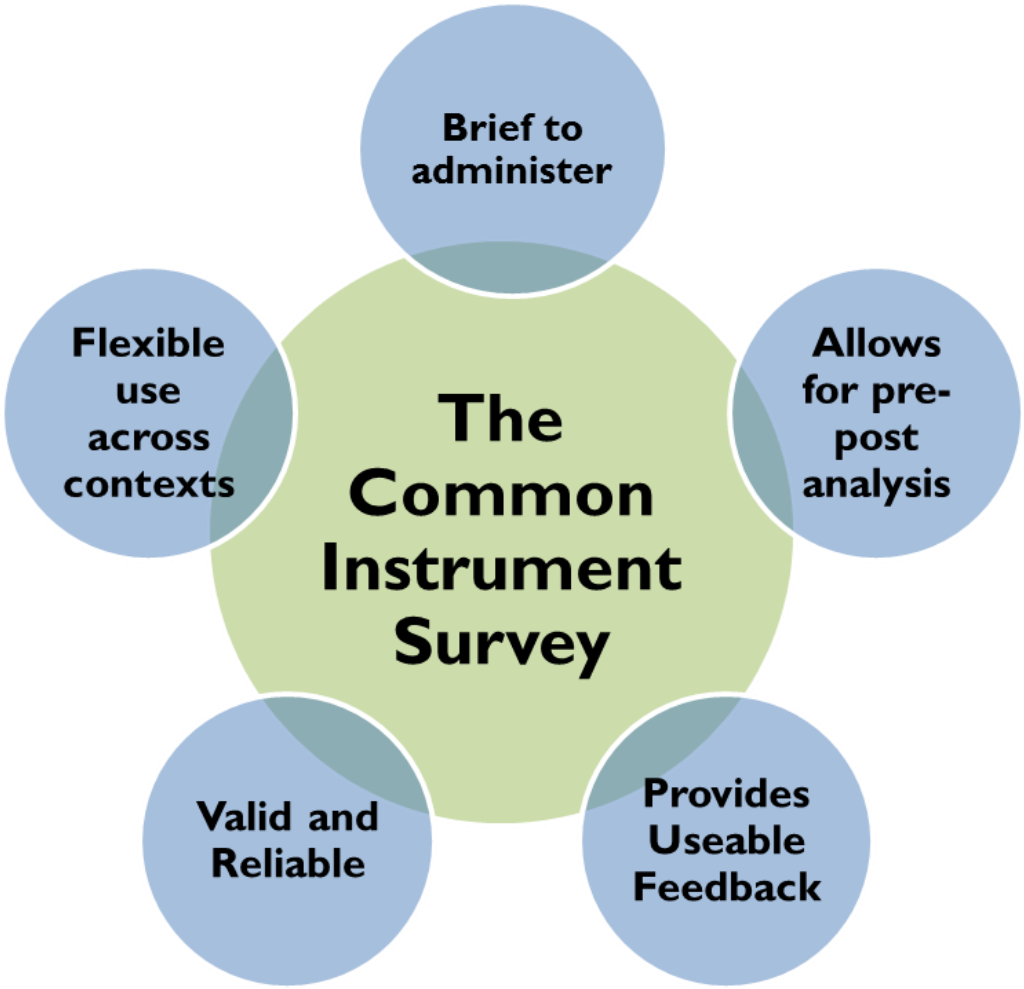
- After you have finished writing up your DoS observation, **upload your observation** to your organization's customized SurveyMonkey link!
- You can upload your **In-School** DoS observations here:

  www.surveymonkey.com/r/OC_STEM_DoS_IN_SCHOOL_Observations_2017
- You can upload your **OST** DoS observations here:

  www.surveymonkey.com/r/OC_STEM_OST_DoS_Observations_2017

Common Instrument (CI): Student Outcomes

THE COMMON INSTRUMENT



(Front)

School/Program Name: _____ What is today's date? Month Day Year

Classroom Teacher: _____ How old are you? Age

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Common Instrument Survey 3.0

Your Experiences, Thoughts, and Feelings about STEM

Dear student,

Your school or program would like you to take a survey that asks you questions about how you feel about Science, Technology, Engineering, and Math (STEM) – especially how you feel now compared to how you felt at the beginning of the school year.

We want to learn about your experiences with STEM activities everywhere you do or think about STEM: in school, afterschool, on TV, on the internet, in museums/zoos, in the summer, at home or anywhere!

Please remember these things:

- This survey is not a test, and this means there are no "right" or "wrong" answers.
- This is all about your experience, thoughts, and feelings.
- This survey is voluntary, and this means you can stop at any time.
- Please take your time and answer the questions as honestly as you can.

We use the survey to help schools and programs become more interesting and exciting, but we do not share your answers. If you have any questions, please raise your hand and ask for help.

Thank you for participating and sharing your thoughts about STEM!

(Back)

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How do you feel about STEM? Please circle the number that matches how you feel about STEM.

Thinking about how you feel TODAY compared to the BEGINNING of the school year...	Much Less Now	Less	About the Same	More	Much More Now
1. [illegible]	1	2	3	4	5
2. [illegible] in STEM projects	1	2	3	4	5
3. [illegible]	1	2	3	4	5
4. [illegible]	1	2	3	4	5
5. [illegible]	1	2	3	4	5
6. [illegible]	1	2	3	4	5
7. [illegible]	1	2	3	4	5
8. [illegible]	1	2	3	4	5
9. [illegible]	1	2	3	4	5
10. I like to make things.	1	2	3	4	5

How curious are you about these topics? Please circle the number that matches how curious you are about these things.

Thinking about how you feel TODAY compared to the BEGINNING of the school year... I am curious about...	Much Less Curious	Less	About the Same	More	Much More Curious
11. Science.	1	2	3	4	5
12. [illegible]	1	2	3	4	5
13. Engineering.	1	2	3	4	5
14. [illegible]	1	2	3	4	5

Student Information

[illegible] (Please pick one) ○ Less than 1 month ○ 1 to 3 months ○ 4 to 8 months ○ 9 or more months

[illegible] (Please check one) ○ Less than 1 week ○ 1 to 3 weeks ○ 4 to 7 weeks ○ 2 or more weeks

Gender: ○ Girl ○ Boy ○ Other ○ Prefer not to answer

[illegible] ○ Yes ○ No

[illegible]: _____

[illegible] is: *(Please pick one or more of the groups below.)*

- ○ African American, Black
- ○ American Indian, Native American, or Alaskan Native
- ○ Asian, Asian-American
- ○ Carribean Islander
- ○ Latino or Hispanic
- ○ Middle Eastern or Arab
- ○ Native Hawaiian, Pacific Islander
- ○ White, Caucasion
- ○ Prefer not to answer
- ○ Other: _____

RETROSPECTIVE SURVEY

- The survey asks students to think about how they feel they have changed because of their participation.
  - Do they feel the same or different about science-related things?

How do you feel about STEM? Please circle the number that matches how you feel about STEM.

Thinking about how you feel TODAY compared to the BEGINNING of the school year…	Much Less Now	Less	About the Same	More	Much More Now
1. I get excited about STEM.	1	2	3	4	5
2. I like to participate in STEM projects.	1	2	3	4	5

Decrease **No change** **Increase**

SURVEY ADMINISTRATION PLAN

One administration per classroom:

Near end of spring semester

Start of the day

15 minutes

(No more than 20)

Mobile Monitoring

Instructor needs to be available to help students

*Administer survey during <u>at least</u> one observation, but you can administer at all five observations if you wish!

** Only one survey administration per classroom (no student should take the survey twice).

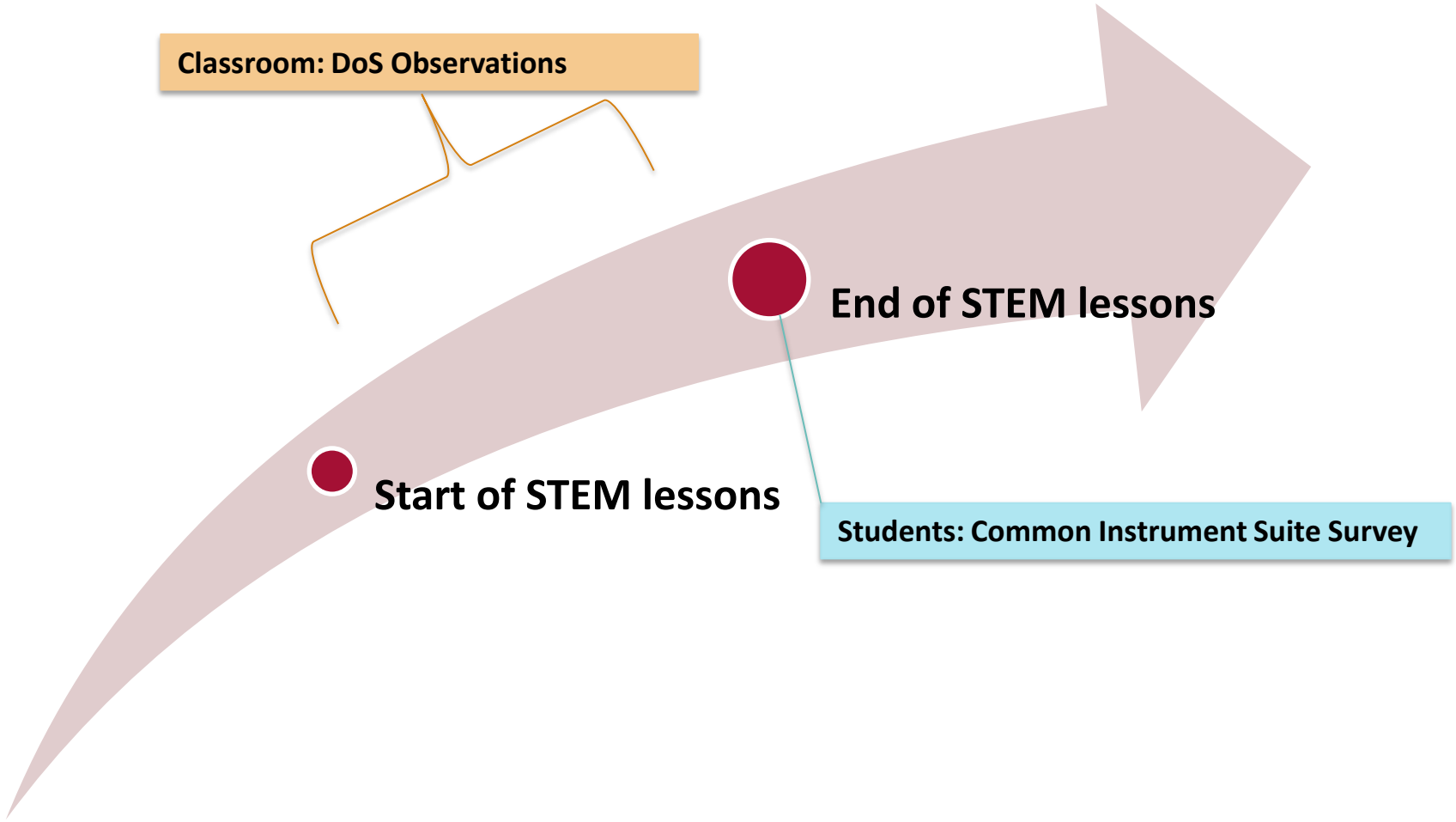
SENDING SURVEY DATA TO THE PEAR INSTITUTE

- The PEAR Institute will assist you with data entry!

- **DoS observers should use intra-district mail to send surveys to Tom Turner's office**
  - Be sure to include: name of observer (your name), classroom teacher name, date and time of survey

- The PEAR Institute will process/analyze data and provide back an individualized report back to OC STEM and participating classroom teachers

TIMELINE: MARCH TO MAY 2017

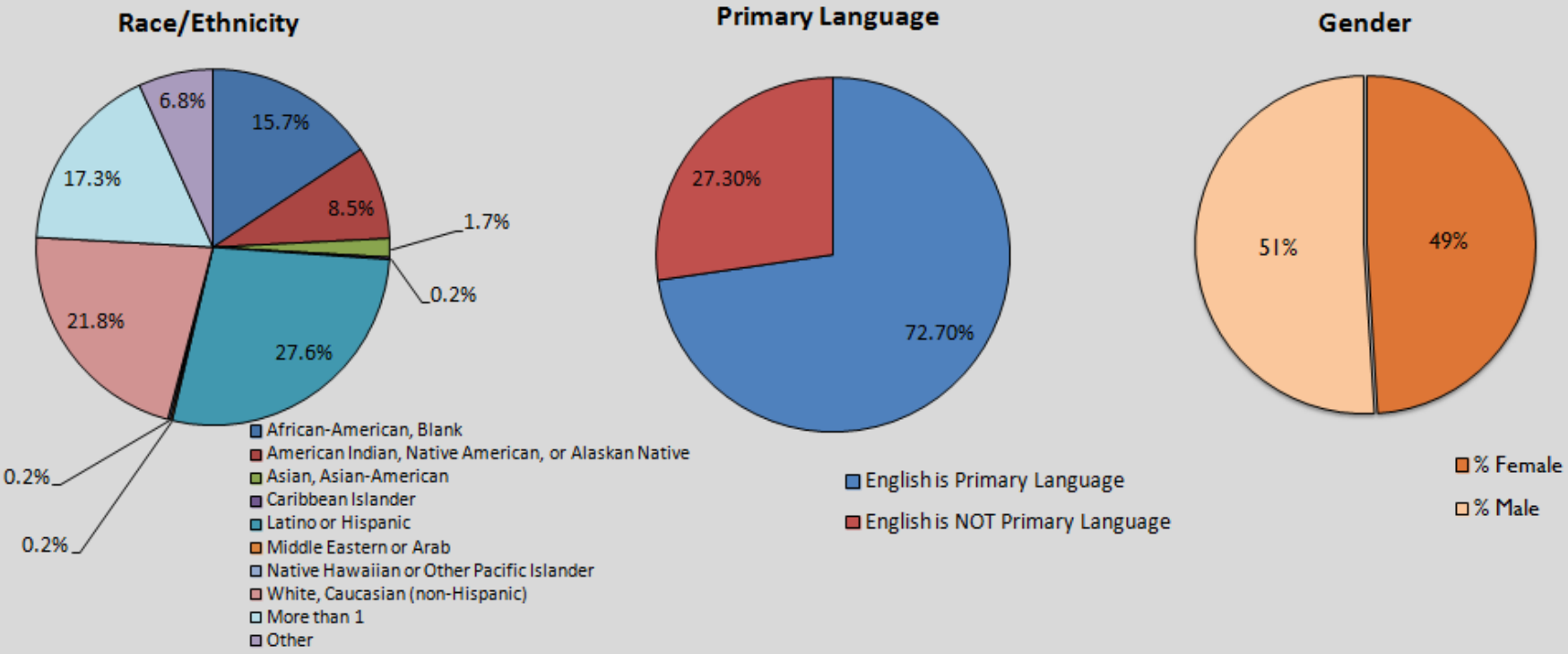


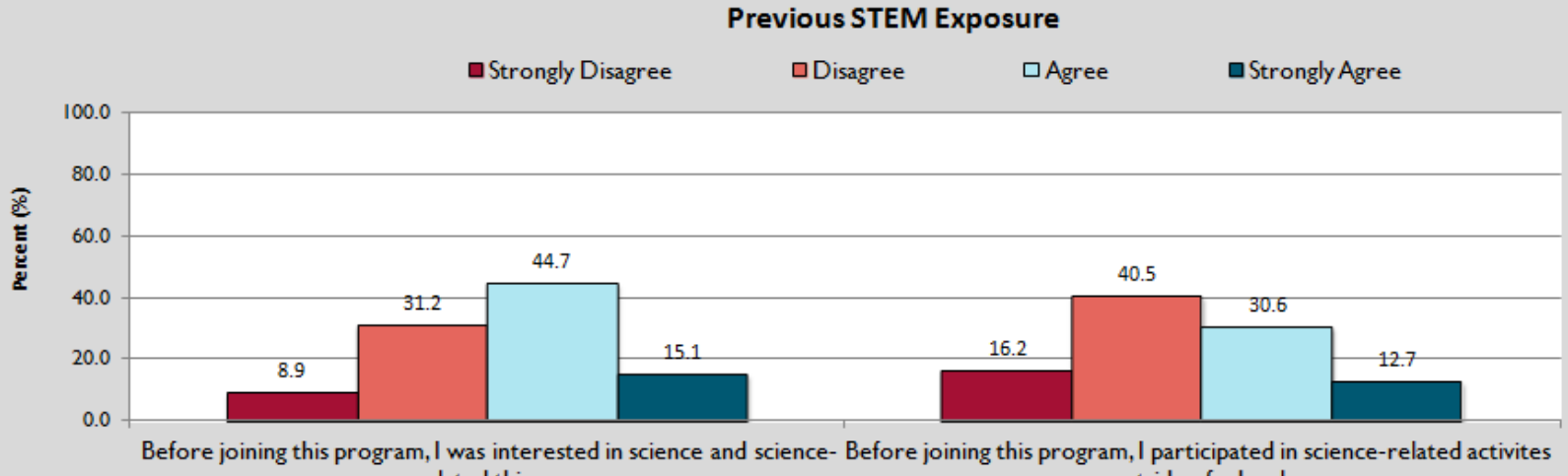
Data Report:
Feedback for Orange County and Classrooms

Data Reporting: STEM Data Dashboard

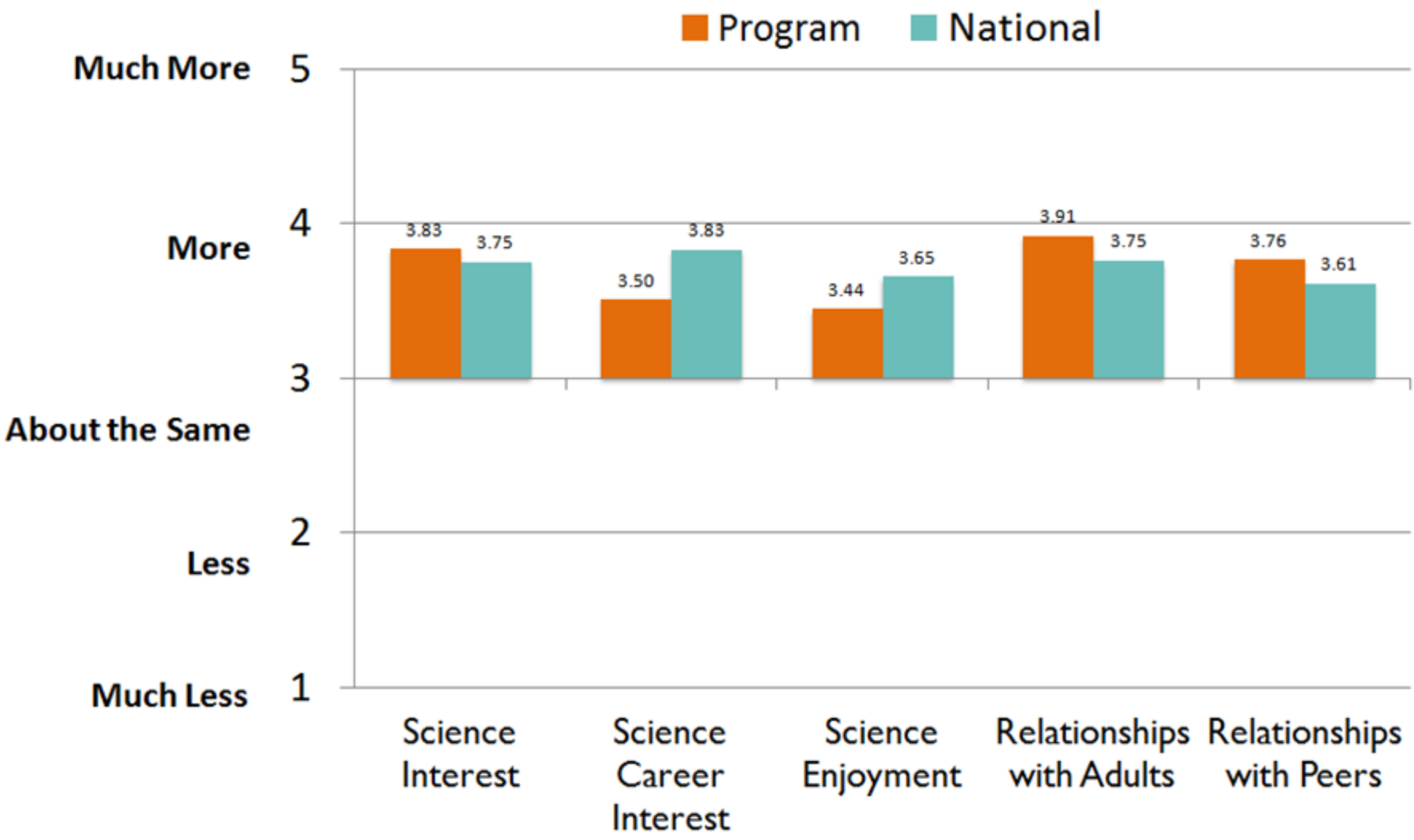
[Click here for video demo (2 minutes)]

Data Reporting: Overview of Students

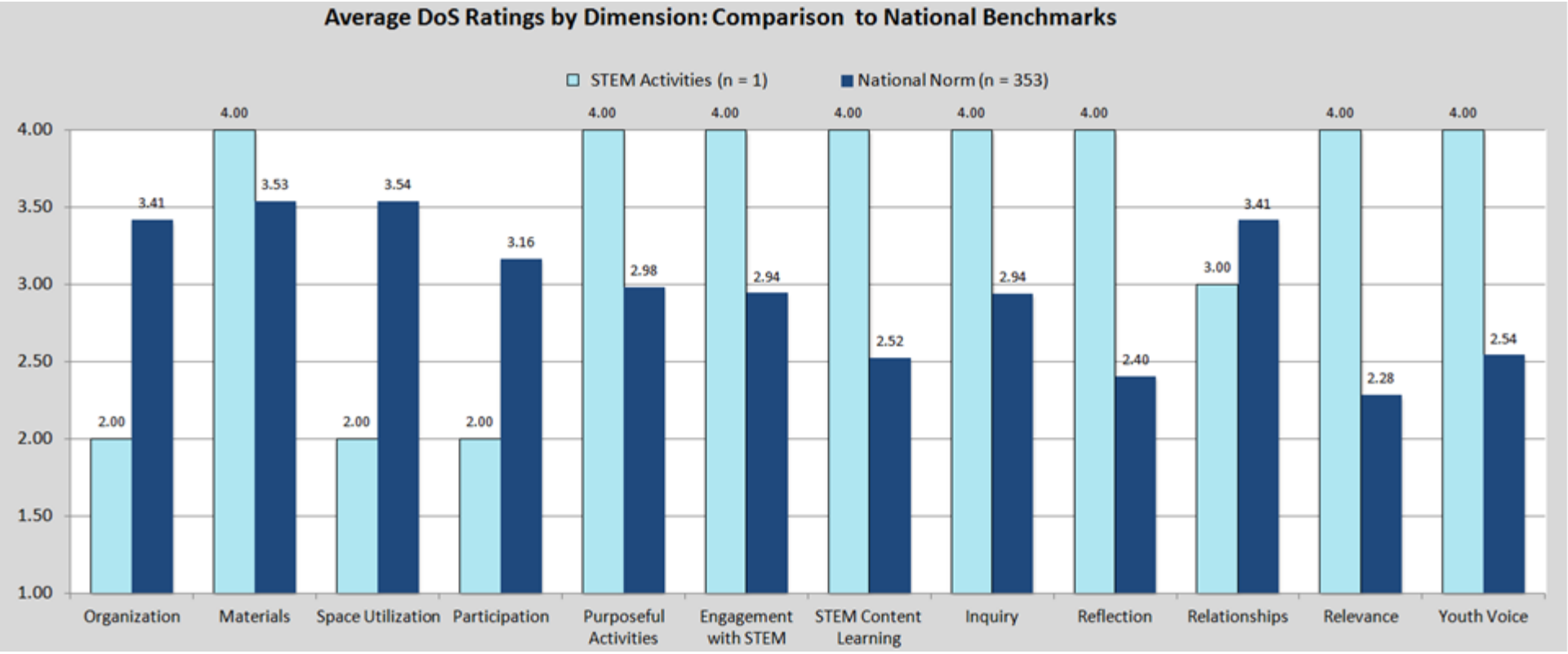




Data Reporting: Comparing to National Data



Data Reporting: DoS Program Quality



Areas that may benefit from more focused professional development include Organization, Space Utilization, and Participation.

Acknowledgments

Thank you! This evaluation is made possible with support from the **Orange County Department of Education** and the **OC STEM Initiative**. We are especially thankful to **leaders in STEM education** like yourselves!

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OC STEM INITIATIVE

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******For general information about using the CIS and DoS tools, please email Rebecca Browne, B.S. at:***

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