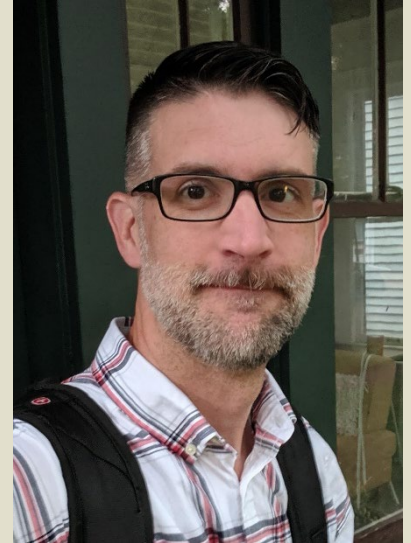# Designing and Running Effective Workshops

JOHN MCDARIS, SERC - CARLETON COLLEGE
EARTH EDUCATORS' RENDEZVOUS 2020 – MINI-WORKSHOP

SERC

Welcome and Introductions

- 17 years at SERC

- Supported more than 70 workshops since 2004

- BS Physics (1992); MS Geophysics (2000); PhD Geophysics (in progress)

Your Turn

- Name

- Institution

- Topic of a workshop you will / would like to run

Sources

On the Cutting Edge
Strong Undergraduate Geoscience Teaching

SAGE 2YC
2YC Faculty as Agents of Change

Workshop Goals

As a result of the workshop, participants will:

- Be able to use backwards design to plan a professional development workshop
  - Articulate workshop goals
  - Plan activities to achieve those goals
  - Describe the workshop in an engaging way to attract participants

- Develop an action plan for implementing a professional development workshop

- Create and/or strengthen connections to other geoeducators leading workshops

Plan for the Day

Workshop Goals
- Slides
- Worktime
- Sharing

Workshop Activities
- Slides
- Worktime
- Sharing

Other Considerations
- Slides
- Worktime
- Sharing

Wrap-up and Evaluation

What makes a workshop effective?

Think about one of the BEST workshops or workshop sessions you have ever attended.

What made it so good?

Take a moment to think and then type your answers into the chat window.

SERC

Effective Workshop Design

1. The activities of the workshop directly support the workshop goals.

2. The workshop actively engages participants.

3. The workshop includes time for participants to share their experiences and expertise.

4. The workshop includes time for reflection and planning.

5. Sessions are planned to the minute, though only the session leaders need to know those details.

SERC

Workshop Goals

The activities of the workshop

directly support the workshop goals.

As with effective course design, effective workshop design begins with articulating your goals. What do you want participants to **know** or **be able to do** at the end of your workshop?

- Set your goals early and use them to plan workshop sessions and activities
- Don't keep the goals to yourself – state them clearly in your materials
- Use the workshop goals to help you plan your evaluation

SERC

Examples of Workshop Goals

1. Explore the interplay of student values and perceptions in two case studies: teaching evolution and teaching environmental issues

2. Support academic success of all students through backwards design, curriculum alignment, formative and summative assessments, and active learning strategies

3. Participants will receive training in the prevalence and impact of hostile behaviors in the STEM workforce, including: implicit biases, microaggressions, sexual harassment, discrimination, and bullying

4. Learn about existing programs that integrate geoscience and sustainability, the strengths and weaknesses of various program designs, and the challenges and opportunities that they address

SERC

Examples of Workshop Goals

What do you think about the goal you discussed? Do you have modifications you'd like to make? Is it clear how you could evaluate success?

Type your comments into the chat box.

SERC

Goals - Work Time

Draft a list of goals for your workshop.

Use your page in the workspace to record your list of goals.

The next step will be to share and review each other's goals so be ready to show what you've come up with after the work time.

SERC

Share your draft goals.

Participants will be sent to breakout rooms. Each person should get a few minutes to show their goals to the others and get feedback or ask questions.

SERC

Questions?

Break

Reconvene in 5 minutes to learn more about Workshop Activities

Workshop Activities

The workshop actively engages participants, and includes time for participants to share their experiences and expertise.

Think about designing your workshops the same way you design your courses.

- Backwards design – goals, activities, and evaluation
- Use strategies like think-pair-share, gallery walks, case studies, and jigsaws

Given your workshop goals, what kinds of activities will help you to achieve those goals?

Design the Workshop to Meet Your Goals

- For each goal, ask yourself, "What could I do, or have workshop participants do, to ensure that we meet this goal?"

- Make sure that each workshop session directly contributes to meeting one or more of the workshop goals

- If necessary, revise your workshop goals as you develop the program. For example, you might discover that your goals are too ambitious for the time available.

- Think beyond topics/session titles. How will you engage workshop participants in learning about the topics?

- Think about resources. What resources do you need that you already have? What resources will you need to find?

- How will you model the practices you want your participants to implement in their employ?

SERC

Example: Designing a Session about Supporting Student Success Through Active Learning

- Possible goals:
  - Participants will feel confident in their ability to implement at least 3 different active learning strategies in their classrooms
  - Participants will have ideas about how they can use one or more active learning strategies that they have not implemented in the past

- Think beyond topics/session titles
  - How can we **engage** workshop participants in learning about the topics?
  - Who has the **expertise** we need if it's not already "in the room?"
  - How can we provide opportunities for participants to **learn from one another**?
  - How can we provide time for participants to **discuss what they are learning** and to think about **how to apply it** in their own teaching?

SERC

Example: Designing a Session about Supporting Student Success Through Active Learning

Virtual format:

- Asynchronously, have participants do one or more of these:
  - Read through the active learning strategy posters developed by Rachel Beane
  - Watch a video about one of those strategies
  - Read a paper about using active learning strategies in STEM classrooms
- Synchronously, put participants in virtual breakout rooms where everyone briefly shares:
  - What you learned
  - What you might implement in the future
  - What you are already doing
- Small groups discuss common threads and ideas generated by the sharing.
- Small groups report their top 1 or 2 take-aways to the whole group, followed by questions or discussion.

SERC

Example: Designing a Session about Supporting Student Success Through Active Learning

Face to face format:

- As table groups, read and discuss a scenario where students are not learning as well as we would like

- Present a short lecture about backwards course design and the research on active learning, including short activities on developing and critiquing course goals

- As a jigsaw activity, participants read through the active learning strategy posters developed by Rachel Beane

  - Answer questions about each of the posters

    - Summarize the method
    - When would this method be particularly useful?
    - For what courses / topics might this method not work very well?
    - How much preparation before class does this method require?

SERC

Workshop Activities

Resources

- SAGE 2YC Materials for Faculty Development Workshops - https://serc.carleton.edu/sage2yc/workshop_materials.html

- NAGT's Traveling Workshops Program - https://nagt.org/nagt/profdev/twp/index.html

- Teach the Earth: Past Events Archive - https://serc.carleton.edu/teachearth/past_events.html

- Pedagogy in Action - https://serc.carleton.edu/sp/index.html

- Rachel Beane's Active Learning Posters - https://serc.carleton.edu/sage2yc/active_learning/how.html#posters

SERC

Activities – Work Time

Begin drafting a workshop program that actively engages participants and includes time for presentation, sharing and reflection.

- Your task is to DRAFT an outline of your workshop program – a list of session topics and timing, as well as something about the format of each session (gallery walk, small group discussions, case study, etc.)
  - Brainstorm a list of activities that your colleagues could engage in to achieve each goal.
  - Try to come up with at least 3 different approaches for each goal.
- After this, you'll share your draft program with other participants, get some feedback, and then have some time to revise your draft.
  - You're not aiming for perfection, just put something on the page.

SERC

Activities – Review and Feedback

- Are the activities well-aligned with the workshop goals?
- Are the participants actively engaged?
- Is there time for participants to share their experiences and expertise?
- Do participants get access to expertise that's not "in the room?"
- Is there time for participants to reflect and plan?
- Do you know of resources that would be of interest to the other team?

Questions?

Break

Reconvene in 5 minutes

Workshop Title

1. Student Learning About Critical Earth Issues Through the Use of Large Online Digital Data Sets
2. Pan-African Approaches to Teaching Geoscience
3. Creating a sense of belonging using hands-on strategies in our geoscience courses
4. Pathways to Success: Course Design, Improving Diversity, and Transfer Opportunities in Geoscience

Which titles are *compelling to you* and why?
Whom would you expect to be interested in attending each workshop?
What would you *expect to learn* in each workshop?
What would you *expect to do* during each workshop?

Example Workshop Description

"Early exposure to research experiences has shown to be effective in the recruitment of students, improved retention and persistence in degree programs, motivation for students to learn and increase self-efficacy, improved attitudes and values about science, and overall increased student success. This workshop will bring together educators from a wide variety of institutional settings and backgrounds with the common goal of sharing ideas about providing authentic research experiences for students in introductory Earth Science courses."

- Who is the intended audience?

- Is the description written to entice them? Is it compelling?

Example Workshop Description

"This workshop explores successful strategies for teaching geoscience to all students in the same classroom. What do you want students to know and be able to do after completing your course? We will discuss the 'enduring understandings' of geoscience that you may want your students to be able to use after your course. We will explore different types of formative and summative assessments that can help students practice and demonstrate their understanding. The geosciences are tied with physics for the least diverse field in the STEM disciplines. We'll examine issues of equity, access, and inclusion through the lens of case studies, then explore strategies for broadening participation. Attendees will participate in both small and large group discussions, collaborating with colleagues from [our region], and develop an action plan for improving student success in their classroom."

- Who is the intended audience?

- Is the description written to entice them? Is it compelling?

SERC

Logistics

Where?
- How large a space? What kinds of facilities / equipment would be ideal? What is available?
- For a virtual workshop, do you have a platform with enough "seats" for your expected participants?
  - Do participants need special hardware or software to attend?

When?
- What are our constraints?
- Are you going to have asynchronous activities in addition to or instead of synchronous?

Who?
- Likely attendees
- Partners for planning, hosting, and/or advertising?

Work Time

15 minutes – One your workspace page, choose a title, **<u>DRAFT</u>** a description, and write some notes about logistics

Remember, you're not aiming for perfect, or even done.

Just Draft.

You'll share your draft materials in groups when we return.

Share your draft workshop plans.

Participants will be sent to breakout rooms. Each person should get a few minutes to show their plan to the others and get feedback or ask questions.

Wrap Up and Evaluation

Questions or Sticking Points?

A typical workshop planning timeline is at least three months:
https://serc.carleton.edu/earth_rendezvous/2020/program/afternoon_workshops/w8/workspace/timeline.html

http://serc.carleton.edu/earth_rendezvous/2020/program/afternoon_workshops/eow_w8.html