

Special Session: Workshops that Work! Using Evidence-Based Principles for Inclusive and Engaging Workshop Development and Facilitation.

Stephanie L. Cutler

Leonhard Center for the Enhancement of Engineering Education
Penn State
University Park, PA
slc5822@psu.edu

Ibukun Osunbunmi

Leonhard Center for the Enhancement of Engineering Education
Penn State
University Park, PA
iso5023@psu.edu

Abstract— Workshops (or special sessions) have been a staple of dissemination practices and professional development activities for many years. However, not all workshops create positive experiences for their participants. What makes a workshop work? In this special session, we will demonstrate and highlight how to use evidence-based principles to create inclusive and engaging workshops. Throughout the workshop, we will encourage participants to reflect on previous workshop activities and what made them more or less effective. From there, participants will put their workshop development skills to the test with a fun activity to apply different workshop tips to randomly assigned workshop topics and audiences! The workshop facilitators have designed the workshop to highlight the different recommended strategies. We propose that by using these evidence-based inclusive educational practices, professional development efforts like workshops would be more engaging. Come see if our workshop really works!

Keywords—evidence-based instructional practices; faculty development; innovation and creativity

I. SESSION DESCRIPTION

The principles of effective, engaging, and inclusive teaching have been well documented and supported through numerous evidence and research-based studies [1-2]. However, we struggle to encourage the adoption of research-based practices by the broader higher education instructional community [3-5]. So why don't we apply these same principles when disseminating our research? One approach that has regularly been used to encourage the adoption of new teaching strategies is short, one-time interventions in the form of workshops. Workshops have been a staple of faculty development and dissemination efforts for many years – both at local universities and more broadly [6]. However, not all workshops are as effective as others.

Some participants noted challenges with workshops include (but are not limited to):

- Unclear or unmeasurable goals for the workshop
- Misalignment between the expectations from the title/abstract of the workshop and the actual workshop

- Too much content being explained by the facilitation team (long lecture times)
- Not discussing or connecting how participants can use the content in their classrooms or practices (What do I do with this?)
- Bad time management (running out of time for activities or skipping content)
- Over or under explaining key concepts

We're sure everyone reading this paper can think of at least one more addition to this list based on their previous experience with workshops or professional development opportunities. Our workshop will provide tips and strategies to help address each of these challenges as well as any other questions brought up by participants.

Since workshops are typically one-time interventions (like a conference presentation), the amount of time and effort facilitators have to develop an effective workshop may be limited as many faculty have very busy schedules. Additionally, developing a one-time intervention can be difficult with respect to scoping as compared to developing a full course or a single class period within a full course. This workshop will help to translate the teaching strategies many faculty are familiar with for the development and implementation of workshops.

Creating an inclusive and impactful workshop requires implementing the same effective, engaging, and inclusive teaching strategies known to be effective in the classroom. This workshop will highlight key strategies for workshop design grounded in good teaching practices that focus on creating an inclusive and impactful workshop experience. These strategies can be used across disciplines to aid researchers, faculty developers, and teachers in sharing and disseminating their work through workshops. Table 1 shows the difference between a traditional workshop and an effective workshop based on evidence-based practices [1, 7- 10].

Table 1. Difference between traditional workshops and an effective workshop

“Traditional” Workshop	Effective Workshop (Evidence-Based Practices)
Lecture-heavy and limited interaction between workshop facilitators and participants.	Less lectures and more interaction between facilitators and participants
Limited hands-on participants’ engagement	Participants are involved in various hands-on activities and projects.
Workshop goals and objectives are not usually clearly defined.	Workshop goals and objectives are clearly defined and measurable.
There is little consideration of research or over emphasis on specific research with limited connection to practice.	Informed by evidence-based research and focused on practical takeaways.
Workshop aspects informed by research are usually disseminated as jargon that is not easily understandable by the average participant.	Research studies are disseminated using easily understandable language by the average participant.
Content centered.	Participant centered.
Workshop assessment is usually summative.	Ongoing formative and summative assessment to monitor participants’ comprehension.
Sticks to a rigid schedule and less adaptive to participants' needs.	Adaptive schedule based on participants’ engagement and comprehension.

This workshop session will provide an overview of strategies used within the Leonhard Center for the Enhancement of Engineering Education to ensure exuberant, inclusive, and impactful workshops for the College of Engineering faculty. Faculty within the Leonhard Center have been recognized for workshops/special sessions excellence multiple times with the Helen Plants Award for Best Non-traditional Session at the IEEE/ASEE Frontiers in Education (FIE) Conference [11-13]. Figures 1 -3 shows examples of Leonhard Center workshops. The Leonhard Center faculty purposefully integrates a variety innovative collaborative engagement strategies to help build an inclusive community of faculty members who engage with effective teaching strategies. This aligns with the mission of the Leonhard Center and its efforts to encourage the adoption of evidence-based teaching practices since it was established in 1990 [14]. Specific strategies related to creating an inclusive atmosphere within a workshop, as well as engagement more broadly, will be shared with participants and demonstrated during the workshop. Participants will be provided with the opportunity

to reflect on and share their experiences throughout the session.



Figure 1. Innovation T-Ball workshop at Penn State showing the participant interaction with the Leonhard Center facilitators (in baseball hats).



Figure 2. The Leonhard Center team (including Lori Miraldi, Stephanie, Ibukun, and Sarah Zappe) presenting an interactive mini-workshop on Inclusive STEM Teaching Using Technology Tools at the Penn State Teaching and Learning with Technology 2024 Symposium.



Figure 3. Leonhard Center member Michael Alley leading a large group discussion around engineering communication at a Leonhard Center workshop.

II. GOALS OF THE SESSION

By creating engaging and inclusive workshops, researchers, faculty developers, and teachers can more effectively share their knowledge in a way that the audience will remember and be able to implement following the workshop. This workshop aims to discuss strategies for creating inclusive and impactful workshops that can be applied to communicating varied topics for varied audiences. The principles of good workshop design are applicable for working with local faculty and for broader dissemination. Many of the strategies used for workshop design are grounded in evidence-based teaching practices.

The intended goals of the special session are as follows. By the end of the workshop, participants will:

- Reflect on previous workshop participation experiences.
- Discuss key strategies for designing an inclusive and impactful workshop.
- Apply key strategies to their workshop design.

The primary audience for this workshop is faculty interested in translating their research or teaching scholarship into a workshop for other faculty. Also, this workshop is open to faculty developers and industry trainers involved with designing, developing, and coordinating workshops geared toward professional development. Moreover, anyone who wants to disseminate research findings and other forms of information to an adult audience is welcome.

III. RATIONALE AND NOVELTY

Evidence-based practices shown to foster collaboration among students will be used to facilitate interaction among participants [1, 2]. Teamwork, reflections, think-pair-share, and group presentations will be the primary interaction strategies used. First, social presence will be established by using an introduction and icebreaker. Icebreakers in workshops give participants the opportunity to affirm their presence (be seen) and build a sense of community among participants [2]. After this, participants will be divided into small groups, where they will develop a workshop using evidence-based principles to create an inclusive and engaging workshop. Each group will brainstorm and work together to design the workshop based on the principles shared by the facilitators. The facilitators will encourage role assignments in each group to promote good coordination within the group. This will also enhance the possibility of every member's significant contribution to the workshop development.

After completing each group workshop project, each group will be given five minutes to share their developed workshop and what they did differently based on what was learned during the workshop. Facilitators will provide

feedback on each of these projects. Furthermore, there will be a large group discussion. Finally, each participant will be asked to engage in individual reflection, and opportunities for questions from participants and wrap-up discussion will be given.

IV. EXPECTED OUTCOMES

By the end of the workshop, participants will be able to:

- Use evidence-based practices to create inclusive and engaging workshops to enhance the participant experience and key takeaways from future workshops.
- Apply the provided list of top tips for inclusive and engaging workshops to future workshops.

Additionally, we hope this special session will spark additional discussion and reflection on how we communicate our research through workshops and other dissemination venues with a focus on engagement.

V. SESSION AGENDA

(0:00-0:10) Welcome and Icebreaker – What was one of your best/worst workshop experiences?

In small groups, participants will be asked to share their best/worst workshop experience. This is meant to get participants thinking about workshops and will start facilitating community building within groups.

(0:10-0:20) Pitfalls and Warnings: What NOT to do in your workshop.

Based on the icebreaker discussion, the large group will generate a list of common pitfalls or warning of what NOT to do in a workshop based on their experience or the experiences shared by their colleagues.

(0:20-0:45) Fun Workshop Development – Small groups

To help participants gain experience with workshop development, participants will return to their small groups to act as a facilitation team. Each team will randomly select (from a hat) a fun topic - such as toddler snacks, *Lord of the Rings*, frisbee golf, or how to best choose a show to watch on Netflix – and a stakeholder group – such as faculty, teenagers, clowns, or administrators. The participants will be asked to start their initial design of a 90-minute workshop about their topic for their stakeholder group.

Throughout the planning process, the facilitators will stop the teams to share a strategy for good workshop design. The teams will be encouraged to reflect on their progress so far and think about how the shared strategies have already been incorporated or can be incorporated moving forward.

(0:45-1:00) Group Report Out (5 minutes or less for each group).

Each group will have 5 minutes to present their workshop plan to the other groups.

(1:00-1:10) Large group discussion and reflection

As a large group, participants will be encouraged to reflect on the role of the strategies in designing their workshops and how they adapted their workshop design. Lessons learned or points of discussion will also be welcomed as the large group reflects on the experience.

(1:10-1:20) Individual moving forward reflection, questions, and wrap-up.

Each participant will be given a few minutes to reflect on what they learned in the session and how they will use it moving forward. Participants may take additional time reflecting if desired, but there will also be time for questions and wrap-up.

VI. JUSTIFICATION

When disseminating research, presenters often default to presenting a lecture without thinking about strategies for engaging their audience. Content dissemination is not usually seen as a teaching opportunity so the active engagement of participants with the materials is not considered. When presenting material in a collaborative, playful, and positive environment, there is a higher likelihood of propagation and understanding of the work presented. Additionally, fighting for the audience's attention has become a key challenge for many presenters as it is very easy for participants to quickly disengage during the presentation because of readily available technology (phones, computers) constantly at their fingertips (literally). In this era where most people have some form of technology handy and are increasingly active online (social media, YouTube, emails..), there is a need more than ever before for facilitators to plan ahead to find ways to bring people out of their technological world to be fully present during a workshop or information dissemination session. It is important that facilitators grab participants' attention right from the beginning of the workshop and hold it to the end using evidence-based principles that have been shown to work. This is the rationale for this workshop.

Finally, evidence has shown that people, especially adult learners, are more engaged and learn best when they participate in, interact with, and own the learning process. This workshop format is set up as a model workshop for participants to learn from. It will be practice-oriented, and participants will learn the why behind what we do during a workshop facilitation to encourage positive results.

VII. ABOUT THE FACILITATORS

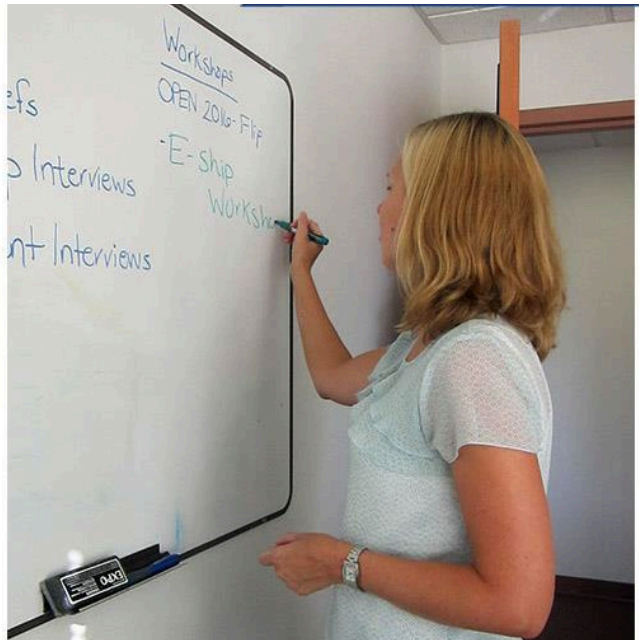


Dr. Stephanie Cutler holds degrees in Mechanical and Industrial Engineering as well as Ph.D. in Engineering Education from Virginia Tech. Dr. Cutler currently works as Director of Assessment and Instructional Support and Associate Research Professor in the Leonhard Center for the Enhancement of Engineering Education at Penn State. Her research interests include the peer review process, the faculty and graduate student experience, as well as educational development, including the adoption of evidence-based instructional practices in the engineering classroom. She is passionate about bringing joy and play into the all aspects of our work including the classroom and professional development opportunities.



Dr. Ibukun Osunbunmi is an Assistant Research Professor and Assessment and Instructional Support Specialist in the Leonhard Center for the Enhancement of Engineering Education at Penn State. He holds B.Sc. and M.Sc. degrees in Mechanical Engineering and a doctoral degree in Engineering Education. His research interests include students' engagement, technology-enhanced learning, design thinking, evidence-based pedagogy, and broadening participation in STEM education. He has fully bought into the exuberant practices within the Leonhard Center and works to bring engagement strategies into all aspects of his work.

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