

2-hour workshop

proposals due Jan. 22

Old Title: Critical reflection on AI-augmented assignments supporting statistics process knowledge

New Title: Joyful integration and critical reflection on AI-augmented assignments supporting statistics process knowledge

Brief Abstract (150 words): We first describe two activities where students use AI to engage statistics process knowledge. One is a two-part activity (to be presented at ICOTS12) used in a flipped classroom, where students prompt an LLM for a pre-class investigation, then rate the helpfulness of the LLM's output. During class, after a mini-lecture on prompting styles, the students then work with a partner to create a new prompt, rate LLM output, and reflect on the process. The other activity (Mocko, Lesser, Lugo, & Shein 2026) has students create a statistics mnemonic for an exit ticket, with and without LLMs, then reflect on tradeoffs. These activities build on three critical components: reflection, prompt engineering, and a frame of reference for critical ongoing evaluation. We'll conclude with having participants adopt their own activity built on these characteristics. To optimize our two synchronous hours together, we'll assume prior basic familiarity with AI and an advance reading.

Connection to the theme: The process of brainstorming and creating a novel, student-friendly, engaging activity in the community with other statistics and data science educators is inherently joyful and fun! Joy will be a key component of building the activity as we focus on the positive aspects of helping our students to learn with AI. Discovering critical components of successful activities to improve students' ability to use LLM to enhance, but not replace, their learning. The assignments created in the session will allow for the joy of discovering novel ways to use LLMs to spark reflection and discussion of the learning process.

Engagement: During the workshop, participants will complete a few online poll questions as an icebreaker on learning strategies. They will also share

an online collaborative document, such as Miro or Padlet, to start the brainstorming process. Participants will then work in teams in breakout rooms to convert one of their own activities or convert an activity we provide. Participants will engage in creating their own activity and giving feedback and encouragement to others.

Goal: The goal of this workshop is for participants to leave with a self-created personalized activity that can be used in the classroom as a source of reflection about the benefits and challenges of using or not using LLMs to help develop learning strategies.

Create an assignment about learning strategies or the learning process. Augment it with LLM use and then reflect on the value-added benefit of adding AI.

Basically a “convert your old activity to an AI assignment “ workshop through reflection, Prompt engineering and critical thinking.

To use

- Learning Strategies
- Coding
- General Data Analysis - but

Not to use

- Images given in the activity, such as random rectangles. (Gettysburg version would work, though)
- Catapults and gummy bears

We would use M3 as an example and I have another one that would work as well . Then they would take their own activity or maybe we take one of ours and then have them work in breakout rooms and convert it into an AI activity.

How does the conversion change the learning objectives?

We first describe two activities in which students use AI to engage with statistical process knowledge.

Advance Reading: Mocko, Lesser, Lugo, & Shein 2026

1. Introductions (5 minutes)
2. Advanced Organizer - Three critical components: reflection, prompt engineering, and critical ongoing evaluation. (10 minutes)
3. Describe Activity 1 - SMART Activity (15 minutes)
 - a. Mnemonic - no technology
 - b. Mnemonic - with AI (they do this as well)
 - c. Reflection
4. Describe Activity 2 - Ask Better Prompts (15 minutes)
 - a. Prompt about the learning objective with AI and reflect
 - b. Share results and improve the prompt
 - c. Reflect
5. Share what you noticed about those three critical components (15 minutes)
6. Adapt your own
 1. Each person/pair identifies and adapts their own to have the three critical components.
 2. Community share?
 3. Adapt
 3. Group share

(Provide one if they don't have one.)

Reflection after an exam - how did they study in the past, what did they do, how could they improve
7. We'll conclude by having participants adopt their own activity built on these characteristics. To optimize our two synchronous hours together, we'll assume prior basic familiarity with AI and an advance reading.

