

ACS Workshop Resources - PLAI-ing with CLAAI: Critical (and Fun!) Innovation

Objectives:

- Reflect on recent research into creativity, learning, and AI with primarily text-to-text LLM models.
 - Simulate key findings through an interactive creative challenge.
 - Explore instructional practices that promote originality before introducing AI.
 - Reflect on how to responsibly integrate AI into classroom creative processes.
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Agenda:

I. Welcome & Framing (5 min)

- Brief personal or institutional context for why this workshop matters.
 - Today's goal: simulate and reflect on the creative processes impacted by LLMs.
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II. Study Summaries (10 min)

- **Context:**
 - <https://arxiv.org/html/2501.19361v1>
 - <https://www.science.org/doi/10.1126/sciadv.adn5290>
 - LLMs increasingly used for brainstorming and ideation.
 - Do they enhance creativity or promote homogeneity?
- **Methods:**
 - Human groups wrote short stories before vs. after using gen AI.
 - Measured creativity (novelty + usefulness) and diversity of short stories.
- **Teased Results:**
 - Using AI early *reduced* idea diversity.
 - Groups that brainstormed first, *then* used AI, wrote *more novel, higher quality* stories.

III. Creative Challenge Setup (5 min)

- Group chooses a creative medium:
 - e.g., **a short story, song lyrics, an app idea, or course concept.**
- Define broad constraints (e.g., “Create a 90-second song about academic life”; “Invent a sci-fi premise with no AI in it”, “Outline a play about being lost in a museum”, “Write a poem only using overhead conversations”).

IV. Human-Only Brainstorming (20 min)

Breakout Rooms of 5–10 participants

- Brainstorm or develop ideas from scratch — no AI yet.
- Encourage:
 - Bold, novel concepts.
 - Either collaborative work or parallel solo writing within the room.
- Quiet time and active exchange both permitted.
- Facilitator check-ins optional.

V. Bring in the Bots: AI Prototype/Refine (10 min)

- Use ChatGPT, Riffusion, or other tools to:
 - Expand, translate, or refine human ideas.
 - Prototype lyrics, outlines, code, titles, etc.
- Ask:
 - What did AI enhance?
 - What did it *flatten* or dilute?
 - What surprised you?

VI. Group Debrief & Study Reflection (5 min)

- **Small groups or full-group share-out:**
 - What was your original idea like?
 - How did AI affect the idea?
 - Did anything feel less novel after AI's input?
 - Connect back to **studies:**
 - Human-first ideation *matters*.
 - LLMs *reflect* dominant patterns.
 - Instructional implication: **sequence matters**.
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VII. Pedagogical Implications (10 min)

Facilitated discussion or jamboard:

- How can you structure your class activities to protect originality before using AI?
 - When might it make sense to use AI early — or not at all?
 - How might AI be used to diversify ideas *after* original brainstorming?
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VIII. Final Takeaways (5 min)

- **Principle:** Preserve space for *divergent thinking* before *convergent refinement*.
 - **Best Practice:**
 1. Human brainstorms freely.
 2. AI enhances or helps iterate.
 3. Instructor curates for novelty and learning.
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Materials & Tools:

- Breakout room software (Zoom or in-person groupings)
- Access to ChatGPT, Riffusion, or similar
- Shared Google Doc for notes

- Timer and facilitator prompts