

Faculty Profile



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Matthew Manos challenges students to consider ethical implications

In a recent CET Faculty Showcase, you discussed helping students think through the process of designing solutions to problems and the ethical implications of those solutions. How do you facilitate this?

In the design industry, one of the most common approaches to critique is what's called the "sandwich method." The method essentially calls for wrapping any negative criticism in praise. You'll even see Apple using something called "I like; I wonder", which is a two-part approach that begins with praise, and ends with either a point of negative critique or a question that appears to have been left unanswered. In the classroom, I utilize both of these approaches. Still, especially for students engaging in very new and emerging technologies or social and environmental impact initiatives, I felt as though something was missing: ethical implications. At the faculty showcase, I presented my toolkit for this particular approach, called Less (Bad) Design. The approach highlights 12 principles for bad design, each representing a common unintended consequence of innovation (ex: "band-aid" solutions, which are temporary solutions that do not deal with the cause of a problem). Now, in addition to the sandwich method or asking "I wonder...", I challenge students to think about the potential consequences of their ideas as early as possible.

What advice do you have for other instructors who are interested in helping students work through the design and critique process?

Design-style critique can feel very challenging compared to more traditional modes of assessment due to the seemingly subjective nature of it. For faculty interested in working with students in this manner, I'd recommend reducing the feeling of the critique being subjective (and therefore avoiding grade shock) by developing as detailed a rubric as you can. For example, my classes are very much centered around creative problem framing and solving, so my rubric for critique might include questions such as:

- "Was the problem clearly defined?"
- "Did the student appropriately defend the urgency and validity of the problem?"
- "Was the problem identified based on individual assumptions, or were the key stakeholders of said problem engaged?"
- "Is the proposed solution novel?"
- "Is the proposed solution sustainable (or scalable)?"

Questions like these challenge the students to not only create exciting design solutions at a surface level, but also work to defend the "why" behind each of their decisions.

Are there additional considerations for instructors looking to use this technique in a hybrid (in-person and online students) classroom?

The hybrid modality is particularly challenging for discussion-heavy class sessions, as students who are online may easily be forgotten by the instructor in the midst of an engaging conversation that may be happening in the physical room. To help mitigate this, I recommend asking online students to engage in the chat while the physical conversation is taking place. Then, the instructor can develop a practice of routinely checking that chat and shouting out the responses to add to the conversation, or calling on that student to elaborate. Additionally, Zoom breakout rooms work very well for focused dialogue. If you have a number of students online, consider having them work together as a team while also splitting up physical students into teams for discussion.

For more on helping students think through the ethics of design, see ["Less \(bad\) Design: A Toolkit for Ethical Ideation"](#) By Matthew Manos.

Tips from CET

If you would like to implement this activity in your course, consider breaking down the design and critique assignment using the steps below:

1. Provide case studies of designs relevant to the discipline, or student's future careers.
2. Introduce an example challenge or problem that requires a design, and work with the class to model the design of a solution. Identify the grading criteria, challenges, and implications as the design unfolds.

3. Ask students to identify a challenge for which they are interested in designing a solution, and provide the rubric to frame the assignment.
4. Provide students with guidelines on how to effectively give feedback during critique.
5. Provide in-class opportunities for feedback on their designs in one or all the following formats
 - a. One-on-one
 - b. Small groups
 - c. Whole class presentation
6. Grade students' final designs, based on the grading criteria.

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