

Curiosity, Truth, and AI: Rethinking Student Learning in Higher Education

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Project Overview

This project began with a focus on how generative AI (AI) may be reshaping student cognition, particularly through risks such as epistemic drift, the metacognitive illusion of knowledge, and mismatches between confidence and competence. However, as the work unfolded, it became clear that this initial framing was not sufficiently informed by how students actually engage with AI in their everyday learning. As a result, the project evolved into a more student-centered inquiry focused on how learners experience curiosity, use AI, and make meaning across multiple sources of knowledge. Therefore, we incorporated student voice directly into the project through short-form video reflections allowing us to better understand how students navigate an increasingly complex, AI-mediated knowledge landscape.

Challenge:

A central challenge in this process was recognizing and addressing our own limited understanding of student practices. Our original approach was shaped by assumptions about the cognitive and metacognitive risks of AI, rather than by empirical insight into how students actually use these tools. This required us to move towards an inquiry-first approach in which the focus itself could evolve over time. Another key challenge involved the growing disconnect between institutional narratives about AI, often focused on risks, decline, or misuse, and the lived realities of student learning. We addressed this by intentionally examining how students evaluate and reconcile multiple forms of knowledge, including AI, peers, parents, and instructors, rather than assuming a deficit in their abilities.

Goals:

The primary goals of the project emerged from this shift in orientation. We sought to understand how students use AI as part of their learning processes, how curiosity operates within AI-mediated environments, and how students determine what is “true” when navigating multiple, and sometimes competing, sources of knowledge. This included attention to how students interpret AI outputs, respond to potential inaccuracies, and integrate these sources into their broader sense-making practices. Ultimately, the project aims to improve student learning by more accurately reflecting how students are already learning in multimodal ways. This is approached in two ways. The first is by motivating students to reflect on their own process of curiosity to drive reflexive change, and the second uses this student project as a form of data collection to drive future pedagogical development.

Rule Breaking:

A key aspect of this work involved challenging a dominant norm in higher education: the tendency to begin with fixed, expert-defined problem framings grounded in assumed deficits. We set out to break one major rule: effective instruction is delivered by an expert educator to naive learners. We deliberately disrupted this approach by shifting to a student-centered, inquiry-first model. While our initial impulse was to instruct students in the mechanisms behind how AI diminished curiosity and weakens critical thinking in terms of cognitive offloading and the

emergence of a new cognitive error landscape, we shifted our approach in the spirit of rule breaking. Rather than *teaching* what AI is doing to students, we *asked* how students are actively engaging with AI, how they experience curiosity, and how they decide what to trust when integrating multiple forms of knowing. This shift required relinquishing initial assumptions and our own control, but opened a space for student perspectives to redirect the project's focus. In so doing, we noted a misalignment between institutional expectations and student practices, revealing that students are not simply losing critical capacity but are adapting in complex ways.

Audience:

The primary audience for this work includes undergraduate students whose foundational habits of thinking and learning are still developing. These students are already navigating AI as part of their academic and everyday lives. The project also speaks to faculty across disciplines who are adapting their teaching in response to AI, as well as to those seeking more effective ways to foster critical and creative thinking and engagement in evolving learning environments. Finally, this project and its future directions act as a call to action for university leadership to meet this transformative moment and bridge the gap between how educators educate and how learners learn; indeed, the continued relevance of higher education depends on it.

Stakeholders:

Finally, this work is shaped by and relevant to a range of stakeholders, including students themselves, whose experiences were central to the project's development; faculty who are navigating AI in their teaching; and institutional leaders tasked with (re)structuring higher education in the age of AI. Teaching and learning centers, instructional designers, and educational technologists also play a key role, as they support the translation of these insights into broader pedagogical practice. Together, these stakeholders share an interest in understanding how AI is transforming learning and in developing approaches that sustain curiosity, critical discernment, and deep engagement in higher education.

Project Implementation

Process & Pivots:

The project process was initially designed to include a structured, tiered video strategy aligned with contemporary media habits, featuring one long-form instructional video, two short-form videos, and three ultra-short microlearning videos to balance conceptual depth with accessibility and engagement. However, due to a pivot in our project focus and time constraints, we adapted this plan. Rather than producing a full series, Dr. Flux created a single short-form video (2 minutes 30 seconds) that invited students to respond to two core questions: "How do you do curiosity?" and "How do you figure out what's true?" Students then generated their own video reflections, which became the primary data source for the project. This shift allowed us to center student voice and directly observe how students engage in processes of discernment and learning. Preliminary findings suggest that students are not disengaging from curiosity or reasoning but are instead adapting their relationship to "truth" by blending empirical and non-empirical knowledge systems to navigate a complex and AI-mediated information ecosystem.

Assessments & Results

Results:

The project resulted in a reframing of our initial assumptions about AI and student learning. Rather than confirming a deficit-based narrative, student video reflections showed that learners are actively navigating complex information environments. Students' sense of "truth" appears to be evolving rather than eroding, as they engage curiosity and blend empirical and non-empirical ways of knowing as part of ongoing discernment. Centering student voice through short-form video responses worked especially well, generating rich insight, while the original multi-video strategy proved infeasible due to time constraints and the project pivot. The key lesson is that understanding student learning in an AI-mediated context requires grounding inquiry in student practice rather than assumption, and that with curiosity remaining a critical foundation for learning.

Assessment Methods:

We assessed the project using qualitative methods, primarily through analysis of student-generated video reflections and observations of how students articulated their thinking. These responses served as data, revealing how students evaluate information, integrate multiple knowledge sources, and describe their own learning processes. This approach prioritized interpretive insight, aligning with the project's goal of understanding how students experience learning and truth-making in real time.

Artifacts

- Artifact contents
 - "What drives YOUR curiosity?"
 - Student work samples
 - Student release forms for work samples
- [Artifact link](#)

Tracy's Reflection

Project:

Taking on this project revealed that our original proposal was both overly ambitious and shaped by unexamined assumptions about what AI is doing to students. We began from a traditional, expert-driven framing that positioned AI as diminishing curiosity and critical thinking. By centering student voice, we shifted to a more grounded understanding of how students actually navigate learning and truth in an AI-mediated environment, revealing their approaches as adaptive, multimodal, and integrative.

This shift has also directly impacted my teaching. I now approach students with greater trust in how they use AI while still emphasizing AI literacy and discernment. I have already integrated CU's AI literacy course into my summer classes and will continue to do so. I also plan to expand my use of short-form instructional video, applying what I continue to learn about scripting, production, editing to enhance engagement in my online asynchronous courses.

If I were to repeat the project, I would scale back deliverables and focus on one or two high-quality short-form videos. Balancing the work alongside a full teaching load and personal responsibilities was challenging, and a timeline extending into the summer would have allowed for deeper focus and production of additional videos. Overall, the experience strengthened my compassion, understanding, and respect for students who are navigating a rapidly changing

educational landscape, and has fundamentally reshaped how I think about teaching, learning, and the role of AI in both.

Faculty Fellows Program:

Participating in the Faculty Fellows Program reinforced the importance of questioning assumptions, beginning with students, and leading with curiosity. In sociology, this practice is referred to as “beginner’s mind,” and this project was a reminder of the importance of that. The Faculty Fellowship has also shaped my professional trajectory and inspired me to pursue further leadership development through a Master of Arts in Leadership for Educational Organizations, Leading Change for Student Success in Higher Education at CU Denver with the goal of moving into leadership roles at CU Boulder.

I also valued the opportunity to get to know CTL staff more closely and appreciated the strong sense of community they foster. At the same time, I would have benefited from more structured opportunities during the spring semester to engage with fellow participants, share project progress, and solicit feedback.

Flux’s Reflection

Project:

This project has motivated far deeper reflection on my own pedagogy and professional direction than I had initially anticipated. Initially, this project felt like a way to share the video pedagogy techniques that I’ve been developing with other faculty through a unique student education opportunity. Instead, it became a deep reflection on the nature of trust, social learning, and the role of curiosity in human thriving. This project has been driven by the idea that the way educators educate isn’t the way learners are learning. However, engaging with that idea changed my entire approach.

Initially, my motivation was to share the video tools that I’ve been using to meet student abilities and expectations when it comes to engaging with educational content. The process of researching our chosen topic shifted this. In exploring how students themselves engage with truth, I realized that instruction is a shared process. The paradigm of an instructor delivering knowledge to a learner can itself be a challenge to learning and curiosity. By taking a collaborative approach to this project with students, I realized how collaborative the process of knowledge generation and transmission can be.

While the deliverables and process that we landed on changed from our initial heading, I think it was that heading which motivated the meaning. Setting some overly ambitious goals assisted the ultimate pivot, and challenged me to think about where to push the boundaries of my own abilities and when to recognize what was “good enough.” The entire process has been deeply meaningful and eye-opening in a way that is shifting my approach to my own career.

Faculty Fellows Program:

Participating in the faculty fellows program has been incredibly meaningful. It’s driven greater networking, while also exposing me to innovative pedagogy that is being done on campus. The opportunity to expand my professional relationship with Tracy has been deeply meaningful and continues to motivate my own career growth. This program also exposed me to a variety of

other professional development opportunities, including several thought-provoking seminars and workshops.

I would have enjoyed more opportunities to engage with other fellows in the spring semester, as my learning in the fall was greatly enhanced by our time together. Additionally, one of the challenges I am left with is how to implement the learning that I've gained from this project outside of my own sphere of influence. While I'm not sure how it could be implemented effectively, I would have liked structured opportunities to implement our ideas at scale in the broader CU Boulder academic environment.

Future Directions

Building on our project, we are continuing to develop a short-form video series, this time directed toward CU leadership rather than students. These videos will address the current media-driven narratives about the “end of higher education,” reframing them to highlight that higher education is instead at an inflection point. The series is designed to be informative (grounded in our project insights), illustrative (modeling the future of effective instructional video), and strategic (advocating for institutional investment in high-quality video production spaces and trained support for all faculty, regardless of department). This represents a move toward scaling the project's impact beyond the classroom and into institutional decision-making.

This next phase also creates opportunities for collaboration and continued development. We are partnering with a creative video production learning designer at Colorado State University and utilizing their professional production space. We recently recorded 3.5 hours of podcast-style video and editing will be completed by the end of June. Looking ahead, this work positions us to expand into broader projects focused on institutional change, faculty development, and the evolving role of AI in teaching and learning.

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