Abstract:

This article suggests that experimenting with generative Ai and engaging with stakeholders can help novices navigate the disruptive changes that Ai is bringing to higher education. Viewing the Ai in higher education landscape through the Kübler-Ross Change Curve, which consists of the seven stages of change (Shock, Denial, Frustration, Depression, Experiment, Decision, and Integration), is one way to approach the challenges and opportunities. Suggestions for how to experiment with generative Ai can be used by novices as well as by innovators looking to support novices. In addition, the author shares reflections on engagements with students, faculty, staff, and industry partners as a way to move through the stages of change.

The change that artificial intelligence (Ai) is bringing to higher education is as immense as it is inevitable at this point. No matter your feelings about AI–whether you are an Ai evangelist touting the amazing advances, an Ai enemy denouncing its use, or an Ai experimenter testing its capabilities and deficiencies –we have passed the point where we can ignore and dismiss Ai. Although we have been using artificial intelligence in many aspects of our daily lives for years, maybe without even knowing it, the dawn of generative Ai for the public has forever changed higher education. Experimenting with generative Ai and engaging with stakeholders can help navigate the disruptive changes that Ai is bringing to higher education

Change is hard. And change in higher education can be especially difficult to navigate with so many stakeholders and established traditions. However, the introduction of generative Ai can be viewed as a catalyst for rethinking education. We have the opportunity to reassess what we do in and out of the classroom. And these changes are not trivial–generative Ai requires that we

reimagine our roles as educators preparing students for a world where generative Ai is being embedded everywhere. It is our opportunity to focus on critical and creative thinking skills, communication, ethics, Ai literacy, and a myriad of other soft skills (Westfall, 2023) that will be desperately needed. We cannot keep doing what we have been doing. The new Ai landscape requires, or more accurately, demands change.

We are at a pivotal point in the history of higher education–where we cannot and should not continue to educate our students in the same way that we were educated. One way in which this seems to have manifested is in the focus on cheating with Ai. The proliferation of resources claiming to identify Ai-generated text in order to catch cheating is disturbing because these Ai text detectors are only able to *predict the probability* that text was Ai-generated (Trust, 2023). In addition, false positives are common, especially with text written by multilingual writers (Myers, 2023). While academic integrity is a serious and important concern, it should not be the only focus. We need to change the way that we approach assignments, assessments, class time, homework, and the nature of higher education.

We can look at these necessary changes through the lens of loss because this Ai upheaval challenges our typical teaching methods and our identities as educators. Using the Kubler-Ross Change Curve (***Kübler-Ross Change Curve*®, n.d.),** we can find ourselves moving forward and backward through the seven stages of change: Shock, Denial, Frustration, Depression, Experiment, Decision, and Integration as shown in Figure 1.
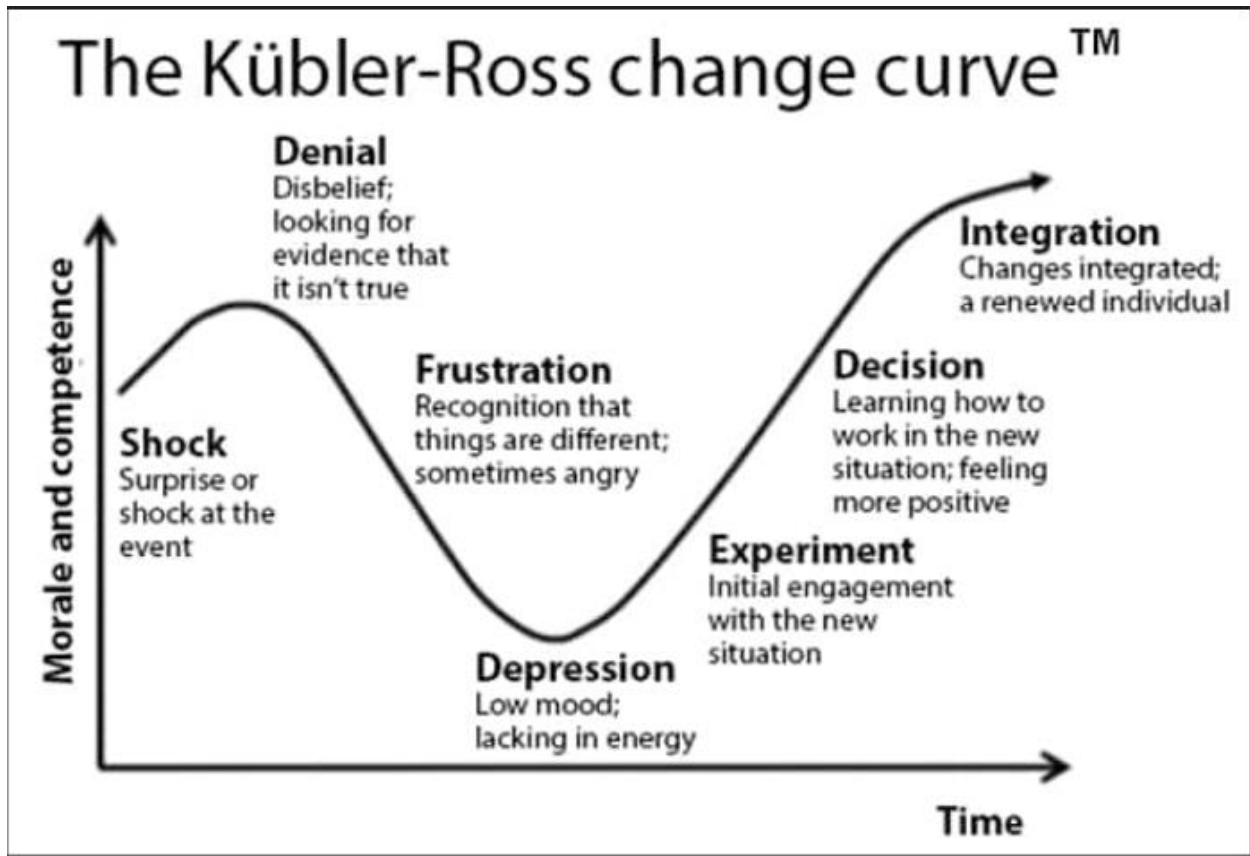
Figure 1: The Kübler-Ross Change Curve showing the seven stages of change: Shock, Denial,

Frustration, Depression, Experiment, Decision, and Integration from

https://www.ekrfoundation.org/5-stages-of-grief/change-curve/

When I first tried ChatGPT in the fall of 2022, I was surprised at the quality of the output. The

shock quickly turned to disbelief as I experimented with prompts related to my course content

and saw results that, on the surface, were more than passable. The early responses lacked depth

and breadth but met many of the intellectual standards of critical thinking, such as accuracy,

clarity, precision, and relevance (Paul & Elder, 2012). Over time, responses have improved, and

with better prompting, generative Ai can create better output. These output improvements are

both thrilling and horrifying. Frustration and serious worry about how generative Ai could be

used and abused had the potential to stall me from moving forward. However, intense curiosity and my students' own experiments with generative Ai moved me from the depression stage into the experiment stage. And although I consider myself to have made it firmly into the decision stage at this point, I remain deeply apprehensive about the potential negative changes that are possible. I think of myself as an Ai experimenter, one who tests and evaluates Ai with a critical eye in order to caution my students and fellow faculty about the negative changes while at the same time incorporating positive changes into my work.

How can we best navigate these changes? One way is to be informed and engaged with Ai. However, it is almost impossible to keep pace with the rapid development in Ai. Dr. Lance Cummings, at UNC-Wilmington, says that "keeping track of every AI update will lead to information overload and inaction" (2024). Instead, he recommends an AI operations plan. For me, that plan means **experimenting with Ai** and **engaging with stakeholders** to create opportunities for growth and collaboration.

Experimenting with Ai

The advice to "just experiment with Ai" is not necessarily helpful for someone brand new to generative Ai. That advice is like telling someone to "just play around with ingredients" when they are learning to cook–there are just too many options and unknowns. Although early adopters feel little to no hesitation about trying out new technology, others may feel so overwhelmed that they resist even starting to explore. A little guidance about how to get started can ease the transition. For those novices who need suggestions on how to get started or for those

early adopters who want to help the more cautious late majority/laggards (Rogers, 2003), here are three ways to get started experimenting with generative Ai.

1. Ask the Ai for advice about how to use it. This is great practice for transitioning from the kind of prompts we use for Google or Boolean searches to conversational prompts used with generative Ai.

    Simple suggested prompt: I am new to generative Ai. Can you tell me how to get started using it?

2. Prompt the Ai with your own assignments and examine the output.

    Simple suggested prompt: Respond to this assignment prompt as if you were an undergraduate student <paste assignment details here>.

3. Ask Ai to provide feedback on a draft.

    Simple suggested prompt: Provide feedback about tone, grammar, and organization of this document <paste document>.

These three suggestions may seem overly simplistic for anyone with experience using generative Ai. However, not all faculty have used generative Ai (Coffey, 2023). I have seen (rightfully) reluctant faculty at generative Ai workshops, webinars, and conferences during the spring semester of 2024. These faculty members are unsure of how to start and remain in the frustration and depression stage of the change curve. Of course, with more sophisticated prompts, Ai can customize better responses. But for an absolute beginner, these three simple prompts allow faculty to enter the experimentation stage of the change process. The next step is to practice the conversational prompting that is the hallmark of generative Ai. Moving into the decision stage can occur when faculty feel more confident in using generative Ai.

Faculty who have advanced beyond the experimental stage with generative Ai and are in the decision or even the integration stage, can explore more complex approaches with generative Ai such as building custom learning modules, developing case studies, creating tutoring bots, and using generative Ai to provide feedback. In addition, following the work of Hayan Ajjan, Lance Cummings, Ethan Mollick, and Kimberly Pace Becker (to just name a few!) will provide faculty with an opportunity to learn how these thought leaders are implementing innovative generative Ai approaches in higher education.

My experiments with generative Ai started with prompting with my own assignments in 2022. Overall, the output was acceptable. However, with some general prompt writing best practices, such as providing context and constraints (Mollick, 2023), I could greatly improve the output. Then, I moved on to using generative Ai to check that my outcomes were aligned with my rubrics, summarize content, help me create and refine case studies, and brainstorm. None of the output, even the best output, would be appropriate to share without some additional adjustments from me. Keeping the human in the loop (Meng, 2023) to ensure the quality of the content is imperative. I am now experimenting with custom GPTs to support student learning (which may be woefully out of date by the time of publication).

The change of incorporating AI into my own work has not been automatic. In addition to hands-on experimenting, I have dedicated time to learning about generative Ai. Workshops, seminars, and online modules from LinkedIn Learning, Google, Amazon, and IBM have helped to round out my understanding of large language models, machine learning, and the capabilities (and pitfalls) of generative Ai. For those new to generative Ai, understanding the fundamentals of

artificial intelligence can help ground expectations and provide a deeper understanding of what generative Ai can and cannot do. Part of that understanding includes ethical considerations of access, accessibility, bias, privacy, and transparency. While generative Ai offers some distinct advantages for accessibility for people with disabilities (like the improvements of text to speech and speech to text, adaptive learning, and potential for healthcare improvements), there are still concerns about the digital divide and retrofitting existing resources (Henneborn, 2023). There are no easy (or inexpensive) answers to these concerns, and as educators, we need to discuss these topics openly and often.

Engaging with Stakeholders

None of us should be navigating decisions about generative Ai on our own. We need to reach out and reinforce connections with our students, staff, faculty (on our own campus and across NC, the United States, and the world), and industry. After my own experimentation with generative Ai in the fall of 2022, I started a discussion-based class called "Chat about ChatGPT," where students shared how they were using generative Ai to support their programming, writing, and job searching. Some students were using generative Ai to debug their code, check the tone of their emails, and draft their cover letters. Other students had never used it and were wary of even trying it. We experimented as a group on different prompt techniques and assessed the output together. This interaction with my students in the spring of 2023 informed the changes I made for using generative Ai in the classroom.

Starting in the summer of 2023, specific language was added to the syllabus to define when and how generative Ai could and could not be used. During class, I explicitly stated when it would be

appropriate to use generative Ai to support student learning. For our ethics module, we focused on the wide-ranging ethical implications of artificial intelligence, including generative Ai. We used the case studies in the *Princeton Dialogues on AI and Ethics* and the *Artificial Intelligence Incident Database* as the basis for our discussion. Bringing in guest speakers and pointing students to outside opportunities to engage in dialogue about generative Ai has rounded out my approach to generative Ai this academic year. These are just the start of the changes that will shape my classes in the semesters and years to come.

In addition to having vital conversations with students, engaging with staff and faculty in my unit and across campus has been a vital component of dealing with the stages of change with generative Ai. Working with interdisciplinary groups such as DELTA, AI in Society, Campus Writing and Speaking, Office of Faculty Excellence, Data Science Academy, and Women in Technology has expanded my understanding of the interconnected challenges we face in higher education. These collaborations across campus, whether made through formal conference experiences, lunch and learns, workshops, or informal conversations, are needed to negotiate the changes together instead of as siloed units. We are all grappling with similar challenges–working together improves our opportunities to shape the future of higher education.

Beyond my own university, I have co-created and co-facilitated the UNC System's Faculty Learning Community (FLC): Generative Ai in Teaching and Learning. The FLC's focus is on "exploring and leveraging generative Ai in teaching and learning. Participants … discuss ways to integrate and/or restrict generative Ai technologies in their teaching so that Ai technology enhances the learning experience while also mitigating the potential negative

consequences" (*Faculty Learning Communities – UNC System*, 2023). Meeting each month with faculty, instructional designers, instructional technologists, librarians, and administrators from institutions across NC, we have discussed generative Ai, used case studies to think through policy decisions, engaged with a guest speaker, Lance Cummings, about building chatbots, attended a panel discussion about the impact of Ai on education, research, and industry with Phaedra Boinodiris, Ana Maria Echeverri, and Krista Glazewski, and engaged with the EDUCAUSE AI Landscape Study (Robert, 2024). The FLC is an opportunity to discuss the changes in an interdisciplinary and interinstitutional group. As we wrap up our first year of the FLC, we are collaborating in workgroups on resources about documentation, assignments, courses, and Ai literacy. Our goal is to create sharable resources to support faculty with the changes in their own classrooms. One of the resources created is a curated list of UNC System Institutions' AI Documentation divided into the AI Education Policy & Practice Ecosystem Framework (WCET, 2023) categories available here:

https://myapps.northcarolina.edu/learningtech/ .

Beyond the university, engaging with industry partners will contribute to higher education's ability to prepare our students for their future workplace. Interactions with alumni from my program and employers who hire our students have helped inform curricular changes that we have been able to partially implement this academic year with plans to expand our generative Ai content in future semesters. In addition, I co-host a free monthly lunchtime discussion group called Ai Cafe to explore generative Ai topics. The feedback and ideas from the professionals attending these sessions also contribute to the changes I am making to prepare my students.

Despite our best efforts to predict what the future of higher education will be, we must remember Amara's law that states we "tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run." (*Definition of Amara's Law*, n.d.) The difficult truth for educators is that we do not really know how Ai is going to change higher education in the long run, but we can make decisions together right now that can help shape that change.

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