Coach for the Approach

The Educator's New Role in the Age of AI

Kevin Yee, Laurie Uttich, Liz Giltner, and Anastasia Bojanowski

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To our families.

As many authors will tell you, every work is influenced and aided by many more people than the authors directly. We owe thanks to **Todd Zakrajsek** for his ideas about the broad sweeps of Teaching & Learning over the decades, plus the help of a great many UCF faculty who have interfaced with us over the years regarding artificial intelligence.

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Introduction

This book, our third in as many years about generative AI (referred to here as AI), is a result of our continuing recognition that faculty need ongoing support with AI tools. Your authors work in the teaching & learning center at the University of Central Florida (http://fctl.ucf.edu), and we see firsthand that the faculty appetite to learn more about artificial intelligence is insatiable. It is not enough to provide merely an orientation and primary training. As faculty become familiar with one or more AI tools, their level of sophistication rises, and they are ready—and even hungry—for new challenges. Even more notably, AI tools are constantly evolving, with new ones emerging and existing ones updating their features and uses over time.

This work attempts to situate and contextualize the wider sweep of AI adoption and what it means for the overall teaching and learning endeavor in higher education. We see nothing less than a revolution. AI will change education even more fundamentally than the internet did. The magnitude of these changes calls for a broad, sweeping view of what will come next, and what changes as a result of AI's presence and undeniability.

AI continues to evolve and morph into new variations. While Large Language Models (LLMs) took the world by storm in late 2022, they have not been static. Different

models have proliferated, and each model releases regular updates and upgrades. As of this writing, reasoning models are becoming more common, in which the tools create output with greater accuracy by approaching analysis differently (and by intentionally taking longer to respond).

We are also seeing agents appear in the marketplace. These are AI tools that respond to top-level requests with independent action—an example might be scanning the email inbox for questions that could be answered by reading the syllabus, and then actually composing and sending off those emails.

Scope, Reach, and Organization of This Book

The tips and tricks provided in this volume were predominantly created without one particular AI tool in mind, partly in recognition that today's leaders in LLM technology may not be the leaders of tomorrow, or that LLMs might not even be the AI that matters mere years from now.

Section I, "Captain Motivator" attempts to build the case that we are in a new teaching paradigm, and we have to make changes accordingly. What follows are specific pieces of advice—essentially, ways to "teach differently" and motivate students in the modern era.

Section II, "Rules of Play," examines the ethical considerations and responsibilities educators face when integrating AI into higher education, covering important

topics from accessibility support to privacy concerns and bias mitigation.

Section III, "University Champion," provides actionable strategies for faculty to become institutional leaders in AI integration, offering a comprehensive roadmap of initiatives—from creating task forces and training modules to hosting campus-wide events—that educators can implement to foster widespread AI literacy and adoption across their institutions.

The fourth section, "Notes from a Coach," offers personal reflections and insights from each author about our own AI journeys. . . including the good, the bad, and the ugly. We conclude the book with some ruminations on how AI tools might continue to evolve, as well as our ways of using them to improve our lives and work outputs. We hope this book will console, inspire, and equip you with practical strategies for reimagining your teaching practice in a world where AI has fundamentally changed how we teach, learn, and build knowledge.

We did not write this book using AI tools, but we did consult Copilot, Claude Pro, and GPT-4 when brainstorming ideas for individual tips and to proofread the final draft for typos and grammatical issues. The rest of it—for better or worse—is all us. Happy reading!

Kevin Yee, Laurie Uttich, Liz Giltner, and Anastasia Bojanowski
UCF Faculty Center for Teaching and Learning

Section I: Captain Motivator

Wave Three in Teaching & Learning

Albert Einstein once commented that "in the middle of every difficulty lies opportunity." The emergence of accessible generative artificial intelligence presents challenges for education, but the crisis need not skip over the opportunity. AI advances will never cease, and neither will learning about AI. In his 1974 book *Learning for Tomorrow*, Alvin Toffler wrote that "The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn." While this quote has obvious relevance for our students, it applies equally well to faculty. In this text we suggest the rise of AI presents faculty with the opportunity to give students a compelling case for lifelong learning.

For centuries, teaching methods at formal institutions of learning seemed to be immutable and unchanging. There were mentorship and apprenticeship models for certain disciplines or for highly advanced pupils, but by and large instruction was done *en masse*, usually via lectures. The lecture-heavy method was branded "sage on the stage," which speaks to the instructor's erudition and knowledge; its very name evokes lecture and the transmission of knowledge as if from a stage. By the late 20th century, educational theorists began advocating for more active learning practices, and in so doing, came up with labels for both the new style of teaching and the more familiar lecture-based approach. The new emphasis on active learning was then labeled "guide on the side."

The phrase “guide on the side” was chosen specifically to highlight a distinct difference in the instructor’s role. Moving the instructor to “the side” places the emphasis on students learning through more active means than listening to a lecture.

It’s over-simplifying, but we could consider the “sage on the stage” as being about the “what” (the content) in a course, while "guide on the side” could be considered as focused on the “how” of learning, with the emphasis on study strategies. The switch to active learning methods is usually accompanied by helping students learn how to effectively “teach themselves.”

The greatest need is teaching students how to learn, which means teaching them metacognition and proven study skills and techniques. Over the past few decades, mounting evidence shows that active learning methods produce better student learning outcomes. Despite this, some students complain that active-learning coursework makes them feel as if they’re teaching themselves, when they instead crave being told information by an expert. The main culprit for this complaint is likely the effort needed in learning; true learning is effortful, and many students prefer the easier route of simply listening. That said, the commingling of teaching styles on the college campus is understandable. The two have now coexisted for many decades, as active learning methods never fully supplanted lectures. The recent introduction of AI in the educational landscape, however, has shaken things up for faculty.

It is our contention that artificial intelligence challenges the status quo and changes the dynamic between teachers and students. Students who prefer lectures because they are less effortful now have, with AI, new tools at their fingertips to take shortcuts on assignments and projects, so their college experience will be still less effortful. The majority of shortcuts offered by AI are free, user-friendly, virtually impossible to detect, appear victimless, and deliver instant results. All of these are compelling temptations for students, particularly if they have extracurricular responsibilities.

Attempting to ban an omnipresent tool like AI would be similar to telling students not to use the internet. You won't be able to prevent them from using it outside the classroom (or perhaps even *in* your course on their smartphones), and more relevantly, the internet is now a permanent part of society. AI has likewise become ubiquitous. As educators we have little choice but to adapt to an AI-infused world, and "lean in." The tips in this section of the book are meant to provide ideas to faculty for how to adjust their teaching approaches and methods to meet the demands of this new educational reality.

While the phrase "cheating is cheating yourself" has become a cliché, few of us pitch this platitude to students, but AI is now forcing our hands. Relying on AI to replace critical thinking and genuine learning *is* "cheating yourself." In extreme cases, students might be able to rely on inappropriate (and unapproved) AI assistance throughout college, and graduate without developing essential skills or a deep knowledge base. What we need

are specific ideas for how to implement changes in a way that encourages the proper use of AI while promoting the importance of genuine learning. In short, each of us needs to engage in a marketing campaign to urge students not to sacrifice their learning by succumbing to the shortcuts offered by AI.

We know from long experience with students that simply informing them of anything (a concept, a theoretical model, a piece of wisdom, etc.) stands little chance of altering their behavior, or indeed even being retained in memory. Storage into long-term memory is more likely when students *experience* a concept, not simply hear about it through a lecture directed to them. Similarly, the chance that they will alter their behaviors is maximized when they have ownership of a concept (in this case, to choose to skip learning shortcuts), and ownership is most likely when the students come to the idea themselves.

The trick will be creating an environment that leads students, likely indirectly and not always with their awareness, to make these discoveries themselves. While faculty will remain experts in their disciplines, they may soon find themselves adopting the additional role of an expert in learning, especially in the specifics for how and why learning occurs. AI presents a tempting opportunity to take the easy route and avoid effortful learning—often referred to as "cognitive offloading"—so we must develop strategies that effectively persuade students of the true value of learning and why it should not be bypassed.

In keeping with the tradition of phrases that rhyme such as “sage on the stage” and “guide on the side,” we are calling our method “coach for the approach.” Under this new paradigm, we place equal emphasis on the "why” of learning as we do on the “what” and the “how.”

Many of the tips here are ideas for assignments, since students may ignore anything not worth points during the semester; assignments are, then, the low-hanging fruit in exposing students to situations where they will experience learning firsthand. It is our hope that successfully marketing to students the importance of avoiding inappropriate AI shortcuts will naturally lead to a version of self-regulated learning (SRL). Not a new concept, SRL can be thought of as learners taking control of their own learning. It involves a high degree of self-awareness in cognition, motivation, and behaviors. Students set their own goals, reflect, and engage in metacognition at every step. Ultimately, this leads to better study strategies, time management, self-efficacy, and even intrinsic motivation.

It is our sincere hope that embracing the “coach for the approach” method and its suggested techniques will empower faculty, even as AI changes the world of education on a daily basis. Furthermore, by sharing their AI-adapted strategies with colleagues, faculty can collectively transform teaching across the curriculum. Through repeated exposure to these proposed techniques, students will, we hope, internalize the messaging, and together, educators and learners will be well prepared to overcome challenges now and in the future.

1

Directly Address "Cheating Yourself" with Students

Throughout their academic careers, students have theoretically been exposed to the concept that cheating is ultimately "cheating yourself." The problem is that many may not believe the truth of that statement. A large group of students feel that the value of college is simply to earn the degree, and not to gain specific skills or knowledge. The concept about the cost of "cheating yourself" is so deeply entrenched as received wisdom that many college faculty no longer bother to explain it to students.

It is possible that some faculty make an effort on the syllabus to explain why it's a bad idea to "cheat yourself," but we all know that few students read the syllabus carefully. It can help to review this part of the syllabus verbally in the first week of class, but this one action is likely not enough for the message to truly sink in. It would be better for instructors to briefly discuss ways students have attempted to circumvent the work expected and explain how assignment requirements contribute to meeting stated learning outcomes several times during the term.

Insofar as the timing of these conversations is concerned, they are most needed just prior to when the instructor would advise students to begin working on an assignment. With respect to delivery, this is largely dependent on the course modality. Instructors of face-to-face or synchronous "video live" courses are advised to make the argument about "cheating yourself" to students verbally during class and in writing as an announcement on the institution's LMS and/or in an email sent to students. Instructors of asynchronous online courses may choose to use the announcement and email options as well as to embed a written or recorded statement in course content pages.

Faculty who wish to ensure that their words of wisdom have been attended to by students can require students to submit an AI-generated suggested outline for completing the assignment or project in question. This no or low-stakes assignment may help students better understand the breadth of work required and help them become increasingly self-regulated learners.

2

Emphasize the Value of Each Large Assignment

Researcher and educator Mary-Ann Winkelmes has long advocated for increased transparency in assignment prompts. When creating assignments, many of us are naturally good at telling students "what" to do and, often, "how" to do it, as well as how we'll grade it. Interestingly, faculty sometimes neglect to communicate the "why" of each assignment.

The why of assignments can serve to dissuade students from over-relying on AI tools. When students know why the project is being assigned, especially if couched in terms of specific learning goals or skills acquisition, they are less likely to be resistant to the work of the assignment or participate in cognitive offloading with AI tools. Since they do not resent the work, they will be more likely to complete the project as intended, without taking AI shortcuts. In other words, the need for depth and complexity of understanding and the acquisition of necessary post-graduation may prove AI reliance to be insufficient.

Students will be most convinced by arguments that pertain to the careers that await them after college. This does not mean they don't care about assignments designed to make them stronger students, but their primary focus is usually connected to their goals of working in their chosen discipline and their ability to compete in the workplace.

When students know why a project is being assigned, especially if couched in terms of specific learning goals or career readiness, they are less likely to be resistant to the work required to complete the assignment. If they see the intrinsic value of doing the work, they will be more likely to complete the project as intended.

3

Use the Forklift Metaphor

Consider providing a metaphor to help students visualize the logical fallacy of using AI shortcuts to replace their own critical thinking: inappropriate use of AI is like bringing a forklift to the gym to lift the weights for you. Sure, the weights get lifted, but this kind of shortcut offers no physical benefit to you. In the gym, the physical struggle required to lift weights *is* the point; it's how one builds or tones muscle. The same is true of mental activity. Writing the old-fashioned way—without the use of AI—can be hard, but critical thinking arises from the struggle.

It may also help to ask students if they think documents like Code of Hammurabi, the Magna Carta, the Declaration of Independence, and other society-altering documents would have been as impactful if they had been written by AI. The goal here is to train students to realize that using workarounds to produce "work" does them no favors and diminishes their ability to reach their full potential as students and future professionals.

Faculty might consider using AI to generate images of forklifts in weight rooms to remind students of the metaphor throughout the semester. Such imagery will add interest and make the metaphor more memorable.

4

Focus on Process, Not Product

"Life is a journey, not a destination." This popular adage, along with others like "Rome wasn't built in a day," underscores a vital principle in education: the importance of focusing on the process of learning rather than the final product. These sayings remind us that the path to achievement is cyclical, requiring "Repetition, repetition, repetition." Despite the ubiquity of such wisdom, both students and educators often find themselves more concerned with completing tasks than with the lessons learned along the way. Instead, higher education needs a paradigm shift—one that recenters our focus on the process of learning. This requires practical strategies and guiding principles, implemented at both the classroom and assignment levels, to prioritize deep engagement over easy workarounds.

In any educational endeavor, tangible outcomes—like grades and completed projects—can overshadow the intangible benefits of the learning process. However, to truly embody the spirit of these guiding sayings, educators must make a conscious effort to design learning experiences that emphasize growth, effort, and iterative learning. Adopting a "coach for the approach" mentality helps in gradually shifting the educational focus towards

the process but also builds a learning environment that mirrors the complex nature of real-world problem-solving. By repeatedly emphasizing process over product, educators can transform their classrooms into arenas where learning is genuinely celebrated as a journey of continuous discovery and development.

Faculty who are interested in developing such a learning environment can systematically review individual courses or, on a smaller scale, course assignments. The focus on process can be communicated and reinforced through a commitment to backward design. Begin with the end in mind by defining clear learning objectives and design courses that align with these goals. This may result in faculty reducing the breadth of content covered to allow deeper exploration of core concepts, thereby prioritizing quality and engagement over quantity. At the assignment level, when discussing course activities, faculty can use AI to revise assignment parameters and grading to reflect a process-oriented focus. Additionally, faculty can explain to students how each task is crafted to enhance specific skills or understandings.

At the start of the term, inform students that assignments have been (re)designed to focus on the learning process. Regularly remind them of this focus to reinforce the importance of embracing the learning journey.

5

Match Your Grading Scheme to the Focus on Process

It is possible that no matter how much we insist on a process approach to teaching, using a traditional grading scheme effectively negates this ontology. Adapting assessment strategies, therefore, can effectively communicate an instructor's commitment to a process-oriented approach, whether at the course or individual assignment level.

One tried-and-true assessment method that faculty can use is portfolio submissions. Rather than completing a high-stakes exam, students can compile and showcase the work they have done to learn and apply course content. Portfolios can include drafts, revisions that demonstrate attention to feedback, final drafts, self-reflections, and other materials that allow students to illustrate their engagement in the learning process.

To infuse more process-focused grading options into your course, consider revising grading categories and/or percentages. For example, instead of weighting grading categories so that high-stakes assessments count the most toward a student's final grade, decrease the weight of tests

or projects in favor of attendance, completion of low-stakes formative participation activities, and even creation of AI-generated study guides. To further emphasize the importance of student engagement with content while in class, you might require students to complete one-minute reflection papers for individual class sessions as an "exit ticket." Not only would such activities ensure students prepare for class, but they would also allow students to discreetly ask questions, monitor their learning, and receive feedback.

Another option is to adopt a system of ungrading. Research shows this type of assessment can reduce students' stress and anxiety, enhance student engagement with course content, and increase student responsibility for learning. Faculty adopters of ungrading have observed this approach promotes soft skills (self-management, adaptability, etc.), and enhanced student-instructor communication.

Whether you choose to adapt your teaching methods, grading categories, or ways of assessing students, these changes can effectively reinforce your prioritization of process over product.

6

Frequently Remind Students that Future Jobs Depend on Being "Better than AI"

Who is in a better position than faculty to tell students that current and future jobs—as well as job security—will require them to be better than AI? As faculty, we are on the front lines of a war in which we are fighting anti-intellectualism and apathy, as we work relentlessly to adapt to the new AI reality. When students begin their careers, they'll likely be required to do the same.

Helping students to use AI as an on-demand tutor—and requiring them to ask follow-up questions in particular—can be effective for demonstrating that AI doesn't explain everything perfectly on the first try. It takes additional exchanges from humans to edit or refine an output. As we guide students through analyses of (in)effective prompts and the resulting outputs, we can prompt students to consider if the output is comprehensible or useable for all learners. Furthermore, students should be coached to realize—and remember—that there is one thing AI can *never* be: human. AI tools can analyze words, but it is tone deaf; it sees only words, not the myriad of emotions that

humans note in exchanges or presentations. While AI products can consider prompts and data objectively, it does not have a stake in its output, nor does it have nuanced understandings of how people and communities will be impacted by its solutions or suggestions. Additionally, AI relies on vast amounts of data to arrive at an average, generalizable conclusion; unlike humans, it cannot adapt quickly to new information or situations. Faculty who wish to champion human abilities in an age of AI can find published research that provide useful comparisons of human and artificial intelligence.

Reminding students of the value-add of human curiosity, experience, intuition and common sense is a worthwhile message that bears repeating and reinforcing. Through repeated dissections of AI output and guided reflection, we can help students understand the strengths of AI as well as the ways in which humans do—and will continue to—outperform AI products, no matter how much data they are trained on.

7

Teach Co-Creation through Short Assignments

Co-creation strategies are a cooperative approach to education that requires students collaborate with instructors to develop course content, learning activities, and assessments. Rather than the faculty member making decisions about what to cover, which activities to complete, and how to assess coursework, students actively contribute to the course and its structure… often resulting in a more personalized and engaging educational experience for students.

The asset-based perspective of co-creation has several potential benefits. First, the instructor is no longer the "sage on the stage," the one person who transmits their knowledge and decides what content is interesting or important. Rather, students have the opportunity to contribute their knowledge and experiences to create learning materials and activities. Students may feel more engaged with the course, especially if they feel that their contributions are valued. Additionally, the influx of different ideas and interests from the students will lead to more innovative learning environments. Furthermore, co-creation can help students and teachers enhance their

ability to engage in critical thinking, collaboration, and communication, skills that are needed more than ever to overcome real-world challenges.

Engaging students in co-creation requires faculty to actively guide students through the process to ensure academic rigor and feasibility. After explaining the motivations for using co-creation, faculty should offer examples of short assignments that students can build upon and explain how the sample co-created assignments address student learning outcomes and skill development. For each short assignment they co-create, students should provide explanations about how their creations also address student learning outcomes. When co-creating assessment rubrics, students and faculty can discuss essential and preferred skills, metrics, and expectations. If AI is used to generate a preliminary rubric, showing students how to adequately prompt AI is highly recommended, as is allowing students the time to review and critique the AI-drafted rubric. If students complete these reviews in small groups, faculty can effectively manage student groups by giving them a specific task that requires multiple students' input with a deliverable that is to be completed within a particular time limit.

Through this approach, students can consider themselves as contributors to their own learning, thereby enhancing their motivation to engage with the instructor, course content, and activities.

8

Require Students to Log Co-Creation Steps for Attribution

Instructors who incorporate co-creation of assignments into their classes not only have to ensure the academic rigor and feasibility of the co-created assignments, but also to ensure that students contribute and are given credit for their edits. Teaching students to log co-creation steps for attribution in their assignments is essential for maintaining—and modeling—transparency, fairness, and accountability in cooperative projects.

There are several digital tools that can help students to track their contributions to co-created course materials. Google Docs, GitHub, or other collaborative platforms such as those that are integrated with your institution's Learning Management Systems (LMSs). These tools can track who made specific changes or additions and when these changes were made. The tracking of such edits is automatic, and date-stamped, which simplifies the process of attribution. To ensure the platforms are correctly set up, faculty will need to familiarize and instruct students on how to use these tools effectively at the beginning of a

project. Such record keeping can help students compose reflective writing pieces that consider the nature of individual contributions, their impacts on the project, and ensure that all contributions are acknowledged.

To help students better understand the importance of contributing to a project, faculty can designate time in class for meetings where students discuss the progress of the project and acknowledge each other's contributions. These discussions can be recorded and summarized in meeting minutes that are included in the project documentation. To alleviate the need for a scribe, faculty may encourage the use of audio or video recordings, or even a transcription service that can record students' interactions with each other. Transcripts or recordings can be uploaded to AI products for analysis and ideas for project direction; students can then discuss the output and agree to an action plan that will help them stay on track and address areas that need attention. Faculty coaches can assist students with their analyses and mitigate tensions or points of contention within groups, if needed. Such strategies will enhance students' communication skills and train them in effective meeting techniques, including the importance of recording detailed minutes.

Guiding students to ensure that team members contribute equitably to a project and meetings pertaining to a project, accurately tracking team member edits, and regularly engaging in analyses of a project's status are skills that will serve students well in their post-graduate lives.

9

Train Students How to Use AI as a Tutor

AI has altered teaching and learning in large and small ways. According to a study conducted in 2023 by Hanover Research and *Inside Higher Ed*, many institutions have developed programs for faculty training on AI, but skepticism about successfully training students abounds. If AI is going to contribute to student success, faculty across an institution will need to work to train students to use AI as a tutor effectively.

As detailed in one of the "Note from a Coach" entries, faculty can work to develop student proficiency with AI through individual assignment restructuring. Depending on the ability of an individual faculty member to redesign assignments before, during and after an academic term, this work can take an extended period of time to complete but help the faculty member feel like they are contributing to students' AI proficiency. At some point, however, a faculty member may experience an overwhelming realization that with AI, students can consider them little more than slower, less responsive, analog versions of the increasingly powerful AI products that they carry on their phones. Furthermore, AI platforms can answer their

questions or reformulate presentations of content almost instantly at all hours of the day, making course content more accessible and comprehensible for each individual user.

If faculty are responsible for teaching, then they would be wise to learn how AI can be used by their students to achieve the objectives of their courses. Rather than disseminating their accumulated knowledge, faculty can assign students AI work to complete before coming to class. For example, students can be directed to upload a copy of an instructor's content pages to a specific or preferred AI platform and then to copy and paste a specific prompt into the AI. Once the students receive the AI output, they need to ask three follow up questions of the AI product to ensure their understanding. Alternatively, students who feel confident in their understanding of the content can generate supplemental study materials by asking the AI product to create a dialogue, case study, or other relevant exercises that reinforce key concepts. To complete the AI assignment, students upload their entire conversation with the AI product to the LMS the day before a scheduled class meeting. The instructor, for their part, can use these uploaded exchanges to guide their review of content with students in class, and then engage in deeper analyses of the AI prompts they were given and the outputs generated. As students become more familiar with what effective prompting is, they can be guided to develop their own prompts to help them process and efficiently master content. Faculty, then, are still able to demonstrate their subject-matter knowledge, but also teach their students skills for an AI-infused future.

10

Discuss Grit and Growth Mindsets

Many of us are familiar with Carol Dweck's theory of "fixed" and "growth" mindsets and how these frameworks shape our understanding of how our beliefs affect our performance. When we share with students that fixed mindsets are beliefs that intelligence and abilities are innate and unchangeable—but that a growth mindset believes that abilities can be developed and expanded through effort—we reinforce the importance of working through material to improve our skills.

A necessary component of a growth mindset is normalizing failure and leading students to view it as a required part of the process, not a setback. Growth mindsets encourage students to keep trying until they succeed. Grit, as Angela Duckworth's research indicates, can be thought of as a combination of passion and perseverance that drives individuals to achieve their goals despite obstacles.

One strategy to encourage grittiness and growth mindsets is to share examples of times when we've experienced failure. This kind of sharing reminds students that their

instructors overcame setbacks on their way to becoming subject-matter experts and professionals. Infusing examples of contemporary or current challenges from others outside of education can better illustrate that resilience is required long after a diploma has been conferred. Such honesty can effectively reinforce the commitment to a growth mindset and the process of self-actualization.

To help students gain a better awareness of their own grit, consider incorporating course activities that help them track their learning during the term. This coursework may not need to be regularly assessed for a grade, but it could be part of a less-traditional grading scheme. . . one that allows students to select the participation activities they engage in for credit from a "menu" of options. Some examples of resilience-building activities include writing learning log entries. These tracking activities can be submitted for credit at regular intervals during the term and then used to develop a piece of reflective writing that allows students to analyze and synthesize their learning experiences. To complete the reflection, students could also be guided in their analysis of using AI products and editing of AI output. Not only would this work help students become more cognizant of the grit they demonstrated during a term, but they can also carry this knowledge forward confidently and have more empowering learning experiences in the future.

11

Analyze Human and AI Writing in Class

Who hasn't rolled their eyes after opening an email that begins with "I hope this email finds you well"? *Arguably*, this typical ChatGPT opener is just one of the *ever-evolving*, *thought-provoking*, over-used terms that's *integrated* into the *landscape* of AI-generated text. Encouraging students to analyze the generic, non-descript language of AI products by comparing it to text written by humans can be a transformative experience for students.

To introduce the analysis activity, you may begin with a guessing game where students read writing samples and vote on whether the writing was created by AI or a human. After differentiating the AI from the human compositions, instruct students to analyze the AI writings more closely. If you wish to direct students' attention, you may ask them to find sentences that are vague or wordy, excessive use of adverb, phrases that aren't typically used by college students, or repetitive phrasing. Then, ask students to discuss how those rhetorical choices differ from how a college student typically "sounds" and how that impacts the overall effectiveness and authenticity of the writing.

Exercises such as this may lead to additional conversations about the importance of "voice" in writing, and how it takes time and practice to create your own. As a subject-matter expert in your particular field, you are encouraged to discuss your own writing process and how you make adjustments to your work to fit the expectations of your discipline. You may even extend the assignment and ask students to consider how AI-generated text differs from academic text and text written by professionals in the discipline.

Guiding students through rhetorical analyses may be one of the most effective ways to reinforce the necessity of not simply accepting AI-generated output as "good enough." As their guide, you demonstrate your awareness of what AI-generated text tends to look and sound like to students, and you advocate for them to revise AI text, making sure that the writing reflects their style and voice. Such work not only reinforces the value-add of human intelligence, it also can be an empowering lesson for students individually.

12

Give Examples of Negative Consequences for Unapproved AI Use

Students may be aware that AI-generated text is often unreliable, but they might not be aware that when they forward that text and claim it as their own work, they become fully responsible—perhaps even legally liable—for everything it contains, including inaccuracies, hallucinations, biases, or other problematic content. One way to demonstrate this to students is to show them where others have been publicly embarrassed and even sanctioned after releasing AI-generated work that they failed to verify.

One visual example is the infamous "AI Barbies" from "every country" that Midjourney created in July 2023, and Buzzfeed published—and retracted—almost immediately after social media readers pointed out the images included racial stereotypes, as well as cultural inaccuracies. (In addition to whitewashing many of the images, other errors included German Barbie resembling a Nazi soldier, South Sudan Barbie holding a gun, and Vietnamese Barbie wearing clothing symbolizing death.) Asking students to

find errors like this—and to reflect on what it says about them as "authors" of AI-generated text—is an important step in educating students on their responsibilities when using these products.

It's also important to show how hallucinations have impacted professional careers. In January 2025, the nation's largest injury law firm, Morgan & Morgan, cited nine cases in a plaintiff's motion. Eight of them were hallucinated citations that included fictitious rulings. Their defense? ChatGPT generated the text. The judge, however, found the firm responsible and they now face sanctions.

Discussing these types of real-world situations with students can lead to frank conversations about AI use and the implications errors have on those who use its content without verifying or altering it.

13

Explicitly Inform Students of Policies Regarding AI Use

While it seems obvious to us as educators that turning in "someone" else's work is a form of academic dishonesty, students are often confused on what is permitted, and what is not. According to *Inside Higher Ed's* 2024 Student Voice survey, 31 percent of undergraduates were unsure about when or how to use AI for coursework. Adult learners, first-generation students, and two-year students were even more confused. This confusion and the lack of clear AI use policies in universities make the case that clear, explicit statements regarding AI use are critical.

Begin by considering what tools and technologies are permitted, restricted, or require disclosure. For example, does Grammarly count as academic support or academic dishonesty? Are students allowed to use ChatGPT for brainstorming? Drafting? Summarizing? Is it okay to use it as a search engine? A dictionary? A proofreader? Often asking students to collectively decide on the appropriate use of AI can lead to thoughtful discussions on its place in education and can clear up any confusion students may have regarding its appropriate use.

14

Explicitly Warn Students of Grade Penalties for Disallowed AI Use

Teachers complaining about dishonest behavior among students dates back to Confucius and Socrates… and it's no surprise to many of us that surveys report that, on average, 50 to 70 percent of students admit to cheating in higher education. Clearly outlining the specific consequences for using AI in ways that violate your syllabus policy is essential, and research suggests this clarity may reduce instances of unauthorized AI use.

After establishing clear guidelines for AI use in your course, it's important to be equally clear regarding the consequences of violating those guidelines. Often, it's helpful to ask students to be part of this discussion as well. Asking them to consider the importance of learning and the ethics of academic and professional integrity can also lead to discussions on the value of education.

While writing a policy may be challenging, it's important to note that proving a student used AI tools is even more challenging. There are no truly reliable detection tools and

more than a few cases where students have been unjustly accused, particularly among those students who aren't writing in their native language.

It is possible that creating a policy that evaluates the work—without accusing someone of unethical AI use—is more easily managed. For example, an instructor could evaluate some assignments on a pass/fail basis: if the work meets academic standards it passes, and if it doesn't, it fails. If this grading system is used, however, it is incumbent upon the instructor to teach students about academic standards in the discipline. As their coach, this allows an instructor to discuss with students their existing knowledge about writing and to help their students develop their awareness of and ability to write according to discipline-specific expectations.

15

Increase Autonomy: Create Choices in Assignments

In the 1980s, psychologists Edward Deci and Richard Ryan developed the Self-Determination Theory (SDT) as a framework for understanding human motivation. According to this theory, one of the main ways people thrive is when they feel a sense of ownership over their learning environment… and research has consistently shown that students who are free to practice autonomy over their learning are more intrinsically motivated—and less inclined to cheat—that those who are expected to meet more rigid standards.

Start by encouraging students to brainstorm the best way to present their work. Is a series of social media posts educating viewers on the dangers of vaping more applicable than a discussion post? Would a business presentation for an upstart be a better fit than an exam on risk factors? Could a vlog that highlights a conservation site be more fitting than a sustainability research paper? Providing students with the freedom to select their own topics—and meet learning objectives in their own way (or within flexible frameworks)—can result in enhanced learning, engaged students, and more creative work.

SDT is also supported by AI literacy. Each step of the process requires learners to make determinations regarding AI tools: if AI is an appropriate tool in the project and in what capacity, which AI tool best serves the project, evaluation of AI output and its viability in the project, and the responsibility of accurate attribution.

16

Increase Autonomy: Encourage Students to Set Their Own Learning Goals

Every semester, instructors begin planning their courses with a set of student learning objectives that are often in line with our department or discipline. There are good reasons for doing so: research has shown that well-defined, measurable learning objectives contribute to student performance by clarifying the instructor's expectations and encouraging students to self-regulate their learning.

Instructors who take this process one step further and give students the opportunity to set their own learning goals find that students are more likely to take ownership of their learning. By asking students to connect course content to their own personal interests and career or academic goals, students find the experience more meaningful and they're more likely to fully engage in the course and its activities and assessments.

When students are asked to reflect on what they want to achieve and why they want to achieve it, they're more likely to use the resources available to them in more

productive ways. They will develop life skills in self-regulation as they learn to monitor their progress, adjust strategies when needed, and take personal responsibility for their outcomes while planning for the future.

Another aspect of autonomy that arises with AI tools is optional election. Oftentimes, students are required to use AI tools, yet this requirement may be met with resistance. Offering the option to elect to use AI tools—with guidelines, limitations, and clear expectations of attribution—may be preferable over compulsory use without exception.

17

Increase Autonomy: Offer Variable Deadlines

Most instructors would likely agree that students often make different decisions at 11:51 p.m. —before a looming midnight deadline—than they might have made if they had more time. While flexible deadlines can be problematic for some students (especially those in their first year), research shows offering variable deadlines can reduce stress and, with it, academic dishonesty, by encouraging students to manage their workload and build time management skills.

Often sliding grade "rewards" can be an effective way to boost motivation in some students without penalizing others. Consider rewarding students with additional feedback or extra credit for work that's turned in early while ensuring students who turn work in on time can still receive full credit. You may also consider minimizing penalties for late work in the same sliding scale format. For example, students who turn work in within three days of the deadline can earn up to 90 percent of the grade, while those who are within a week of the deadline might earn 80 percent. This type of flexibility can empower students to

take charge of their own schedules and motivate them to perform better by reducing stress.

If adopting a new standard for assignment deadlines, you are encouraged to discuss the pros and cons of the new policy being considered with colleagues, including a faculty development center. This is important because changing policies in the middle of a term can frustrate students and perhaps even leave them wondering if favoritism led to a policy change. To avoid accusations of favoritism or unprofessionalism, it is important that faculty establish and maintain their assignment submission policies from the beginning of a term, and that they include this information in the course syllabus.

Another layer of autonomy is the use of AI tools. Instead of simply prohibiting their use, assignments can be augmented to include the option to use AI tools, within limits and with strict enforcement of attribution.

For example, if a student were completing a digital portfolio for professional purposes and needs to brainstorm skills desired and required in a field, they may turn to an LLM to generate a robust list of desired and required skills. Afterward, the list can be evaluated against projects that will be included as part of the digital portfolio and position those skills more prominently in a skills-based résumé. The assignment could require students to submit prompts used as a part of the assignment and AI-generated output to be turned in with the link to the digital portfolio. Students will be evaluated based on prompt generation, appropriate use of AI-generated output, and accurate

documentation (logging of AI use). The student inherently takes risks in using AI tools in that now they are subject to more criteria for grading, yet confidence in building AI skills is the payoff.

18

Increase Competence: Design Incremental Challenges

Most of us are familiar with Carol Dweck's work on developing a growth (versus fixed) mindset and one of her key points is the power of "not yet." When we design challenging assignments and assessments and encourage students to see "failure" as necessary steps in the learning process, we empower them to take control of their learning both in our courses and outside of it.

Growth mindset should inform design choices to nurture AI literacy. Many instructors successfully use gamification methods to help students practice and "level up" to more advanced concepts. This can be applied to an activity that gamifies the steps of AI literacy in an escape room-style challenge.

Part of growth mindset is a willingness to being dogged to succeed and that success is a process. We can also foster productive struggle by breaking complex tasks into stepped phases, scaffolding larger assignments into a series of smaller tasks, or offering "challenge tracks" that students can master as they move through the course. AI can help determine "challenge tracks" and draft rubrics that align

with course and module objectives. For example, in a coding course, the goal may be to build a full app. Assignments can start with drafts, revisions until the code passes, and then choices to "level up" by adding advanced features. AI can look at the overall project and create formative assessments that practice recall and more sophisticated application.

You may even consider "opt-in" rigor for optional activities or assignments that truly challenge students. Studies show that when students are given the freedom to select the assessment's level of difficulty, 85 to 97 percent of them choose the more demanding task. When students are given autonomy over their learning, they're more engaged and they show greater improvement in their performance. Better yet, they stop looking at learning as a finish line that ends when the course does and instead see it as a hill they'll never stop climbing.

19

Increase Competence: Frame Assignments around Mastery

As educators we're used to—and required to—provide grade-based assessments, but some assignments can be designed to build skills and knowledge without focusing on grades. When we create mastery-based assessments and clearly define what that looks like, research has found that students experience reduced anxiety and increased intrinsic motivation.

One way to make assignments less vulnerable to AI use is to switch to a mastery-based evaluation. When we create mastery-based assessments and clearly define what that looks like, research has found that students experience reduced anxiety and increased intrinsic motivation.

Structuring your rubric or other assessments tools is an important first step to framing assignments around mastery. Define what mastery looks like for each assignment and consider tiered benchmarks, such as "Basic," "Proficient," and "Advanced." For example, in a biology lab assignment, students could identify and describe cell components (Basic), explain cellular respiration and photosynthesis (Proficient), and analyze

environmental impacts on cellular processes using experimental data (Advanced).

More importantly, to earn advanced mastery, a student should demonstrate human-added value in the assignment. In other words, criteria for advance mastery should evaluate uniquely human capacities for with AI is deficient: innovation, complexity, depth, context, fairness, bias, ingenuity, creativity, etc.

To truly encourage competence, consider allowing students to revise their work until they achieve mastery goals. One way to accomplish this is gamification which awards badges or tracks progress on leaderboards. Another option is to make some tiers "mandatory" and some "optional" and find ways to celebrate students who reach the highest levels of mastery.

20

Increase Competence: Maximize Constructive Feedback

We know from Deci and Ryan's Self-Determination Theory (SDT) that students need to feel capable of mastering skills and tasks, but as educators we also know that students make mistakes on their way to mastery. Encouraging students to continue this journey while pointing out errors and ideas for improvement often feels like walking a tightrope.

Many of us use a "feedback sandwich" approach that starts with strengths before the dreaded "but" shows up. While that balance is effective, consider going a step further and employ competence-building feedback that focuses on specific actions that clarify how the work can improve. This can take the form of linking feedback to incremental goals that show students competence is a process rather than an endpoint. When feedback employs a "You've done X. Next, identify Y" formula—or just simply a future-focused "In your next lab report, include…" comment—students feel less overwhelmed and, hopefully, continue to develop a growth mindset.

Asking students to self-assess or request feedback on specific parts of assignments can also build their sense of autonomy along with their competence. Often, students are aware of what they're struggling with and by leading an instructor *toward* the challenge—instead of hoping they'll miss where the work is weaker—can dramatically boost students' engagement and sense of competence.

Of course, the elephant in the room in this process is the overreliance on AI that negates the acquisition of mastery and makes self-assessment and peer feedback artificial.

AI-generated output that is submitted as assignments often falls short of mastery: Ideas are named yet nothing cogent is made of them. Structure or depth is missing. Research is missing, unattributed, or worse falsified. A solution: making the student aware that the submission does not fulfill the assignments with specific details and means of improvement is necessary. It may be prudent to add a note that "if AI was used to generate part of this assignment, please follow the syllabus policy of attribution and consider including x and y as part of the original prompt or following up the initial output with a request of z. I ask that you include the prompt and generated output to be turned in with the assignment so that you can develop AI skills and use AI tools appropriately."

21

Increase Competence: Embrace Metacognitive Strategies

Multiple studies have been conducted regarding the importance of metacognition and its impact on students and their learning. Still, as we struggle to squeeze in all the necessary content for the semester, we often neglect to require students to "think about their thinking." But the act of reflection is critical for students to recognize their strengths and identify areas for growth… two key steps to increasing competence in students.

Consider requiring students to reflect on their learning process. For example, if AI tools were part of their coursework, ask them to assess how they assisted—or failed to assist—students in their assignments. What specific tasks were positively influenced by AI tools? Which were less successful? What did the AI tool get "wrong" or where did it miss the mark? When did their own knowledge, creativity, voice, tone, or experience surpass what AI tools could produce? What takeaways did this experience provide that they can use in other courses or the workplace? This practice will not only boost their awareness of the strengths and weaknesses of AI products,

but it will also build their sense of competence as well as confidence in their own abilities.

This process of metacognition can be applied beyond AI tools, of course, and may be particularly helpful when students are asked to reflect on how what they've learned impacted their personal lives and how it might help shape the professionals they're on their way to becoming.

22

Increase Relatedness: Create a Supportive Environment

"Academia is not, by and large, a kind place," writes Catherine Denial, author of *A Pedagogy of Kindness*. "Individualism and competition are what counts. But without kindness at its core, higher education fails its students and instructors—and its mission—in critical ways."

A key component for making students feel connected to the work—and to each other—is by modeling kindness and fostering a classroom culture where students feel respected, valued, and understood. When students are encouraged to participate in open discussions and offer feedback to their peers, they form a community that works to support each other on their learning journeys.

One way to ensure that all students feel a sense of belonging in our courses is to select and design course materials that reflect a diverse range of experiences, identities, and viewpoints. When students feel as if their voice is a recognized and valuable addition to the class, they're more motivated to actively participate and engage with the material and each other.

A class activity that builds connectedness and allows students to join a robust conversation to discuss a variance of perspectives with peers is a discussion of case-based use of AI. For example, leadership in higher education course could examine a scenario in which a university were interested in adopting a chatbot to help students feeling overwhelmed with the demands of college. An activity could analyze ethical considerations for this scenario from different vantage points: administration, students, health centers, etc. to come up with a list of concerns and potential policies.

23

Increase Relatedness: Emphasize Collaborative Learning

Albert Bandura's Social Learning Theory (SLT) emphasizes the importance of students learning from each other. One way we can encourage them to do so is by designing assessments and activities that require students to work together to solve problems, create projects, or engage in discussions or peer reviews. When students work together, they model behaviors and strategies and often this leads to a learning community that feels motivated to learn… and empowered to lead others.

Consensus building supports SLT. One activity is to have students build AI literacy skills by reviewing the AI literacy framework and applying it to a project. Students should present their input and convince others to build consensus, which is then presented to their peers, followed by a brief question and answer session.

In addition to collaborative work in the classroom, consider providing opportunities for students to connect outside of class. Offer extra credit opportunities for

students to attend discipline-related events, organize open study sessions where students can meet up and prepare for exams together, and assign collaborative or group projects that encourage students to interact. Small moves like these motivate students to embrace their learning and contribute to their classroom communities.

24

Increase Relatedness: Build the Instructor-Student Relationship

Research shows that students—especially those from underrepresented communities—who form strong connections with their instructors tend to perform better, engage more fully, and are less likely to drop out. They're also more committed to actively learning and less likely to engage in academic dishonesty.

Creating an inclusive environment is the first step toward building these relationships and even small moves help instructors to reach that goal. Remembering students' names, recognizing individual strengths, dedicating just five minutes each class for informal "check ins," providing personalized feedback and custom-tailored support, and adding some flexibility into course policies all go a long way in creating these connections.

Be sure to also consider ways to ensure that students feel comfortable approaching you, even with non-academic challenges by inviting students to discuss the struggles they're having. You might consider changing your office hours to "student" hours, move them a coffee shop or outside, and providing incentives for students to stop by.

When students do share concerns—and, yes, ask for extensions or other exceptions—respond as empathetically as possible. Even if you're not able to accommodate the student's request, find ways to still offer support and understanding. As Catherine Denial in *A Pedagogy of Kindness* says this practice "distills down to two simple things: believing people and believing in people."

One means through which you can establish rapport with students is to discuss your own journey navigating new AI technology, bumps along the way, happy discoveries, and where you are presently. Offering students insights into which AI platforms you prefer and why, how AI tools are used both professionally and for personal use (i.e. figuring out which size moving truck you need based on the dimensions of furniture and box count) shows your attitude towards AI tools and invites them to share their experiences as well.

When we model empathy and share our own struggles with stress, imposter syndromes, procrastination, or other challenges, students feel comfortable to truly share their concern. . . and they're more likely to offer that same sense of acceptance and support to others in the class.

25

Increase Relatedness: Make Connections Online

While many students thrive in the online educational environment, others may find the experience isolating or even alienating. Clearly, if they feel this way, they are lacking relatedness to other students, which can make the content of the course seem equally unrelatable.

In an online class, relatedness to the instructor and the content can begin even before the first day of the term. This can be as simple as making the course available to view before the first day of class, especially if you've introduced yourself with a bio and photo (or video) on the front page. But consider also sending out an email to welcome them, maybe also attaching the syllabus so they don't have to hunt for it.

Once the semester begins, it's important to establish swift trust with students. This can happen in a variety of ways. Partly students will want to know if the instructor is capable and an expert in this topic; trust is difficult otherwise. But there are also emotional considerations as well. Trust can come from recognizing a person's willingness to be vulnerable, so faculty are often told to

humanize themselves in those introductions. A video of the instructor will be much more effective here than a written bio and photograph. Writing about oneself can be off-putting. Attaching a file to an LLM and asking for script for a 2–3-minute video that emphasizes specific points may be a good starting point. Another option would be to look at the introduction to the course given in the LLM and asking an AI platform to create a podcast of the information.

The same types of trust and relatedness should be cultivated in student-to-student interactions. Asking students to introduce themselves on a discussion board is one way to accomplish this in a fully online class, but we advise phrasing the assignment in a creative way, since students quickly get bored with introductions that look like every other class. You might even consider customizing the introductions in a way that's relevant to the class content.

If the course encourages use of AI tools, the initial discussion board can ask students to use a text-to-image AI tool to depict personal hobbies, favorite sayings, or create a clever meme. It is a good practice for faculty to initiate the discussion with their own post, complete with an AI generated image.

26

Increase Relatedness: Celebrate Small Victories

In Carol Dweck's vastly popular TED Talk titled "The Power of Believing You Can Improve," she discusses the importance of the power of the words "not yet." So often in higher education, we're forced to assess students on performance and those grades have a direct impact on their scholastic careers.

Instead consider ways to celebrate small victories and count those "not yet" assessments as wins instead of losses. If we truly believe that learning is a process, we need to recognize the effort with the outcome… whatever it may be. One way to implement this concept into your course is to consider process-focused grading where some grades are assessed using growth metrics (e.g., improvement between drafts) rather than final products.

You may also consider "victory logs" that ask students to document micro-achievements, create discussion boards for students to share their successes in and outside of the course, or pass out semester-long bingo cards that reward small acts like "visited office hours," "joined a study group," and "contributed meaningful to a class discussion."

When developing AI literacy, the phrase “not yet” takes on a new connotation. The art of prompt engineering is learned. An activity that gives guidelines for intentional prompt engineering and then asks students to refine the output demonstrates with further prompts to arrive at optimal results teaches that iterative attempts yield better results.

Another dimension of “not yet” regarding AI tools stems from the limitation of individual tools that are better when stacked with others. The functionality of one AI tool can be coupled with another. For example, if an image needs alt-text for someone with limited sight who only speaks Cantonese, an image-to-text generator can be stacked on a translation generator.

When you dedicate class time to recognize student’s small wins—and encourage them to do so with their peers—you build an environment where students truly begin to believe in the power of the learning journey, and you build a community they can thrive in.

27

Prioritize Awakening Curiosity

Grades and a grading system provide students with extrinsic motivation because they are validating for students and those who they are trying to impress, whether those people are family, friends, or a potential employer. Unfortunately, extrinsic motivation does not always turn into intrinsic motivation; students who get good grades in a course are not necessarily going to continue to learn about a discipline once that course has ended. Worse, students who do not do well on assessments despite having an interest in a field may not feel capable of satisfying their curiosity because their grades are lackluster. In both scenarios, faculty have missed an opportunity to generate or pique student curiosity. How can we avoid this?

Rather than limiting course activities to coming to class, completing tasks, and taking tests that require little more than recall of information, perhaps it is time to revisit course content and work. Today's students may have a particular aversion to compulsory courses as they work to complete a degree—why should they engage in subjects that have no perceived connection with their desired career? Although some students may value the diverse skill set general education courses can help develop, many

likely do not. Fortunately, faculty and AI can help bridge this gap from the very first day.

It is possible that students either have not deeply considered how course content will connect with their life or that they have a prefabricated opinion that content simply has no relevance to their desired future. Rather than preaching the benefits of your discipline or course, invite students to explore the connections that exist using AI, and do it early in the term. Rather than having students present their findings to you, the (judgy) instructor, have students talk to each other about what they found interesting in the AI output and then present their consensus observations to the class. If you have students turn in their notes, you can compile their work and ask AI for ways to address students' interests and concerns in lessons during the term.

Students may not know what they don't know about your field—such an activity can spark curiosity and increase engagement with each other and the content, particularly if you design follow-up lessons, assignments, and projects that allow them to explore their interests. As the subject matter expert, you can help students gain confidence expressing what they understand and provide guidance to help them nuance their understanding so that they develop their understanding of core concepts and personal interest topics. Such an approach can promote student agency in learning and lead to lifelong learning.

28

Adjust Your Wording to Reflect Asset-Minded Teaching

In a world where it is all too easy to find and attend to pessimism about who our learners are and what they are incapable of, it is incumbent upon us as faculty to maintain an open mind and remain positive about who we are teaching and the skills our students bring into the learning environment. This is not to say that we should coddle students—rather, it's an invitation for faculty to use AI to revise their lessons and feedback so that the messaging students receives is based in asset-minded pedagogy, which is a powerful way of developing a positive, supportive learning environment.

Following are some sample AI-generated feedback options faculty can consider:

Deficit-minded feedback	Asset-minded feedback
“Students don’t want to work.”	“It seems like engagement might be a challenge right now. Let's find out what excites you about this subject or how we can make these tasks more interesting for you.”
“You didn’t do the reading.”	“I noticed some key details from the reading were missing in your work. Could you go over it again? It might help clarify some concepts we're discussing.”
"Your work is not good enough.”	“You’ve made a good start, and with a bit more refinement and detail, your work could be even stronger. What parts are you most confident about, and where could you use more support?”
“You think everything should be easy.”	“It's important to find a balance between challenge and skill. What parts of this subject are more accessible to you, and where could you use more challenge to grow?”
“You didn’t study enough.”	“It looks like some areas need more review. What study methods work best for you, or how can we make your study time more effective?”
“How do you not know the basics?”	“Everyone has unique strengths and areas for improvement. Which foundational aspects do you feel confident about, and where shall we focus more attention?”

Readers will certainly notice not only the difference in tone, but also the relational aspect of the asset-minded feedback. The growth-minded feedback alternatives truly reflect the "coach" mindset and require student input. This enhances student engagement in a reflective learning process, a practice that can help students develop self-regulated learning skills.

29

Suggest Multiple Routes to Completion

Undergraduate students, especially when new to college, sometimes struggle to break free from dualistic thinking. "Just give me the right answer," they might protest when told to explore multiple right answers. Yet the ability to climb from dualism to multiplicity, then relativism, and commitment—all elements of William Perry's scheme of intellectual and ethical development—is a necessary skill to develop critical thinking.

We usually provide students with only a single set of directions on how to complete a project, if any at all. But consider the benefits of sketching the pros and cons of multiple possible approaches instead of dictating one. The students are forced to think about the options and make an informed selection. The presence of choice in an assignment prompt is, itself, beneficial. Adult learners prefer to be active participants in selecting elements of their assigned duties, which increases ownership and thus motivation.

This manner of reasoning is germane to fostering AI literacy skills. Students will need to learn to determine

when AI use is appropriate; they should be encouraged to experiment with AI tools to vet efficacy and viability. Practice with evaluating AI output and its potential or limitations as part of a project is nuanced by being situational. Asking students to compare AI attribution within an assignment against the directions, examples, and the grading rubric develops autonomy and confidence.

30

Encourage Portfolios to Span the Student's Career

As we know, many students are laser-focused on landing a good job after graduation. Consequently, they're easily motivated to maximize their efforts to stand out to employers. We can lead students to reflect on their experiences—and pinpoint areas where they need to grow—by assigning portfolios that span their academic career. One inclusion can even be how well-versed with AI, such as finished work that was co-creating with AI or their examples of effective prompts. This may also lead them to reflect on what they bring to the workplace as an individual and how they can grow and showcase those skills as well.

Rather than invent such a portfolio all at once when starting the job search, it makes more sense for students to begin building their portfolios early in their academic careers and add to it throughout their years in college. Such a capture of their assignments and responses will demonstrate growth over time, encourage them to seek out additional opportunities, and result in a robust end product.

We recommend portfolio technology that is easy and portable, so that students still have access to it as they procced through college and after graduation.

AI tools can assist with developing digital portfolios. One utility is the alignment of skills listed on a résumé against projects that demonstrate the student's mastery of skills. Some students may view the creation of a digital portfolio as a list of tasks to be completed and skip one step that is crucial to success—the link between skills listed on a résumé and the level of proficiency demonstrated with that skill in posted projects. Students can upload a résumé (removing identifying content for this activity) and projects to ask AI to ensure alignment.

Website generation platforms are an early AI tool, with which many students are familiar. Weebly and Wix, for example, produce professional websites and have a "freemium" version that students can maintain post-graduation. Students need only select a template, build out pages, and add content. The AI website-generation platforms will help configure the digital portfolio so that it is optimized across devices.

31

Consider Graduation Exams

If student use of AI cannot be prevented or definitively detected, then some amount of student misuse of AI is likely to occur, despite your best efforts or the application of tips included here. Unfortunately, if students substitute their learning with AI shortcuts throughout their college experience and don't truly gain the required skills and knowledge, there's a real danger that our institutions' reputations will suffer. Employers may start to question the value of education from our institutions, and we can't afford that.

Re-tooling grading rubrics to emphasize values that are distinctly human, and for which AI tends to be deficient will shift expectations towards a more human-AI collaborative approach. Oregon State University's handout that revisits Bloom's taxonomy through human skills and AI supplementation could inform the process. Rubrics that weigh *human value added* impart an emphasis on competency that extends through a degree program to graduation.

One more severe option is to put students on notice that AI shortcuts alone won't allow them to graduate. If students know they can't graduate without passing a

comprehensive graduation exam, they will be less likely to take the shortcuts all along.

This is not a new concept. Some disciplines like nursing have something similar in the form of accreditation exams. And required exams to graduate is common in several other countries, though not yet in the United States.

A final pitch would be to create a stark awareness. As faculty, we have a high degree of knowledge and skills, including a proficiency with AI tools. We readily recognize when AI platforms produce deficient output and can take steps to revise the output or work without AI tools altogether. By choice, we could be in the same job market as our students. Who would an employer choose: someone with knowledge and skills that include AI proficiency to deliver optimal results or an individual who only knows how to use AI tools to produce mediocre output and could not function without them, putting the organization's competitiveness and reputation at risk? The challenge: with time to gain experience, become as proficient as your professor with insights that only your generation possess. The future requires it.

32

Redesign the Curriculum to Ensure Student AI Fluency

A final way to convince students to use AI responsibly and ethically, and not in a way that takes shortcuts or engages in cognitive offloading, is to force them throughout their college career to complete assignments designed to infuse AI fluency.

Individual classes, especially if they are electives, might do some good in ensuring AI fluency, but this approach still leaves it to chance that students will take the courses needed to learn these skills. A redesign of the curriculum with identified courses required for AI fluency in the major would remove that element of chance.

Cornerstone or introductory classes are good places to introduce students to AI's strengths and weaknesses, and to show them when and where to be cautious about AI output. Capstone courses would be ideal for focusing industry-specific applications of AI. Courses in between these bookends could add elements of both.

Section II:
Rules of Play

Despite its potential, AI cannot replicate uniquely human traits to ensure accuracy, fairness, appropriateness, cultural context, ingenuity, or sophisticated complexity to name a few. In short, AI lacks the capacity to be human or to account for the things that matter to humans such as dignity, creativity, or empathy. Some AI developers seem to follow suit with a disregard for privacy, transparency, and accountability concerning data collection and use. The following chapters serve as brief considerations of ethical concerns related to AI. The first and last chapters have a positive note, examining the potential of AI to better support accessibility and negotiate the digital divide that is doggedly persistent. Other chapters have more of a cautionary tone and encourage best practices to protect students and uphold high individual and institutional standards.

In 2024, IBM included a post on its website titled *What is AI Ethics*? where the organization "suggests upholding five pillars of AI ethics: fairness, explainability, robustness, transparency, and data privacy. Each of these pillars are included as part of the discussion of the "what, how, and why" of ethical considerations.

As you review the chapters, consider class activities in which students examine scenarios surrounding AI use from different philosophical frameworks and points of view in multiple rounds. For example, how would different philosophical theories weigh in on the issue of collecting data from saved files to train AI using opt-in users without their consent? How would privacy be argued from the points-of-view of AI research and deployment

companies, from administration that purchased site license to software that has opt-in defaults, and from faculty, staff, and students using the purchased software? Group activities could ask students to switch philosophical frameworks or points-of-view (or both) in a second round. A final round would ask students to adopt an administrator's role and defend its privacy policy to the public or a politician. Arguably, students will need to contend with these ethical scenarios as professionals; we, as faculty, have an obligation to introduce the topic and serve as a coach for the ethical approach to AI.

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Put Me in Coach: AI to Support Accessibility

One bright spot in AI technology is its capacity to efficiently and effectively convert content and materials to support accessibility. The good news is that so many integrations and apps have been developed to specifically assist individuals with cognitive or physical limitations.

Recommended strategies to remediate courses for accessibility:

1. **Needs assessment**: Use the UDOIT (Canvas) or Blackboard Ally to scan a course. Both products provide multiple ways of prioritizing tasks and indicate levels of urgency.
2. **Accessibility checkers**: Content pages that need revision for hierarchy of headers, contrast (color), alt-text, or tables are identified by accessibility checkers native to the LMS or app with AI applications that make the correction yet require line-item approval from the user.
3. **Converting screen captures to readable text:** Screen captures of text, tables, data sets, and graphs still linger in some content pages or link. ASU's Image

Accessibility Creator (IAC) can convert image files to text and mathematical symbols with an uncanny accuracy in a matter of seconds (including data sets and tables). Note: ASU's IAC may be a better option for scanned files than Adobe's Scan & OCR feature.

4. **Captioning Videos:** Tech giants are improving existing functionality with more accurate voice-to-text generation. Many programs such as Clip Champ "learn" edits to voice-to-text generation and offer to replace repeated errors. These programs will also use summarizing tools to generate timestamps.
5. **Alt-text generator:** Most applications and platforms have nature alt-text generators, yet the ASU IAC and the like produce more nuanced descriptions.

As you learn how to use AI to revise existing materials and help create new ones that are accessible, share your experience with students. Consider linking to tutorials to teach accessibility and how to leverage AI to ensure accessibility with student work that is public facing, including classmates. Graduating students who have a better awareness of accessibility and skills to use tools to produce accessible materials and products has the potential of finally leveling the playing field in a meaningful way.

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Refer to AI Tools as "Products"

Most of us refer to ChatGPT (and its friends) as AI *tools* when discussing them with each other and our students, and while they are tools… they might be more accurately defined as "products." When we shift the focus from *how* we use them to *who* provides them (and *why*), we ask students to consider the complex systems in which these AI tools exist. This can lead to important discussions about the data these systems are trained on, the design and privacy choices that shape their capabilities, and the economic forces that continue to influence these products.

This subtle shift in language encourages students to view AI technologies as consumers versus solely users. When you consume a product—as opposed to when you use a tool—you make decisions based on the merits of the product, the company that creates it, and the "price" you're willing to pay for it. The "price" for some AI products can appear free, until you ask students to consider who's benefiting from their complimentary use, what's gained by the (often personal) data they're feeding it, what are the impacts (environmentally and otherwise) of using this product, and how do competitive companies compare. These discussions can lead to a future of more thoughtful consumers—and creators—of AI products.

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Privacy Settings: Transparent as Sludge

A good number of applications and platforms on our devices and desktops have privacy settings that require acknowledgement. These are often regarded as a simple click to start using the app. However, many tech companies have opted-in features that allow files saved when using their apps to "train" their AI systems—without user consent. Users are often automatically "opted in" to data collection when clicking through acknowledgements or installing software and operating system updates, without giving explicit consent.

Other tech firms seek to establish trust with customers by vowing to protect user privacy and consequently request consent to opt in as marketing features. For example: a user can opt in to send a crash report to Adobe.

Students often find information regarding AI on social media, often in short form feeds. Privacy is either absent in their feeds or sometimes the focus. Effectively, student knowledge of privacy regarding AI is a game of roulette with algorithms determining the outcome.

Faculty can serve as coaches to approach data privacy through awareness and protocols. It may be strategic to consult your institution's IT department to develop protocols to adjust privacy settings on apps and platforms—especially those purchased for student email, AI platforms sanctioned by the institution, and platforms that are required or recommended technology for courses.

Recommended resources to become better informed, draft protocols around data privacy and AI, and raise awareness with students include Stanford's Human-Centered AI research on privacy implications and Educause's AI privacy framework for higher education.

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Own Your Master Copy with AI: Copyright, Patents & Grants

At any stage in the writing process (drafting, initial submission, writing, revising, final submission) of materials that are intended for copyright or a patent—or are part of a grant or endowment—a sound decision is to "own your master" (borrowing from the music industry). In other words, be mindful of information fed into AI platforms and select AI platforms that either have a "temporary" status or are a closed system. Risk assessment should be conducted at each step of project management as the use of AI platforms with the guiding question:

- Will AI use compromise copyright or patent licensure or will AI use negate the terms of a grant or endowment?
- To what extent should and is AI augmenting human creation?
- Does the data and insights from the data belong to the creator?
- Can you, as the creator, explain the AI machination and are you being transparent about what parts of the content is AI-generated, AI-influenced, or AI-revised?

To answer these questions, the project manager must layer AI transparency to determine which steps of the project are appropriate for AI use by members and how to log AI use consistently. It may be prudent to check with the university's Office of Research or offices that handle grants, patents, or endowments for guidance. Project managers would be wise to dedicate part of meetings to confer as a group the use of AI in the project, employing a framework similar to that of teaching AI literacy:

If AI use is appropriate for a stage of the project,

- Which AI platforms provide the security and needed protection if sensitive information is being dealt with?
- Are project members accurately logging AI prompts, AI output, and if the extent to which AI output is being included in content creation?
- Is AI attribution given that follows guidance from the documentation style used in the field, as well as state, federal, and international law.?

The National Academy of Invention published AI and Inventorship Guidance: Incentivizing Human Ingenuity and Investment In AI-Assisted Inventions (2023) in their Technology and Innovation Journal. Additionally, the national Copyright Office has addressed copyright concerning AI, in Report on Copyright and Artificial Intelligence, Part One (2024) and Part Two (2025).

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Private Eyes: FERPA, HIPPA & IRB Considerations with AI

Many AI interfaces use input to train their system. To further complicate the situation, a quick review of ribbons found in applications on one's desktop will find embedded AI tools. For example, updates add the Grammarly tool to Office 360 ribbons if a user had a subscription to both—without the user's consent (they are opted-in rather than being prompted to turn on features). The likelihood of data being used to train a LLM or Machine Learning platform is high; the integrations into desktop apps make protecting privacy complicated, yet a dogged and informed approach can protect privacy—and in specific capacities, it must.

To be clear, most AI platforms and integrated tools are not closed systems. In other words, data is being used to train AI systems.

Regarding FERPA (1974) and HIPAA (1996), as well as data that is part of an IRB, Personally Identifiable Information (PII) should NOT be entered or uploaded into any AI tool or integration—no exceptions. The UA AI Teaching Network (2025) advises that names, personal identifiers (such as student id numbers), location data

(such as email addresses), personal characteristics (such as gender, nationality, race, or religion), school records, or health records should not be entered or uploaded to an AI tool. Keep in mind that indirect identifies can be used in combination to compromise an individual's privacy. Assigning numeric and letter sequences that safeguard PII data is standard practice.

Involving subject matter experts to turn off features in desktop applications (or those on a device) to protect privacy when using the app should be intentional. IT specialists as well as legal experts current with AI practices should be consulted when analyzing data to uphold privacy protections set by FERPA & HIPAA, as well as data involved in IRB proceedings.

Diligence is needed to engender trust when it comes to individual privacy and AI tools. Institutions will be held accountable for data privacy; everyone has a role to play.

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Bias in AI: The Usual Suspects

Bias is inherent in AI tools. Any technology trained on human-generated and gathered data and designed by humans will produce bias. Intention seems irrelevant.

There are those who proport that AI can eliminate or greatly reduce bias. If only that supposition were true. An examination of data that is used to train the system and the output produced by algorithms, essentially both sides of the AI transactions, reveal the potential for bias. For example, consider the following notifications shared by Anthropic in 2025:

- Data used to train AI may reflect societal inequities and incongruities;
- Algorithms are encoded with weight variables, thresholds, and optimization targets that are based on the informed, yet subjective, judgment of the designer; and
- Feedback loops and machine learning models can amplify bias through a reinforcing cycle of bias in data used to train the system and design.

Fairness resides at the other end of the bias binary. Inherently, fairness is content-dependent and situational. Attempting to optimize AI for all potential simultaneous contexts seems impossible. Anthropic stated that believing in the illusion of AI's objectivity may lead to a false sense of security and less scrutiny. Has AI improved regarding bias? Yes. Text to image generation no longer depicts college professors as all men and high school teachers as all women. Does it need improvement? Undoubtedly. Asking AI to make a headshot more "professional" results in slenderizing, de-aging, and questionable hair styling that aligns to a contrived standard.

A solution to the potential of AI's bias resides in a human-AI collaboration. Policies and practices can create stop-gap measures that require human review for accuracy and fairness. Systems should be evaluated based on the quality of output and recalibrated to shore up deficiencies. Multiple perspectives—without omission—should evaluate AI's output. Institutions will ultimately need to justify the use of AI and report measures taken to reduce and mitigate bias. Robust intentionality and transparency coupled with commitment to bias reduction should serve as the norm.

AI's potential for bias could serve as a focus for a classroom activity. Students can examine a situation from different stake holders in a given situation, switch to examine the same situation from a different perspective, and prepare comments for the public, as well as governing agencies or politicians.

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Credibility & AI: Protecting Your Good Name & the Team

Recent headlines are replete with cautionary tales of careless AI use blemishing an individual's good name. Lawyers have been rebuked by judges for using AI to prepare court documents that show serious deficiencies. Journals have been exposed for publishing articles written entirely by AI platforms. Once tarnished, the credibility of one's good name is forever lost.

While certain publications and organizations offer guidance on the permissions regarding AI use and attribution, such guidance is inconsistent and subject to change. Meanwhile, some AI platforms are including watermarks, Synth IDs (Google), metadata, and the like to AI-generated content as a means of attribution. Again, consistency is lacking, and future attribution is not guaranteed. To further complicate the matter, many watermarks and metadata can be easily removed.

Consequently, the onus is on creators to attribute AI use. Documentation style publications (such as APA, Chicago, CBE, CSE, MLA, etc.) have issued guidance to cite AI tools, yet this guidance seems to be evolving. Consider adopting

the habit of referencing current guidelines from publication websites over proxies. Although library and writing center websites are well-intentioned, staff shortages and competing projects may interfere with necessary updates—referencing publication websites is a sound strategy.

Finally, being transparent with AI tools at the onset builds integrity. Regardless of publication styles or organization's guidance, practice prudence. Include attribution on content pages published to an LMS; include a slide in a presentation (after the title slide) that references AI tools or include a narrative quotation to the same effect. If the materials presented are of high quality, many will want to know the AI tools used to generate such quality. The same is true of reports, assessments, and analysis. Further, it stands to reason that if students see the attribution of AI tools in course materials, the likelihood of attributing AI in their materials increases. Model AI attribution that you would like to see in student work.

The Golden Rule is an appropriate framework concerning the attribution of AI tools and their use. If you do not want to read an email generated by AI, then do not send emails generated by AI. Another consideration: If an AI chat bot generates an email only to receive a response from another chat bot (or the same), did communication take place?

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Deepfakes & AI: Beware of Bad Actors

AI tools can be employed to create artifice that is difficult to discern from the "real McCoy." Each new "Real or AI" quiz seems to become more difficult to pass. Is the Turing test dead? We hope not. . . but maybe.

Deepfakes digitally alter a person's likeness to appear different—often through unethical if not malicious intent. A brief recording of a person's voice or an image can be manipulated with AI tools to produce content of which that person never consented and from which a person's character can be diminished or destroyed. Deepfakes can also be used to manipulate their intended audience to believe something completely or partially untrue about a situation or individual.

Recent legislation attempts to determine the criminal production of deepfakes, especially those that involve minors. Such means seem limited in terms of jurisdiction and bringing individuals to justice. Further, legal actions do not seem to deter bad actors from producing deep fakes. Once the image, audio file, or video has surfaced, the

damage is done and cannot be revoked, only removed (if only partially).

The solution to deepfakes seems elusive. Awareness is certainly a worthy approach. Collective condemnation, especially from those in power to influence, is a step in the right direction. An individual and collective commitment to ignore the temptation to see or hear salacious content of deepfakes could tamper their influence. These countermeasures are not a panacea. However, including robust discussion around deepfakes, focusing on their potential for harm in specific fields with students, is a worthy endeavor.

To help resist the temptation to open a deepfake—or worse, share one—remember they contribute to an Orwellian future where, like in *1984*, the proverbial path to the "Ministry of Truth" is lined with deep fakes.

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AI & the Digital Divide: The Potential

Despite our best efforts, the digital divide persists. To overcome its dogged presence, the same three concerns that predated AI must be addressed: access, skills, and quality of use. There are some solutions in the AI landscape, yet a pragmatic and informed approach is required to prevent a widening of the digital divide.

The question of access is two-fold. Some students can afford LLM subscriptions and the connectivity to access them. Institutions should maintain a list of suggested AI platforms that are free or have "freemium" versions; instructors can reinforce this list on technology syllabus statements and demonstrate their use in class activities. Further, most institutions have a contract with a productivity suite that has an AI counterpart. When renewing contracts with these companies, institutions should negotiate more robust AI features available to students, as well as faculty and staff. Concerning connectivity, AI may impact the need for more storage and bandwidth requiring budgetary considerations.

The skills gap is a double-edged sword. AI platforms can serve as 24/7 tutors to help students with technology skills. However, AI literacy needs to be a robust part of the curriculum to prevent cognitive offloading and diminished skills acquisition. Special attention should be given and reinforced by activities to assess if AI use is appropriate, prompt generation, and assessment of AI output. Assignments should ask for prompts and AI-generated output to be collected and reviewed. Further, assignments could be broken down to have prompt generation and output assessed as an early step. Rubrics can be augmented to include assessment of prompts and if AI output is used effectively and transparently in an assignment. Students have indicated that they would like more guidance with AI use; they want to use it appropriately. Faculty would do well to answer the call for guidance.

The "quality of use" gap can be closed with feedback on assignments and group projects where classmates share insights and evaluate each other to promote better use. Further, peer reviews could provide valuable perspectives. Faculty could also use course analytics to determine if learning objectives are being met and conduct surveys or class discussions to better understand the impact of AI competency—both positive and negative.

Stepping back, AI can help close the digital divide by affording better technical capabilities for students and faculty to make content more accessible. Further, AI can help with personalized learning opportunities through customization. Students for whom English is not a native language can leverage AI's translation features.

Section III: University Champion

AI Initiatives on Your Campus

If the first section of this book offers ideas for being a coach to your students, this next section is all about becoming a coach for the rest of your campus. By that we don't mean simply an inspirational figure promoting AI; we mean a local action-taking champion of many facets of AI integration at your institution. These could include trainings and workshops to introduce AI to various stakeholders—think staff and students, as well as faculty—as well as other events and connections that will add urgency to your AI initiative. In short, we aim to provide you with actionable ideas to bring back to your campus, allowing you to mix and match the ideas as desired.

The options laid out in this section largely come from our rollout of AI initiatives at the University of Central Florida, most of them within a single year.

Your ability to mimic some of these initiatives may depend on finding an appropriate budget. We took an approach of mostly not incentivizing faculty participation with cash rewards. Since the need for solutions in the AI era was so great, faculty flocked to these offerings anyway.

The phrase "Be the change that you want to see in the world" does not have a definitive attribution. Regardless of its authorship, this concept is a good approximation of what an AI champion should do on your campus. Take action in whatever ways you can and **be the change**.

Ideas

1. **Start with a task force**. A small group of champions working in roles affected by AI can brainstorm recommendations to senior administration about how to proceed, and in what order.
2. **Advocate for an AI coordinator**. It will help keep the institution moving forward if a single person, or perhaps a very small team, feels ownership and responsibility for AI initiatives on campus. This is a big enough task that this person will want to dedicate most of their time to just this position.
3. **Pursue an official AI tool at the institutional level**. The central IT department can negotiate with various providers to select an official AI tool, or perhaps more than one. This can bring benefits such as integration with institutional logins, and in some cases, can create a "walled garden" circumstance, where both queries and AI output remain local, are not visible to the vendor, and do not train the AI model.
4. **Create online resources to assist faculty decision-making**. Faculty need help curating AI tools, thinking through revising assignments, and sample syllabus policy statements.
5. **Coordinate with the student conduct office**. Policies about academic integrity differ across institutions, especially regarding AI, so it's important to coordinate efforts centrally.
6. **Create faculty-facing training on AI basics**. We recommend you create both an online asynchronous

training module delivered through your LMS and offer live training workshops, both in-person and virtual. Faculty have many questions about AI, and the live experience is necessary for some. The asynchronous module is a better fit for those seeking to save time or answer specific questions.

7. **Create student-facing training on AI basics**. An online module delivered to all students when they join the institution, as is done with other mandated training, might give students the primer they need on what AI is, when to use it, when not to, and institution-specific policies about AI.
8. **Encourage AI across the curriculum**. You can maximize the possibility of student AI fluency by going beyond online training and encouraging faculty to infuse AI into their course assignments.
9. **Strive for curriculum redesign with AI in mind**. When a department agrees to add AI to specific courses required to complete the degree program, it leaves nothing to chance; students **will** have AI fluency by the time they graduate with that major. This approach allows for construction of a spiral curriculum, where topics such as AI can be introduced, reinforced, and assessed at deliberate points. Near the end of the curriculum is an ideal place to turn to industry-specific uses of AI.
10. **Explore recognizing AI-infused courses in General Education courses**. When courses are marked as teaching AI fluency, students can opt into such courses if desired. A variation might be to alter

General Education requirements to include one or more such courses.

11. **Create an informal community of practice with faculty and staff that meets monthly**. Offices that support faculty might make an initial core of interested stakeholders, but other faculty and staff should be invited eventually. Consider spending time in each meeting discussing what's changed with AI at your institution since the last meeting, what AI tools have been newly released or updated, and what interesting articles and studies have been newly published. The campus AI coordinator will need to curate those items throughout the month to provide initial organization for each meeting, but active participation but others always bring fresh perspectives.
12. **Call for AI liaisons in each academic department**. These volunteer liaisons can facilitate two-way communications between the campus AI coordinator and individual faculty. Some faculty may be more likely to read emails from their departmental colleagues than from central administration.
13. **Invite students to help vet AI tools.** If budget can be found, paying undergraduates an hourly wage can assist with staying current with the ever-shifting AI landscape. Alternately, students taking classes might be asked to do the same as part of the course.
14. **Gather faculty practices with AI and related teaching tips to share with campus**. A short survey asking for the *what*, *why*, and *how* of their ideas

makes it simple for faculty to participate, and the collated results can be distributed widely, which also provides recognition for the faculty who have participated.

15. **Create a consortium of faculty and staff interested in AI**. In Florida, a grassroots consortium of over 100 interested parties from multiple institutions meets quarterly and leverages Special Interest Groups (SIGs) to create useful materials between meetings. The Florida SIGs include ethics, policies, AI use cases, and AI tools and resources. White papers, publications, and open-source lists have been among the products created.
16. **Consider institutional policies on AI**. Writing a campus policy on AI is more difficult than it might originally seem. Acting hastily might yield confusion or unintentional side effects, especially as AI tools continue to evolve. Yet there is also potentially danger in waiting, which can be seen as inaction by faculty and students. Even the definitions are difficult. It may not be reasonable to ban AI when just about everything digital makes use of AI, from Web searches to smartphones and even productivity tools like MS-Office. One idea is to require all syllabi to delineate the policies about AI use for that class.
17. **Create staff-facing training when scheduling permits**. The training of faculty and students rightly should be the highest priority and needs to come first, but staff can also benefit from learning what AI

is, how it works, and how it may be leveraged in their day jobs to improve efficiency or productivity.

18. **Encourage departments to connect with employers in their disciple**. Ultimately, students will need to know what their future employers would like them to know about using AI, so every discipline should endeavor to find out.
19. **Consider high-profile AI events such as an *AI Day* on campus**. These events emphasize to all campus stakeholders how seriously the institution considers the promise and challenges of AI in higher education. Conference-style breakouts can let individuals choose workshops that match not only their interests, but also the level of their experience with AI.
20. **Include employers at AI-related events**. Consider employer panels that can speak directly to students about the responsibility they should feel to become users of AI.
21. **Create opportunities for sharing around campus**. A monthly newsletter to curate news about AI developments will keep your stakeholders informed without becoming overwhelmed, and such a newsletter offers a unique opportunity to spotlight efforts by others on campus. Faculty who read about recent publications by their peers might become inspired to pursue similar research themselves, as might departments reading about intensive curricular redesign by another department.

Section IV: Notes from a Coach

My Existential Crisis

By Liz Giltner

I have not always been an advocate for the presence or use of AI in teaching and learning. Indeed, when ChatGPT burst onto the scene in Fall 2022, I was angry. I felt like AI products were being published simply to undermine and devalue education; this intrusion was, in my way of thinking, the most potent antidote to intellectualism that had ever been created, and the ease of accessibility meant that the number of people who consider academia to be frivolous or useless would only increase. AI was, then, a threat to my career and my values. As a French Lecturer, the anger and resentment I felt was not unlike what I felt when I learned about Google Translate, Babble Fish, and other translation products, but it was, incredulously, worse because now it was less detectable. If everyone could just ask AI for answers to assignments that I had spent my time and energy creating, then what was the point? Why bother??

Thankfully, in Spring 2023, UCF's Faculty Center for Teaching and Learning (FCTL) began a six-week "AI Fundamentals" seminar for faculty. To say that the sessions were helpful for improving my opinion of AI and its place in education is an understatement—they were instrumental. I became so much more aware of how I could leverage AI to become more efficient, creative, and consistent in my work. I learned a great deal about what AI could do, but also what it could not do. Rather than

keeping the new information and skills I was acquiring to myself, however, I showed what I had learned with my students. I did this partially to gain credibility with them: Students might be using it for one purpose, but I wasn't some relic from a by-gone era that would be duped into thinking they had somehow suddenly mastered concepts that I had watched and listened to them struggle with in class. I showed my students that I knew how to use AI and how I could tell that AI had (likely) "contributed" to the work they turned in, whether it was by a 3-second submission time for a 2-page cultural essay, or use of French grammar and sentence structures that were much more elegant than any work they had submitted to me previously. I learned how to alter assignments so that students had to "do something" with the AI-generated output, too. This new reality wasn't nearly as bad as I thought it was going to be!

I left my position as a French Lecturer in late Spring 2024 to become an Instructional Specialist with FCTL. This transition meant that I was now able to help other faculty members learn how to adapt their assignments in an AI-infused world. It has been enjoyable to have the time to listen to faculty concerns and to work with them to figure out how to infuse AI use into assignments. I enjoy applying my ever-developing knowledge of how AI can help educators make their courses and coursework relevant and thought-provoking. I have used AI in my own work to be more efficient in accomplishing tasks, too, and I never hesitate to give credit to my colleagues at FCTL for helping me change my mind about AI and its place in higher education. I am much more accepting of AI

and adept at helping interested faculty infuse AI into their courses and workflow, and I enjoy the work. Despite this, I recently had to grapple with another existential crisis—one brought on by my return to the classroom as an adjunct lecturer of French.

I am scheduled to return to teaching French after a year's hiatus as I made the transition from front-line faculty member to Instructional Specialist. It would not surprise anyone who knows me that I have already begun revisiting my LMS content and assignments—I do like to be prepared! As I reviewed my content pages and assignments, however, I came to an earth-shattering realization: my students don't need me to explain French grammar anymore. My time as "sage on the stage" is done. As I looked over my content and thought about what I had been doing for more than 20 years in the classroom, I was horrified to realize that it would be a waste of time and effort to fill class time with explanations of grammar and vocabulary when AI can do this for my students. *What am I supposed to do now?* I have all of this knowledge—30+ years of work put into understanding how French works—and my students don't need it. They don't need me to explain anything—AI can do this, and it can do it in ways that will make the content understandable by the student on the students' terms. I was thunderstruck by this epiphany and utterly bewildered by it. *What am I supposed to do now?*

It is one thing to systematically infuse AI-aware coursework into a class. It is quite another to grapple with a complete ontological shift about what it means to teach

in an AI-infused world. I thought about the resources the students have at their disposal: the textbook, my content pages, YouTube videos, AI… and I recognized that although the students have resources I had never dreamed of, they still need guidance to learn how to use them in a way that will help them understand content now, but also develop valuable skills for their lives after college. Because the French class I'll be teaching is required for students to demonstrate the minimum two-semester proficiency in another language and, therefore, to graduate, I also need to help my students connect my content with their chosen fields of interest. As I mulled these thoughts over, I realized that it is up to me to provide students with opportunities no other resources, including AI, could. That is my job now. I need to set my class up in such a way so that my students can review and learn fundamental grammar and vocabulary using AI and then use class time to practice with the French language and cultural content in relevant contexts, which may also be AI-generated. Class time will be used to build students' confidence using the language via listening, speaking, reading, and writing activities, and I will be there to guide them through use and analyses of the AI-generated materials. For instructors who have been teaching a "flipped classroom", this might not seem like much of an "a-ha" moment, but it was revolutionary for me.

It took me about five hours to develop a plan to overcome my latest AI-induced existential crisis. I'm not sure that I would have grappled with it as effectively if I didn't have the training and opportunities to explore the AI products that are available. I also think that taking time away from

teaching helped me reconsider my established pedagogical practices and see them with fresh eyes. I am thankful to have the training and time to prepare anew one of my favorite courses and to prepare for a new set of learning opportunities for my students and myself. I am excited to help students develop language skills, but I am even more optimistic about doing so in a class that will build relevant and transferable skills that will serve them long after our class has ended.

Sometimes It's Too Soon to "Lean In"

By Laurie Uttich

"Lean in!" we told faculty members at the first widespread conference we hosted on AI technologies in December 2023, a little over a year after ChatGPT was released to the public. "Assignments as usual" is dead, we reminded those who had been asleep the last semester. "You have little choice but to accept it and incorporate it into your teaching."

We went on to show a multitude of effective ways they could use AI tools in teaching and administrative tasks, in their own work and research, and offered ideas for teaching AI fluency to their students. The conference's message was purposefully upbeat, positive, and interactive—we even looped in *Tomorrowland* and *Carousel of Progress* music!—and the results of all of our hard work were, well, not entirely what we expected.

The event was marketed as a "full day, deep dive into Teaching with AI," and so we assumed attendees were looking for ways to do just that … and lots of faculty members were there for exactly that reason. But many came to find others to connect with, to mourn the loss of teaching methods and assessments they'd successfully honed over the years. They wanted to talk about how overwhelming these changes are, how unprepared and

unqualified they felt to enter this new era. Fresh off the Fall semester, they wanted solutions for "catching cheaters" who used ChatGPT to write their final research papers. They wanted to talk about biases, data, privacy, unchecked and unregulated technology giants and why these big dogs won't disclose where they get their data to train these soul-sucking Large Language Models that ravage and pillage the world wide web with predatory intent, seemingly unconcerned about little pesky things like copyright infringement laws and intellectual property.

They wanted to talk ethics and education and this new generation of students and … how do we still teach in the age of AI? How will students learn to think critically now? How do we fill the gaps of what's been lost while we prepare them for what tomorrow needs? And they wanted to do it with a group of their colleagues who shared those same concerns.

One participant—a lovely colleague I've always liked—summed it up best when he said to me during a break, "I wanted to talk about what we 'do' about AI, but all I got was an 8-hour AI advertisement."

Since then, I've taught six multi-week AI Fundamentals for Educators courses at my institution. Every time, I start with a "temperature check" and I shape the first discussion from there. Faculty members who come to these conferences and courses—or read books like this one—are some of our very best educators. They know they need to understand AI technologies and learn how to incorporate them into their courses. They know their students need

these skills to be prepared for the workplace. And they know that if we don't teach them to search for biases, inaccuracies, hallucinations, and shallow thinking, who will? (We're all pretty certain it won't be the CEOs of all these AI technologies.)

But they're also mourning the decades they invested in perfecting teaching methods that led to the successful education of hundreds (often, even thousands) of students who walked through their doors. And that's okay, I tell them. I am, too.

I tell them about my own journey into this land I never chose to inhabit. I'm a poet. I love the unpredictable nature of language. I deeply value the art and act of writing, how it taps into our creativity, how it leads us to discover things about our world—and ourselves—that we never would have landed on without the process of staring at a blank page. I'm worried about who we'll all become if the essay is truly, as many have said, dead.

But then I tell them that I use AI products in various aspects of my own work. I find these tools particularly helpful for brainstorming interactive learning activities, coming up with engaging discussion questions, and creating scenarios for case-based learning. I've even inputted my feedback to a student—and a colleague—and asked ChatGPT to "soften my tone."

I'll never rely on an AI product to "assist" me with my art, but I have found it invaluable when promoting that art. I struggled for days over an abstract and marketing plan a

potential publisher asked for when reviewing my collection of essays. Claude Pro accomplished more in four minutes than I did in five days. The AI-generated draft wasn't complete, but it offered fresh perspectives I hadn't considered, and it was shockingly good at identifying themes and summarizing the collection. I embrace the blank screen when creating but having AI support for the business aspects of an artist's life has freed up valuable mental space—and time—for my actual creative work.

Now, when I lead workshops on AI tools, I don't tell faculty members to "lean in." Instead, I listen to where they're at, I remind them that their concerns are valid, and I acknowledge that we're all navigating unfamiliar—and daunting—territory together. This transition doesn't erase the value of our experience as educators—it builds upon it. Their instincts about what students need to learn haven't changed, just some of the methods.

And then we get to work. We do what educators have always done. We adapt to meet the needs of our students and the world we're all now living in.

Listening to Students and Colleagues

By Anastasia Bojanowski

I had a fortunate introduction to AI's potential in the Spring 2023 semester. One of my first-year writing sections turned in first essays that were typical with one exception—the reference/works cited pages and in-text citations were stellar. Citations were complete, titles were formatted and capitalized correctly, and punctuation was mostly correct. After twenty-two years of teaching first-year writing courses, I was thrilled. Of course, I had one question for my in-person class, "how?" They were animated in confiding in me their secret: the website, Scribbr.com. I immediately switched over to the website, and they helped me navigate to the citation generation page. Since we were working on an assignment that examined news articles, I copied and pasted web addresses for a newspaper article, a YouTube video, and a magazine article. The generated citations were between 95-100% accurate … and the correct in-text citation was given under the citation generated for the reference page. I took off my glasses and looked at them with sincere tears in my eyes to confess that I was so happy for them. They need not struggle with documentation guidelines; the lift would be much lighter. Further, I could reduce time focused on documentation from 20% to 10% and use the time gained to focus on one aspect of information literacy with which

they struggled: review of academic research. If this was the potential of AI tools, I was a convert.

However, the honeymoon was short-lived. Later that semester, students were turning in stellar annotated bibliographies. However, I had the dark realization that a large majority of students had generated citations (good) yet had asked AI to summarize sources (not good), effectively participating in cognitive offloading that led to diminished information literacy skills. I had no proof and simply graded bibliographies against the rubric. Research essays were mixed; many were turned in late and more failed than normal. Heading into the summer, I went through all the stages of grief and an existential crisis, wondering if I could be an effective teacher in the new age of AI.

Starting the summer of 2023, I started to read everything that I could on AI. I attended webinars on AI from academics, but more so from software developers and AI platforms. I found deficiencies in the information espoused on social media regarding AI and tried to counter with sound approaches. In short, I wanted students enrolled in the course to understand AI better, to approach AI with a professional mindset, to develop AI skills that would make them competitive without bringing harm to their careers or worse, employers. After completing a litany of LinkedIn Learning courses on AI, attending webinars and conference sessions, reading articles, and completing AI certifications, I approached the Spring 2024 semester with a radically different approach. I still taught classical rhetoric, the writing process, information literacy,

documentation, and critical thinking … but with AI tools included in the process.

I had one guiding principle when making changes to course materials and assignments: I would include AI tools as long as the following were not compromised:

- The inclusion of AI tools cannot reduce academic rigor,
- The use of AI should not lead to cognitive offloading,
- AI tools should not compromise or diminish skill acquisition.

I added course materials that fostered AI literacy and revised assignments (including examples and rubrics) to include AI tools with limitations to its use and strict guidelines of attribution. My students were very receptive to acquiring AI literacy and were mostly accepting of using AI tools. However, they taught me two valuable lessons during the Spring and Summer 2024 semesters. First, they wanted the option to use AI tools; some vehemently opposed being forced to use AI tools. Second, students could become overly reliant on AI tools or needed more guidance on how to use them appropriately.

Currently, my courses require accurate documentation of AI use in assignments. Class activities develop AI literacy with decision making of appropriateness, prompt generation, human-AI collaboration. They must turn in prompts and AI-generated output. Assignments allow the option of using AI tools and examples are given with and

without AI-generated content. Rubrics have criteria to assess AI appropriateness and existing criteria has been reworded to emphasize human-value added (complexity, depth, context, etc.). Feedback is given to prompts and use of AI-generated output, as well as raising ethical considerations. Student feedback is much more positive. However, I feel like a park ranger. I tell them to enjoy themselves and immerse themselves in the AI landscape while following the "rules" listed above. If they stray from the path, I cannot be held responsible. For there are bears in the wilderness . . . and they bears are a real danger.

My journey to adopt and refine AI literacy is a solo journey. I talk with colleagues and ask how my students are faring in their courses (for which freshman writing is a pre-requisite). The response is varied. Some are interested in my students' submissions and would like to know more about how I teach AI literacy. Others are quiet. Some have told me that I am doing a great disservice to students and will be responsible for mankind's downfall. (I never realized my power.)

Thus, the next stage in my AI journey presents itself: better collaboration. I suspect that most faculty can agree on the three tenets listed above that guide adoption of AI tools. If we can begin with foundational agreements, we could collaboratively develop AI literacy for programs and colleges. Faculty should lead this collaboration.

Supporting Reluctant Faculty

By Kevin Yee

I'd seen the headlines about ChatGPT in late 2022 for a few weeks before I read any of the articles, but reading even the first one was enough to convince me to create an account and try it for myself. My heart sank. The university was closed for winter break, and I realized I just lost all my time off. As director of UCF's teaching center, I knew our faculty would need help with this BEFORE the semester began in January. I was going to have to work over the break!

I built a webpage on our teaching center's site, and tried to list some concrete strategies that would help faculty meet this new challenge. Initially, the webpage listed ways to neutralize GenAI—things like customizing writing assignments, collecting student samples in person to compare to later full-sized essays, and other "tricks." The second section was full of practical ideas for embracing AI in the classroom.

I'd gone with this dual approach because teaching centers have to serve *all* faculty. We offer workshops on the pedagogy of flipped classrooms, but we certainly don't mandate that pedagogy, and in fact we also offer workshops on lecturing more effectively. I knew there would be faculty seeking ways to oppose AI, and others looking for ways to leverage it.

It was only a matter of a few months into 2023, however, before we realized that "opposing GenAI" was going to be a losing battle, especially long-term. For one thing, the models were always improving, and they were writing more like humans seemingly every week. But even more importantly, it was clear that employers were very interested in ways AI could improve productivity, meaning that we as an institution would need to do what we can to ensure students learn AI fluency while at our university. The inevitability of AI began to win out, and our message switched to be less agnostic, and a little more tilted toward encouraging faculty to lean in.

In some ways, I'd been here before. A couple decades back, I'd been a 9-month faculty member in various German departments. Enrollments in language learning had really been on a declining path since the 1960s, but it was becoming ever more obvious that fewer students were interested. Part of the problem was the rise of online translators. This was before Google Translate, but starting in 1997, AltaVista's Babel Fish offered simple, free, and increasingly accurate translations between languages. This was a different type of AI. Back then it relied on navigating linguistic rules that had been programmed by humans, rather than today's LLMs that predict words and learn along the way. But the writing was on the wall all the same: enrollments in German classes would likely forever decline. And so, I switched to faculty development.

Now, 20 years later, I'm still wrestling with problems brought on by AI, though in this case the problem is more

about those dual faculty audiences. Most of the time in faculty development we strive to be completely neutral and non-judgmental. We offer faculty choices and research, not mandates. But it's difficult to stay neutral when it seems pretty obvious that AI is here to stay, and students will need to know how to use it.

And yet, the other side of this debate beckons again. If all of K-16 education embraced AI and made every assignment about generating an AI output and then doing something with it (enhancing, evaluating, critiquing, etc.), we'd certainly have students who knew how to co-create with AI. But they would never have written an essay from scratch. Would they be capable of the same critical thinking as students from the pre-LLM world? In short, we might well face a crisis of students not knowing the fundamentals.

Out of these musings came the core ideas of this book. AI is inevitable, but maybe we've been a bit too cynical. Maybe everyone is giving up too easily on trying to convince students to only use AI in the *right* ways, and not for shortcuts. If we can manage that, faculty might be able to continue to teach like they did before LLMs. And that brings our teaching center back to the nuanced balance we've always sought: supporting faculty even across polarized positions. Although the ideas of this book give tools to faculty who are reluctant to embrace AI in teaching, these same ideas will be useful to those who do embrace AI.

As mentioned in the introduction, we view this book as a companion to our 2023 open-source book *ChatGPT Assignments to Use in Your Classroom Today* (http://bit.ly/chatgptassignments), and our 2024 open-source book *AI Hacks for Educators* (https://bit.ly/AI-hacks). Whereas the first book offered examples of student-facing assignments that made use of LLMs, the second book provided faculty with ideas for using LLMs in their own working lives. This third text was designed to help faculty confront what may feel like an existential crisis as faculty and students continue to integrate AI into their teaching and learning.

Future Directions for GenAI

Few saw the development of LLMs making such rapid in-roads in school and work life, yet this revolution is well underway, and these environments are unlikely to ever return to practices from the pre-AI days. Nonetheless, even if we still cannot predict the long-term impacts of AI, we feel it is essential that faculty reconsider their relationship not only with the technology, but also with their students.

Learning and faculty are not in danger of disappearing from higher education, particularly if the challenges of educating in an AI (dominated?) world are met with curiosity and open-mindedness. The ambiguity of teaching in this new reality means faculty can, with the right mindset, approach their disciplines with a fresh perspective—one that frees them from the doldrums of teaching content in favor of teaching their students what

they can do with the content, exploring what business and industry are currently doing with AI and what challenges they want to overcome with the help of AI. It can be argued that faculty who embrace their new role in the world of teaching and learning will be able to develop students' awareness of current trends and practices, thereby paving the road for students to be ready contributors to their chosen field upon graduation. Small, gradual changes to our teaching and learning ontology will redefine our roles, allowing us to share our passion and our curiosity for our disciplines perhaps more now than we ever have been able to in the past.

In the immediate present, we're seeing increased sophistication among the early adopters, particularly when it comes to advanced prompt engineering. The entire concept of prompt engineering was once new for most of the population, but enough time has elapsed so that more people have started experimenting, and, equally importantly, sharing their discoveries with their colleagues.

In the short term, we'll see adoption in college gradually rise as late adopters, both faculty and students, come around to recognizing the seismic shift as permanent. Peers across all groups will be key in helping bring late adopters up to speed, but we may face a few years still of heterogenous audiences.

Our best guess for the medium-term future is that we'll see a commingling of tools, and a concomitant shift in ways of thinking about how to use AI. Partly this will be driven by

the tools themselves becoming multi-modal: rather than an LLM receiving only text prompts and dispensing only text outputs, we'll increasingly see tools that accept images and provide text analysis, or text-to-generated images, and eventually video tools (which will include text to video, but also video to text, or analysis of videos). There are important questions to answer about deepfake videos that look real but were in fact AI-generated.

The explosion of possible modalities will cause a shift in how we think about AI, and how we interact with such technologies. Rather than labor over a perfect prompt to obtain a striking AI-generated image of a colorful underwater cave, for instance, we can already turn to a different mono-modal LLM to explain our desired image outcome and ask the LLM for a text-based prompt to put into the image generator. In many cases, the LLM can write a better prompt than we can!

This is just one example of how our thinking will shift. We will continue to find ways to inject AI into our daily processes and tasks. In fact, we view it as likely that this transition to a new AI-economy is not only longitudinal, it is likely eternal. We will, now and forevermore, be in a state of learning new AI tools and re-evaluating how they might provide added value to our current processes. The one constant is likely to be the need for humans adding value, both on the prompt engineering side (asking the right questions) and on the side of evaluating AI output (putting it to use, correcting it, etc.). As we march inexorably toward the future, we will continue to see that AI will not displace humans; nor will humans overcome

the need for AI. The future of all work is humans + AI, and the field of education is no exception.

Coda

One last thought: remember the forklift metaphor? This was the idea that one must actively struggle with mental activity to gain benefit, exactly like with muscles and weightlifting. We find the comparison supremely apt for trying to convince students not to take shortcuts, so it seems fitting to return to this metaphor as our final thought. Gym membership soars at the beginning of each new year, as people make resolutions to get into shape. But we all know that the surge in exercising dies down after a while as the newness wears off and the struggle starts to feel like a grind. So, we wonder: will resolutions to embrace mental struggle similarly atrophy over time? It's a sobering thought. Even if we are successful in convincing students not to take mental shortcuts, we might have to continue the campaign *ad infinitum*; it just might become the new normal in education.

Appendix A: Staying Current

The rapid pace of advances in AI technology poses significant challenges. Literally every day, a handful of new AI tools are released, and attempting to assess all of them, let alone keep the many thousands of them separated in one's mind, is an impossible and thankless task.

Compounding this, almost all AI tools evolve over time. Seemingly every few weeks comes another major release or sub-version of the major AI tools such ChatGPT, Copilot, Gemini, Claude, Perplexity, Grok, and others. ChatGPT alone has a dizzying array of products, some of which are only available to paid subscribers. And the portfolio grows further when looking at OpenAI, the parent company of ChatGPT, which has products such as text-to-video Sora or the "agent" ChatGPT Operator.

Almost right away after becoming viral, large-language models were joined by image generators, and increasingly video generators. Other AI-powered tools that offer custom outputs, many of them useful for research, continue to add to the list of noteworthy tools (examples include Research Rabbit, scite, Elicit, or ExplainPaper).

The nature of AI changes over time. Most are moving toward multi-modal capability: upload a photo to get a text-based caption, for instance, or upload spreadsheet data to have visualizations automatically created. A near-term

goal is certainly going to be speech-to-speech interactions, skipping the entire step of typing.

The models change in other ways. More recent tools lay claim to be "reasoning" models, which have not only built-in pathways of thinking, but also restrictions to not answer right away, with the result that generated output is markedly better at solving thorny problems. Models are also beginning to operate as agents—an agent can be thought of as finding its own way toward solving a particular problem, along the way opening programs as needed directly on the computer interface. Imagine asking an agent to scan the inbox for emails that could be answered by reading the syllabus. The agent opens the email program, drafts and sends an email, all with no active participation by the human after the initial prompt.

This may all be too much for most faculty to digest in its entirety. They need curation; ideally done for them by AI champions on campus, such as those offices which support the teaching endeavor.

In that spirit, we present to you a list of ways to stay current, hoping this might be of equal interest to front-line faculty members and the support offices which serve them.

1. **Websites with news articles**. It can be useful to keep the pulse of the general public by reading websites for national news organizations or at least scanning the headlines. More directly useful are news websites with stories specifically about

colleges and universities, such as the Chronicle of Higher Education and Inside Higher Ed.

2. **News aggregators**. Some websites exist purely to pull together only AI-related articles. While these articles do not have the higher-ed focus of the websites listed above, their focus includes stories about businesses that are pursuing AI and the need for AI fluency, which will always be relevant for our students. We've found AINews a useful such aggregator: https://www.artificialintelligence-news.com/
3. **"AI in Education" Google group**. The grassroots and crowdsourced conversations here provide targeted, always-useful advice from dedicated higher-education professionals: https://groups.google.com/g/ai-in-education
4. **Join consortia and communities of practice**. Simply being part of these groups and receiving email updates, but joining monthly meetings is worth your time simply to stay current. In the state of Florida, a grassroots organization called FALCON (Florida AI Learning CONsortium) offers special interest groups on topics such as ethics, research, and AI tools: https://www.fl-falcon.org/. If your home state doesn't have such an organization, consider forming one.
5. **Host your own monthly meetings for campus stakeholders**. Whether you call it a community of practice, a faculty learning community, or just an informal AI group, you will benefit from monthly meetings. We recommend setting aside time each

meeting to review what's new at the institutional level with AI in the past month, then discuss developments and new releases in AI tools, and finally links to studies or mass media articles of relevance.

6. **Regularly post to social media**. The idea here is to note only post about your events and links to interesting stories, but also follow some key players in the industry, who will help you stay up to date. We've found particular success on LinkedIn for this purpose, but other social media outlets are fine, too.
7. **Follow podcasts and blogs**. Both technologies allow for subscription options like daily or weekly emails or using RSS feed readers to organize, collect, and keep track of subscriptions.
8. **Collect online curations**. Some offices and organizations offer curations of tools and news stories, which can be useful to check periodically. Our office curates popular AI tools here: https://wakelet.com/@UCFFacultyCenter.
9. **Set up alerts for news websites**. Google News, for example, offers free alerts that can notify you by email when your chosen keywords are in a recent article.
10. **Check in on tool aggregators**. Both futurepedia.io and theresanaiforthat.com attempt to track and collate ALL the AI tools that are out there. It can be overwhelming to browse, but this is a good place to search for certain tools by name or category.
11. **Attend vendor webinars**. Many faculty have little time to attend webinars, but those of us who

support faculty can do so, learning more about what's new and current with tools, and curating the information for faculty.

Appendix B: How Large Language Models Work

It's worthwhile to provide a brief explanation of how ChatGPT and similar tools work. There are many different types of AI, and several of them have been part of our everyday lives for years. Smartphone apps that provide driving directions are powered by AI, as of course are home assistants (Alexa, etc.) and machine translation apps that effortlessly convert English into another language, even signs and printed text as seen through the phone's camera, and vice versa. And there are many other such examples in modern life.

ChatGPT and several of its competitors (Copilot, Gemini, Claude, Perplexity, etc.) are part of a branch of AI called "generative" AI, which is a category of software that generates an output after having learned common patterns and structures. The category includes not only text but also images and even video. Those that focus on text are called Large Language Models (LLMs). LLMs can generate text because they have absorbed billions or even trillions of pages of text, often described as having been "trained on" the material. This could include parts of the internet, published books, academic articles, and almost any printed and digital material deemed relevant for a broad audience. Ultimately, exactly what an LLM has been trained on remains a black box mystery, as few of the companies have been forthcoming with details. ChatGPT is so named because it's optimized to provide a conversation ("chat")

that optimizes its generative pre-trained transformer ("GPT") training.

LLMs are essentially word-predictors. Based on all those prior examples of recorded text, they have a good idea of the next logical word in any given sentence. Thus, these systems don't actually think. They don't even comprehend the meaning of their words, leading some scholars to compare LLMs to parrots—they can mimic speech, but don't understand what they are saying. Therefore, everyone from educators to students needs to remember that these word predictors are not answer-generators.

Or to put it more accurately, LLMs **can**—and almost always will—generate answers, but they are not always accurate. In the rare cases one of the LLMs refuses to offer an answer, it will claim to not have access to the most recent events or what's current on the internet, or it will offer a rationale why it should not generate an answer for a particular query. But if it does provide an answer, it will deliver its response with verisimilitude and with absolute certainty.

It's understandable why users might accept LLMs' explanations and arguments since they are usually delivered without the slightest hedging or trace of hesitation. Yet its answers are not always trustworthy. Since they not accessing a database of information known to be true, but merely generating "plausible next words," LLMs sometimes invent (a.k.a. "hallucinate") facts and details wholesale, and baldly assert them as if they were true. Fans of the board game Balderdash will recognize a

similarity—like players in Balderdash, LLMs try to convince their audiences that they have provided true definitions. At the same time, while LLMs should be potentially distrusted when it comes to factual information, academic citations, and specific quotes, they are quite good at brainstorming and ideation, particularly when creating lists of sub-topics or bullets that relate to a given prompt.

Appendix C: AI Fluency

Clearly, students will need new skill sets in the future to meet the challenges of future workplaces. Much has been accomplished toward career readiness through the efforts of the National Association of Colleges and Employers (NACE), particularly through the definition of eight core competencies: career and self-development, communication, critical thinking, equity and inclusion, leadership, professionalism, teamwork, and technology.

We first defined AI Fluency in our 2023 open-source book *ChatGPT Assignments to Use in Your Classroom Today* at http://bit.ly/chatgptassignments. Since then, we've updated this definition and now view AI Fluency as consisting of five components:

1. Understanding how AI works
2. Deciding when to use AI (and when not to)
3. Applying effective prompt engineering methods
4. Displaying digital adaptability
5. Adding human value

These components are, in our view, broad enough to capture AI Fluency for not only ChatGPT and all LLMs, but also extend beyond GenAI to other types of AI as well.

The first component, understanding AI, is important because there are different branches of AI—each with its own strengths and weaknesses—and one must understand the AI currently being employed to fully grasp its

capabilities. LLMs like ChatGPT, for example, may be prone to hallucinations, but this is not true of every type of AI. Artificial intelligence tools of the future may not construct output in the same fashion, so it's important to have a minimal understanding of how the AI tool at hand creates its output.

Deciding when to use AI and when not to is the second component. An experienced AI user must exercise sound judgment about the output of a particular AI. With LLMs, we know that it's neither safe nor ethical to copy its output wholesale and represent this text as something created by an individual. There are also ethical issues of ownership and copyright, including the works of deceased creators. On the other hand, some uses of AI may be warranted, or even desired. For example, instructors may assign students to use LLMs to brainstorm ideas or use it themselves to assist in creating an assignment.

Because AI doesn't have the lifetime of experiences a human does, it is extremely poor at reading between the lines or knowing what an imprecisely worded question is actually asking. Therefore, our third component to AI Fluency is creating effective prompts that elicit useful or desirable output. As the common phrase goes, if you put garbage in, you'll get garbage out. We need to think about prompts (the question posed to the AI) in ways that are systematic, intentional, and deliberately plotted. While some disciplines already train students to think with these methods, especially about the architecture of programming or arguments, many do not. Prompt engineering is in

many ways a discipline unto itself, and we all need to become better at it.

The fourth component is digital adaptability. We recognize that artificial intelligence will continue to evolve; in fact, many believe its evolution and advancement will accelerate over time. As a result, people will not stay fluent if they are habituated solely to the one AI system they know. There will assuredly be future AI products, and these need to be approached with an attitude of curiosity and optimism, or at least not with reluctance, irritation, or resignation that yet another new system needs to be learned. We will all need the kind of disposition that welcomes lifelong AI learning and the flexibility to keep our attitudes positive as we embrace ongoing AI change.

A truly critical skill, especially with ChatGPT and its hallucinations, is the ability to analyze and evaluate AI output, and in the process add human value, which is our fifth and final component of AI Fluency. We are increasingly seeing deepfakes in images and videos concerning public figures and celebrities, such that one truly should not trust one's eyes when viewing digital images. We know that LLMs invent facts, names, and publications, and it does so with such confidence as to border on chutzpah. Users need to remember to approach AI output of *all* types with appropriate skepticism, a skill we likely need to develop further. Because AI can already automate so many tasks—and because future artificial intelligences will continue removing human agency from additional processes—the only employees needed in the

workplace of the future are ones who can add additional value to what the AI creates. This might look like correcting the AI output or applying/integrating it into other systems and processes that the AI cannot perform. After all, if workers CAN be replaced by AI, arguably they deserve to be. Future workers need to be "better than AI" to compete in the marketplace, and it's our duty as educators to get them ready for that future.

Appendix D: Ethical Use of AI by Faculty

Just as faculty expect students to be transparent and ethical with AI tools—and to avoid any unethical practices—we should hold ourselves to the same high standards. Unfortunately, the easy comparisons end there. With students, it's relatively simple to see the dividing line between ethical and unethical use, particularly if students are told on the syllabus exactly where to draw that line in a particular class. Faculty use of AI comes with fewer clearly delineated lines of usage.

Here are just a few questions we might need to ask ourselves about faculty use of AI:

- The parent companies of some LLMs are facing lawsuits because the models appear to be capable of reproducing the style of living authors, implying copyrighted works were ingested without permission. Does this taint our use of LLMs for teaching or research purposes?
- Is it always okay to use AI-generated images over ones found via online image searches? Does it change anything if the AI was "trained" on copyrighted images without permission?
- Is it wrong to use LLMs to generate class/teaching materials if my own policy is that students can't use LLMs at all?

- If we embrace AI to its fullest extent and "lean in" to it not just for faculty usage, but also interwoven into student assignments, are we possibly short-changing them on an education in the fundamentals that doesn't use AI at all? And, if we do assign assignments that require AI tools, how can we ensure that use remains equitable for students who lack digital access or resources?
- How much AI assistance is "too much" when it comes to writing recommendation letters, drafting an employee's annual evaluation, or student grading?

One thing is clear: it would be unethical to use AI in any form or fashion without full transparency (or, put another way, it's only ethical to use AI when clearly communicating where and how you've used it). Even invisible brainstorming and outlining needs to be disclosed. As mentioned in the introduction, in this book we only used LLMs to brainstorm topics in the outlining phase.

We might be tempted to draw a similar conclusion about the ethics of evaluation, but the lines are blurrier here. On first glance, it might seem innocuous enough to ask an LLM to create a first draft of a recommendation letter for a graduating student, especially if you plan to heavily edit the original AI output, but if you don't change every sentence, then part of the "evaluation" will have been written by a machine that never met this student. This is especially problematic because evaluative documents have consequences. Your former student might not be accepted

to medical school; or your colleague at another institution might be denied tenure. Someone you supervise at work might not get this year's raise.

The ramifications of AI-guided grading might not seem immediately obvious, but the implications are sobering. If AI tools become reliable enough to replace humans in grading, it could have grave consequences for staffing levels within academic departments.

About the Authors

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Anastasia Bojanowski earned her Master of Arts in English (Literature) and Master of Arts in Instructional Design & Technology (eLearning). She has taught first-year writing courses for 24 years and started to revise her courses in Spring 2023 to teach AI fluency. She works collaboratively with students to engender confidence in adopting AI skills and awareness of ethical considerations with AI. She is now an Instructional Specialist at UCF's Faculty Center for Teaching and Learning and teaches a six-week AI Fundamentals course to faculty.

Our previous open-source books about AI:

ChatGPT Assignments You Can Use in Your Classroom Today (2023)

AI Hacks for Educators (2024)