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Generative AI has Arrived. What Does this Mean for Teaching and Learning at UVA?

Report of the Generative AI in Teaching and Learning Task Force
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Generative AI is transforming higher education. In the spring of 2023, faculty and students grappled for the first time with how generative AI can shape *what* students learn, *how* they learn, and how their learning is *assessed*. Even across the short space of the spring semester, companies rapidly developed the accuracy, availability and usefulness of generative AI. As the capabilities have increased, student use has also increased: 42% of student survey respondents (n=504) reported using AI for coursework in some fashion by mid-spring 2023. For the University to continue to excel at its core mission of developing responsible leaders and professionals, the University must respond to the challenges of today's AI, and it must also begin to prepare faculty to manage and use tomorrow's yet-unknown AI capabilities.

Paradoxically, ubiquitous access to generative AI has the potential to allow students to learn far more than they did last year, but also means that they could learn far less. For example, on the upside, high quality individualized tutoring has the capability to increase student learning in many subjects. On the downside, AI can function as an undetectable and endlessly customizable paper mill, undermining learning across Grounds. To realize the potential gains to student learning that integrating and leveraging AI offers, the University should build an infrastructure and culture that prepares faculty and students for continued transformations in the long term. More immediately, we should provide guidance that faculty can use as they prepare for the upcoming academic year.

Amidst the changes that AI has brought (and will bring) to UVA, there is continuity. The University's mission to develop responsible citizen leaders endures. Students will continue to come to Grounds to understand themselves and the world, for training to enter careers and serve the public, and to find meaning. The science of how students learn remains the same, even if pedagogical tools are changing. Most of our core learning objectives, the knowledge, skills, and character we seek to help our students develop, will remain at the core of our courses.

But while the mission and goals endure, the journey from this side of the AI challenge into the future and (perhaps) to a new status quo will be bumpy. For students to learn and flourish in the new reality generative AI has brought, the University must adapt. The bulk of these efforts will inevitably fall on the shoulders of faculty members who must rapidly understand a unique (and soon to be ubiquitous) technology, grapple with its implications for their course goals, teaching strategies, and evaluation techniques, and develop methods for seizing gains and mitigating losses, all in the midst of continuing

and rapid AI innovation. The generative AI challenge to teaching and learning is like few disruptions seen before.

This report provides an overview of the challenges to current classroom learning at UVA. Having articulated the challenges, we then discuss how some other universities have responded, before suggesting responses UVA could take this summer *and* looking ahead to the longer, systemic investments required to continue on our journey to be the best teaching and learning university in the nation. This report is informed by the Task Force's direct engagement with approximately 300 faculty across six town halls, 685 survey responses (from 181 faculty and 504 students), engagement with external resources, and the expertise of the committee.

This report is limited in scope to generative AI's impact on teaching and learning at the University. It focuses on large language models (LLMs) like ChatGPT, Bing, Bard, Claude, etc. We agree that generative AI has profound implications not just for how students learn but also for our democracy, economy, and social relationships. Generative AI programs are increasingly powerful tools for producing visual art, film, and music. We hope that many classrooms at UVA will engage these field specific impacts but we leave that work to others in order to focus on the challenge of how learning happens in our classrooms. Finally, generative AI also has the capacity to affect how the University pursues research, conducts operations, performs institutional analysis, and develops its technology infrastructure. The University will convene others to determine AI's impact in these and other areas.

Brief Overview of Generative AI

Since OpenAI released ChatGPT (running on GPT 3.0) in November of 2022, generative AI has become the most rapidly adopted technology in human history, rocketing to over 100 million users in just two months. Multiple companies have entered the race for market share, driving innovation and niche performance. The power of these predictive algorithms lies in their ability to interact with users through natural language, to synthesize large amounts of information, and to produce writing and analysis that humans respond to favorably. While these models were not built to transform the education sector, from their release, scholars across the nation have raised the alarm about how students' use of them could undermine current learning and evaluation practices.

While skeptics lampooned early models for frequent "hallucinations," [updated models are better](#) and are [passing many professional exams](#). Performance, availability, and integration into other programs continue at a rapid pace with Microsoft indicating that generative AI will soon be standard in Microsoft 365 products. Dozens of companies are innovating specifically in the education space by building LLM-based apps and plugins. These apps and plugins are just emerging, but they will quickly require more faculty to consider how students use LLMs as they move beyond text generation and become [more computational](#) and able to [execute business analyses](#), [academic research](#), and [quantitative work](#) in ways that only the most informed faculty have begun to wrestle with.

Generative AI's Impact on Learning Across Three Domains: Learning Goals, Learning Experiences, and Learning Assessments

Starting this fall, student learning will take place in a world where AI is <u>undetectable</u>, <u>ubiquitous, and transformative</u>. Generative AI will affect courses (and curricula) across three domains:

1. what students learn,
2. how students learn, and
3. how learning is assessed.

Understanding AI's impact in these three domains is an important first step in grasping the challenges and opportunities this technology presents.

AI's Impact on *What* Students Learn:

Generative AI is shaping course (and curricular) learning goals. Across every field, faculty are working to determine what AI-specific knowledge and skills should be included in their learning goals and whether there are field-specific learning goals that should be revised or removed.[1]

Content Impact 1: Learning How AI Works: Many faculty are considering adding elements of AI literacy as learning goals. To understand AI's uses and limits, students need a rudimentary understanding of how the technology works; an understanding of how, when, and why to trust or distrust the outputs; and a grasp of a range of ethical issues concerning the biases that can emerge from how AI is trained and this technology's implications for data privacy and intellectual property. UVA faculty expressed nearly unanimous support for ensuring that students develop AI literacy. They also expressed widespread skepticism about whether they were equipped to accomplish this in the near term.

Content Impact 2: Learning AI Specific Skills: Inevitably, students will use AI. Students will use AI most effectively when they delineate which tasks they alone should do (e.g. meaning making), which could be delegated to AI with tight oversight (e.g. editing), which could be done in collaboration with AI (e.g. ideation), and which could be done exclusively by AI (e.g. graphic design). AI is most effective <u>when students use specific strategies in specific situations</u> to generate results. Students need to learn how to use AI effectively, and faculty are in the best position to provide this guidance for their respective disciplines.

Content Impact 3: Potential to Learn More Widely: Used properly, AI can help students learn core material more effectively and efficiently. For example, AI can provide additional instruction through direct inquiry (like a conversationally driven Google). Users can prompt it

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[1] As discussed above, generative AI will have a profound impact on many (all?) fields. Just a few examples include <u>the arts</u>, <u>employment opportunities</u>, <u>social relationships</u>, <u>how teachers teach</u>. This report leaves these field specific goals aside and focuses on teaching and learning impacts that span classrooms across Grounds.

to explain ideas at different levels of complexity (e.g., "explain string theory to me at a middle school level, high school level and college level"). And AI can serve as [a powerful and effective tutor](#).

If students can achieve a higher level of understanding and skill using AI, then faculty may choose to have students engage more deeply with existing course content or to expand their course goals. [Faculty at other universities are already demonstrating](#) that, through the use of AI, students can engage in more complex tasks. In one study of the professional world, [coders moved through projects at more than twice the usual speed when using AI tools](#).

Content Impact 4: Writing as a Skill: To help students learn to engage productively with AI as a writing resource, instructors may need to reassess the kinds of writing skills they want students to develop in their courses. Faculty use writing as an activity in nearly every course on Grounds, not only as a mode for student expression but also as a method to have students engage in sustained thinking on a topic. Writing assignments prompt students to think through problems and help them to develop analytical skills, consolidate information, and deepen their engagement with ideas. Writing is one means of developing key disciplinary and professional habits of mind (ways of reading and reasoning). For all these reasons, while AI can be a productive [collaborative writing tool](#), improper use of AI tools or overreliance on them can jeopardize the achievement of important learning goals.

Faculty are grappling with how to teach writing and for good reason. According to our survey data, 42% of UVA students are currently using generative AI in coursework: 32% percent are generating ideas for their assignments using AI; 23% are generating outlines; 25% are generating text they include in assignments; and 19% are using generative AI to edit writing assignments.

AI's Impact on *How* Students Learn

AI is already affecting how students learn at UVA, and today's students will enter a world where AI is increasingly ubiquitous. To preserve teaching effectiveness and relevance, learning designs should be responsive to this new reality.

Learning Design Impact 1: Writing as a Means to Engagement with Content: Generative AI can short-circuit learning: students can outsource the work of research, analysis, and writing to these tools. Yet if we help students *write with* AI in deliberate, meaningful ways, these tools can become powerful writing partners for students and can augment their learning. AI can aid writers in [generating new ideas](#), providing samples and models to follow, offering generalized feedback, helping writers get unstuck, and assisting in the editing process.

Learning Design Impact 2: Problem Sets and Other Homework: AI's abilities are quickly expanding beyond writing assignments. As LLMs connect to more quantitative plugins and

data sets, the connection between submitted homeworks and learning will be broken in an increasing number of classrooms around Grounds. Students will use LLMs in more and more settings as the tools become more computational and able to execute business analyses, transform data sets into academic papers, and generate and test data-driven hypotheses.

Learning Design Impact 3: AI as Tutor: When all students have equal access and training, AI has the potential to increase equity by providing on-demand supplemental instruction. AI can support learning through access to a personalized tutor, via formally developed LLM apps like Khan Academy or skilled prompting by students using LLMs. 32% of UVA student respondents report already using AI as a study tool with 19% using AI to study regularly or all the time. They do so with good reason: it can be extremely effective. Faculty would do well to discuss this use of AI with students, but currently only 4% of faculty regularly encourage students to use AI tutors.

However, this student strategy carries a cost: it may contribute to an increasing disengagement from instructors. Why ask a question in class or during office hours if AI can help you learn and can do so without revealing your academic struggles to your classmates or professor? As several faculty in our survey mentioned, students often benefit from office hours in unforeseen ways: e.g., they come to office hours thinking they have one issue to discuss (mastering a particular concept, say) but end up discussing a different one (perhaps ambivalence about their career choice). This lack of connection is surely a loss.

Learning Design Impact 4: *Deliberate incorporation of AI*. Some faculty are incorporating AI into their assignments. For example, some faculty have students critique AI generated essays (which provides students' opportunities to demonstrate they understand the assignment and develop skills as an editor). Others allow students to use AI on assignments and discuss the pros and cons to such usage. Faculty are open to incorporating AI into their classes with 60-70% reporting that they would use AI in specific assignments.

Learning Design Impact 5: Students Will Read Differently Than Previous Students (and Faculty): LLM add-ons and plugins are transforming students' reading experiences. Students can upload papers into AI apps like ExplainPaper or SciSpace and ask for Cliff-Note like summaries, engage with the AI to ask questions about the text, and more. The LLM Claude can now do this work with full length books.

This raises profound questions about the purpose of reading: what role does reading serve in shaping not just what we know but how we think? Quick summaries of readings cannot provide the nuance and deep engagement with the materials that conventional reading practices provide. As our students' habits of mind are increasingly shaped by AI use, their experience will increasingly diverge from the experiences of faculty whose ways of knowing were shaped in a pre-AI world.

Learning Design Impact 6: Students need clear guidelines for how and when generative AI can be used. Each of the sections above points us to this. In the spring 2023 semester, 77% of student survey respondents reported that their instructors did not make their AI policies clear to them. In designing learning experiences, instructors must be transparent about how and why AI may, should, or may not be used in the course and in specific assignments. Clarity is key to avoiding misunderstandings and to providing parameters relevant to the Honor Code.

Learning Design Impact 7: AI as instructional design aide: While much of the focus in this section is on how students engage in the learning experiences that faculty design, generative AI has the potential to help faculty create better learning experiences with less work through improved examples, quickly generated assessments, and course outlines. With proper prompting, generative AI can serve as a tutor for faculty as well as students. Faculty can have AI evaluate and suggest improvements to syllabi, lesson plans and assessments, including ways to enhance the accessibility of these documents. As of mid-spring semester, only 5-10% of faculty survey respondents report using AI regularly as an instructional design aide.

AI's Impact on *Assessing* Student Learning:

How and what students learn is shaped by the ways that faculty assess student learning. As delineated above, many traditional assessment methods have (and will) become less effective at driving and measuring student learning, particularly as AI becomes more reliable, analytically powerful, and ubiquitous.

Evaluation Impact 1: Changing Assessment Modalities. Many faculty are considering moving their assessments back to in-class, pen-and-paper exams and away from take-home or digital work, in part because they are concerned that students are using AI in ways that violate the Honor Code. (Only a 27% of faculty survey respondents believe that students are restricting their use of AI to ways that comply with the Honor Code.) Moving assessments to restricted domains eliminates AI use but has drawbacks: more flexible assessment strategies promote accessibility and more easily accommodate frequent, low-stakes assessments that can enhance learning and equity. Additionally, relying on pen-and-paper assessments can introduce a gap between assessments and the tools of professional practice.

Evaluation Impact 2: Policing AI. In the face of the AI challenge, many faculty members will engage with tools that purport to detect AI use by students. Although this impulse is natural, these tools are notoriously unreliable and hence using them is usually counterproductive and can be risky. The committee sees little chance of the detection tools improving, despite the promises of marketers. The policing impulse needs to be balanced with a curious and collaborative stance that would help faculty understand the pull of AI to students and help students understand why faculty prohibit or limit AI use when they do.

Evaluation Impact 3: Using AI to Assess and Evaluate Student Learning. While only two 2% of faculty respondents reported using AI to evaluate student work, AI impacts the work of assessment. LLMs can score and give feedback on a student submission by submitting the work and (if so desired) criteria and/or a rubric.[2] There is not yet research on the efficacy of LLM grading, especially in comparison to a graduate teaching assistant. As LLMs continue to develop, the pull for faculty to use LLMs to grade will increase.

Obstacles to Timely and Effective Change

There are headwinds working against fast and effective actions on AI. These are worth noting before considering the actions the committee recommends.

Headwind 1: Limited AI literacy. Many instructors are unsure about how AI will impact their courses, and few have been equipped to think systematically about the challenge. The faculty members who attended town halls or took the survey are likely to have a particular interest in addressing this challenge. Committee members regularly engage with other University faculty who have declined to engage with generative AI at all.

Headwind 2: The challenge itself is not yet set. Generative AI itself is evolving and improving quickly. Even across the spring 2023 semester, the base models have improved dramatically and a plethora of plugins are now available that make AI more effective at specific tasks. These tools will also be embedded in Office products and Google tools in the near future, further expanding the reach and ease of access.

Headwind 3: Faculty may not feel prepared for or capable of reassessing their teaching goals and methods. Faculty members are trained first and foremost to be scholars. Many would (rightly) lament their lack of graduate training in the scholarship of teaching and learning (SoTL), a field that has only truly blossomed in the last decade. Effective responses to AI require a "return to pedagogy", where faculty reconsider the tasks they ask students to engage in, focus anew (or for the first time) on core learnings, and design learning experiences and assessments that move students towards learning outcomes in effective ways.

Headwind 4: Some faculty see only the downsides of AI: Perhaps because of this lack of pedagogical training, too few faculty are looking at the upside of generative AI for student learning. In the committee's engagement with faculty, relatively few discussed the potential of AI to enhance learning. This represents an important opportunity. The faculty who are thinking of potential benefits of AI envisioned covering more material, freeing time to foster critical thinking and dialogue through a more effectively flipped classroom, further engaging in community-based learning, embedding multimedia tools through student use of generative

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[2] Faculty can even purchase a script that facilitates using ChatGPT to grade Canvas submissions in mass.

AI in visual and auditory domains, and engaging students more in their values and personal development.

Headwind 5: Faculty and students do not believe that Honor is deterring illicit AI use. Ideally, the Honor code would provide a unique tool to manage the downside risks of AI at UVA. However, only 27% of faculty respondents and 23% of student respondents believe that students who are using AI are doing so in ways that comply with the Honor code. This lack of trust will likely discourage some faculty from using learning and assessment strategies that rely on student integrity. It also raises the risk that faculty will turn to unreliable AI detection tools, with the negative consequences elaborated in *Evaluation Impact 2* above.[3]

Evidence that Change is Already Underway

While there are significant headwinds, there are also faculty across Grounds working to secure positive outcomes in the fall 2023 semester. Core pedagogical programs (the Course Design Institute, the Faculty Seminar on the Teaching of Writing, New Faculty Orientation) now include sessions on teaching in the generative AI world. Some units, including Batten, Law, and the Center for Teaching Excellence (CTE), have offered workshops and other opportunities for faculty to learn about AI's implications for teaching and learning. This committee engaged nearly 300 faculty across six town halls in spring 2023. Many faculty are interested in and using the technology, and about 70% of faculty survey respondents are open to students using generative AI in some assignments.

Other Universities are Taking Action, But Few Are Taking Transformative Action

Every university in the nation faces these same challenges. Thus far, peer institutions have demonstrated four types of responses to the emergence of generative AI in education:

1) panels or conversations engaging students and faculty,
2) websites providing guidance and resource,
3) major investments, and
4) curriculum changes.

Institutional Response 1: Panels and Workshops: Many institutions have organized interactive panels, meetings, roundtables, community conversations, and listening sessions to engage faculty and students. These initiatives seek to gather valuable insights, encourage discussion, and provide opportunities for knowledge exchange. Some institutions have also sponsored events that are more instructional in nature, such as panels with experts and workshops.

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[3] Interestingly, prepublication data shared by a private firm shows that students are more likely to violate AI rules once they have used the technology, indicating that this number will likely increase as more students engage with AI in the classroom.

Institutional Response 2: Websites with Guidance and Resources: Most schools have developed static guides or landing pages through their centers for teaching (e.g. [Berkeley](#), [Pittsburgh](#), [Northwestern](#)). These resources are designed to enable faculty to make informed decisions about their approach to AI, and encourage them to incorporate this technology into their teaching in thoughtful ways.

The guides typically begin by providing background information on ChatGPT, including its capabilities and limitations. They then offer ideas on how faculty can adjust their assignments and course designs. Common suggestions include clearly delineating the appropriate and inappropriate uses of ChatGPT, articulating the pedagogical purpose of assignments, scaffolding assignments, and promoting critical engagement with ChatGPT as a tool.

These guides tend to be limited in two ways. First, they focus on ChatGPT and largely ignore other educational apps built on top of LLMs and the newly released plugins for existing LLMs. These other apps and plugins dramatically expand the impact of generative AI on teaching and learning. Second and relatedly, they are almost exclusively focused on writing assignments and do not address the impact of generative AI for other kinds of assignments.

Institutional Response 3: Major Investments. A few schools have taken on the generative AI challenge with university-wide initiatives that aim for transformative change. For example, [Emory's AI Learning Center](#) will begin programming in Fall 2023 with the goal of promoting AI literacy across all schools and units. The center's core programming includes short courses and workshops throughout the year, covering a wide range of topics related to AI literacy and advanced applications. The center also collaborates with Emory libraries and offers staff desk consulting to provide additional programming and resources, fostering a supportive environment for staff, faculty, and students to navigate AI and to expand AI-related curriculum and research activities.

[Stanford University has taken a different approach](#) by providing seed funding for research and design projects on using AI for education, inviting proposals for funding up to $100,000. Their request for proposals encourages projects that either design prototypes of AI-based learning interventions or empirically evaluate generative AI in educational contexts. This initiative recognizes the rapid advancement of generative AI and aims to prepare for future developments through expert research and adaptation.

Institutional Response 4: AI as core competency: In addition, a select number of schools, including the University of Florida and Furman University, have embraced AI as a core learning competency, infusing AI literacy into their curricula across various disciplines.

Recommendations

The committee recommends a number of institutional initiatives in the 3-12 month timeframe. Effective action now could yield significant returns by helping professors understand the potential of generative AI and make smart choices that increase the chance that AI will be managed in ways that preserve and enhance learning.

In the short run, the University should pursue both centrally run and local initiatives to equip faculty with background, strategies, and resources. In the long run, it should continue to build a culture of innovation around teaching; build and leverage the expertise on this topic in the CTE; and encourage programs and units to think about AI at a curricular level, rather than simply leaving each faculty member on their own. We divide this work into three categories below.

Professional and Instructional Development for Faculty

Summer 2023: The immediate focus should be on developing resources for faculty who are grappling with how the advent of generative AI may or should change their teaching strategies. Because faculty are primarily responsible for course design, the onus to adapt to the presence of this new technology will inevitably fall on them. The University should provide faculty with resources that will enable them to respond to these technological developments thoughtfully and effectively.

> *Centralized Effort 1*: Develop and publicize a "Teaching in a Generative AI World" website.
> The first and highest priority is to develop a centralized website.[4] This website should provide information about generative AI's impacts on student learning and offer practical guidance for faculty. Specifically, it should provide:
>
> (1) a brief background to generative AI,
> (2) guidance for anticipating how students will use AI,
> (3) suggestions for revisiting the learning goals of their courses, and
> (4) concrete strategies for teaching in a world where students have access to generative AI.
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> Ideally, the website would include examples, engage with AI capabilities beyond writing, and provide step-by-step guides where appropriate.[5] These resources should be ready before the Spark program that introduces new faculty to teaching at UVA (August 9-10, 2023).

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[4] The committee recommends that this be developed as a part of the CTE's Teaching Hub with links from the Provost's generative AI website.

[5] For example, the website might invite faculty to: (a) Tackle one of your assignments using an AI platform of your choosing; (b) try to emulate how students might use AI to prepare for an exam in your course; (c) adapt one of several example syllabi statements with different levels of AI use.

Over time this website might be further built out with discipline-specific subsections and informational videos (like those launched during the pandemic).

Centralized Effort 2: Build and launch an AI-centered "Assignment Design workshop". While new faculty will get some exposure to AI-aware teaching, the University should provide a workshop open to all faculty.[6] Alternatively, the University could invest in an asynchronous online course (like Auburn's) but we feel this would be less effective in attracting faculty.

Centralized Effort 3: Develop a University-wide AI workshop series to launch in the fall. The University should launch a series of open enrollment AI workshops similar to the one offered before the spring semester in January of 2023. The workshops could begin with a generative AI and teaching overview, shift quickly to a general overview of assessments, and then focus in on different topics that would engage faculty from across schools on similar subjects (e.g., AI and coding; AI and writing; AI and visual arts).

Centralized Effort 4: Build expertise in this area in the CTE. Experts would be tasked with staying current on AI advancement, developing strategies for AI aware teaching and learning, generate and maintain up-to-date AI resources, offer workshops, and be available for consultations (similar to an initiative at Emory). These experts could be supported by student reviewers who work with faculty to help them understand and explore AI impacts on their courses and implement strategies for change.

Centralized Effort 5: Offer programs for graduate students and postdocs with instructional responsibility: The University should ensure that appropriate AI resources are available to graduate TAs, graduate instructors, and postdoctoral scholars with instructional responsibility. This may mean inviting some of these populations to participate in faculty programs and incorporating AI-aware teaching into the Office of Graduate and Postdoctoral Affairs programs such as Tomorrow's Professor Today and PhD+.

While centralized efforts are important, the University should also consider decentralized efforts.

Decentralized Effort 1: Recruit faculty to launch AI-centered learning conversations within departments. The University or schools could recruit faculty from across departments to run "lunch and learns" across Grounds. These faculty would instigate learning and discussions of AI in their departments/units, leveraging their relationships to reach faculty who do not regularly attend centrally run events. The University or school might cover the cost of lunches and provide a small stipend for the faculty member.

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[6] The University of Mississippi offers an AI Summer Workshop, though theirs is specifically for teachers of writing.

Decentralized Effort 2: Fund a special call for AI-related Thrive Grants. The University could provide a one-time infusion to the [Thrive Grants](#) program, which supports teaching and learning experiments conducted by faculty. Priority funding would go to high-impact proposals that generate AI-focused interventions and data for large classes, program curricula, AI-focused curricular redesigns, AI-informed scholarship on teaching and learning, or unit-level teaching and learning work. This program would kick start research on AI and learning ([similar to the Stanford Model](#)). *Note: this effort may need to await completion of Policy Change 1 (below).*

Decentralized Effort 3: Build out the Central Website. Strengthen the centralized website by further developing field-specific AI learning techniques curated by specialist faculty (e.g., exemplar assignments; syllabi; lectures), adding new materials as AI technologies evolve, and build out multimedia resources similar to those in the "[Small Changes, Big Impact](#)" series.

Decentralized Effort 4: Consider a teaching and learning conference. The University should consider offering a spring teaching and learning conference focused on convening faculty to consolidate learning about AI and teaching across Grounds. While CTE's *Innovations in Pedagogy Summit* would be a natural home, this conference could be sponsored by the provost's office and/or co-hosted by two or more schools.

Changes in Policy to Support Faculty and Students

Policy Change 1: Clear guidance from IT staff on AI use: It is imperative that the University provide clear guidance to faculty regarding how generative AI can and cannot be used in teaching and learning. The University should have an answer for faculty who ask questions like

- "Can I use AIs plagiarism checkers?"
- "Can I use generative AI to assess or evaluate student work?"
- "Can I require students to get generative AI accounts and use these tools in coursework?"
- "Can I use class or research funds to purchase ChatGPT Plus for student use?"

This guidance should be in touch with the reality of how students and faculty use generative AI tools. If it is not, then there is a danger that [the guidance will be widely violated](#), and that the use of these tools will be inequitable and misaligned with University values.

Policy Change 2: Encourage each school to create a plan for how their curricula will adapt to the new pedagogical possibilities of AI. The AI challenge belongs not just to the university or the individual faculty member. It is also a curricular challenge. Given the importance of AI literacy, units would do well to consider including AI-specific knowledge and skills as a general education requirement. The University should encourage each school to consider the processes through which they will make school-level and program-level decisions about

whether and how to include AI in their curricula and their pedagogy. Consideration at levels higher than individual courses will help to ensure that our curricular and pedagogical strategies are cohesive, informed, and equitable.

Policy Change 3: *Encourage school/unit mandated AI syllabus statements*: Students report that only 23% of their classes had clear AI statements this spring. This creates uncertainty for everyone involved and drives poor outcomes. Every school would do well to have a policy requiring each syllabus to draw clear lines on AI use in the course. These statements should be direct about students' use of AI to generate ideas, produce outlines, create code or fully written text, etc. A clear policy in each syllabus is crucial for students to understand the requirements of academic integrity, and hence to recognize what constitutes a violation of the Honor Code.[7] Encouragement and oversight by the Deans is key to the success of this change.

Structures and Systems for Faculty and Students

Structure 1: The University should devise a strategy for managing AI enterprise licensing: Many faculty have expressed concern that, currently, students' access to generative AI is inequitable. While AI may soon be available via existing enterprise platforms (Microsoft 365, Google Suite), it is important that the University evaluate AI solutions holistically to ensure that students have equal access to high quality and ethical AI tools that are widely used by students for core learning. Additionally, the University should weigh the tradeoffs of centralized vs decentralized ownership of AI enterprise licenses, especially with respect to cost-effectiveness, equity, and legality/privacy.

Structure 2: An articulated strategy on who is responsible for monitoring the AI challenge and UVA's AI response strategy in AY 2023-24. The University would do well to assign the responsibility for developing and shaping AI strategy to a specific entity on Grounds. A person or unit should be responsible for understanding how AI is shaping learning in UVA classrooms and how faculty understanding and tactics are evolving; for gathering and disseminating information about new ways that AI can aid teaching and learning; and for advocating for changes to related policies or practices as appropriate. These responsibilities could be assigned to the Provost's office, the CTE, or an ad hoc committee made up of representatives from a number of stakeholders such as the CTE, the Writing Center, the schools (especially the School of Data Science), the Vice Provost for Online Education and Digital Innovation, the Library, etc.

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[7] This is an opportunity for a broader discussion of syllabi requirements at UVA. UVA's current policy on syllabi is extremely austere, requiring only that syllabi be available on the first day of class and that changes be made in writing.

Conclusion

The committee urges the administration and the faculty to consider this transformational moment as both a challenge and an opportunity. Given generative AI's capabilities and availability, faculty can and must evaluate which learning goals, learning designs, and assessments remain effective, which need to evolve, and which should be abandoned. To do so requires significant faculty effort and administrative support. But to not engage in this work is to risk that students learn far less than they did last year and to leave the potential gains of this technology unrealized. This is a unique moment, and every faculty member should engage in an AI-aware course design process as they prepare for the fall 2023 semester.

This moment can also serve as an inflection point for the broader teaching culture at UVA. As the saying goes, "never waste a good crisis." Faculty will be most successful in this moment if they engage in structured thinking about how their course designs and teaching will evolve. The University should capitalize on this window of opportunity by helping faculty understand the challenge, providing opportunities for faculty to engage in structured thinking, and guiding and supporting pedagogical innovation to advance our mission of developing responsible citizen leaders and professionals.

Appendix A: Qualitative Themes from Town Halls and Survey

Between March 17 and April 14, 2023, the task force led six town hall meetings, and all faculty, instructional staff, and students at the University were invited to participate. The purpose of these town halls was to provide an overview of generative AI technology and explore its potential applications in teaching and learning. A total of 307 community members (primarily faculty) actively engaged in these sessions, contributing to valuable discussions on the implications of generative AI. To ensure productive exchanges, the town halls included breakout rooms, allowing participants to delve into specific topics of interest. Throughout the discussions, detailed notes were recorded in shared documents. Task force members subsequently analyzed these notes to gain deeper insight into the responses of faculty and students towards the integration of generative AI in academia.

In addition to the Town Halls, the task force conducted a comprehensive survey across the University to gather further input on the intersection of generative AI and teaching and learning. The survey received a total of 685 respondents, including 181 faculty/instructors and 504 students. The qualitative responses were integrated with the analysis of the Town Hall data. Together, these provide valuable insight into faculty and student perspectives on generative AI in teaching and learning. The analysis of this data revealed several key themes, which inform the task force's recommendations to the provost on how to provide support and address the challenges and opportunities associated with generative AI in teaching and learning at the University.

The key themes are as follows:

1. **Awareness and Familiarity**: Faculty and students expressed varying levels of awareness and familiarity with generative AI technology. While some respondents exhibited a solid understanding of the concepts and potential applications, others expressed a need for further education and information on the topic.

2. **Perceived Benefits:** The survey responses highlighted numerous perceived benefits of integrating generative AI in teaching and learning. Participants mentioned its potential to enhance creativity, facilitate personalized learning experiences, provide real-time feedback, and foster critical thinking skills.

3. **Overreliance on Technology:** Faculty expressed concern that students could become overly dependent on AI-generated content or solutions, and that it may hinder critical thinking, problem-solving skills, writing skills, and creativity.

4. **Ethical Considerations:** Participants raised concerns about issues such as data privacy, algorithmic bias, intellectual property rights, and the responsible use of AI in academic settings.

5. **Pedagogical Transformations:** Faculty and students expressed both excitement and apprehension about the potential of generative AI to change teaching and learning methodologies. They discussed how this technology could facilitate personalized and adaptive learning experiences, promote creativity, and augment the capabilities of educators. However, faculty also expressed that they did not feel equipped to make the appropriate changes to their pedagogical goals and assessments.

6. **Student Engagement and Empowerment:** Participants explored how this technology could empower students to actively participate in their learning process, facilitate collaboration, and enhance critical thinking skills.

7. **Skills Development:** Discussions highlighted the need for preparing faculty and students with the necessary skills to effectively leverage generative AI. Participants emphasized the importance of professional development opportunities, training programs, and interdisciplinary collaborations to ensure the successful integration of AI into educational practices.

8. **Support and Infrastructure:** Participants recognized the importance of institutional support and adequate infrastructure to enable the widespread adoption of generative AI. They discussed the need for funding, technological resources, ethical guidelines, and policies to create an inclusive and supportive environment for faculty and students.

Appendix B: Task Force Members

Co-chairs
- [Natasha Heny](#), Associate Professor, School of Education and Human Development
- [Andrew Pennock](#), Associate Professor, Batten School of Leadership and Public Policy

Members
- [Gabrielle Bray](#), Class of 2023, College and Graduate School of Arts & Sciences; 2022-23 Honor Committee chair
- [T. Kenny Fountain](#), Associate Professor of English and Director of Writing Across the Curriculum, College and Graduate School of Arts & Sciences
- [Briana Morrison](#), Associate Professor of Computer Science, School of Engineering and Applied Sciences
- [Reza Mousavi](#), Assistant Professor of Commerce, McIntire School of Commerce
- [Michael Palmer](#), Professor and Barbara Fried Director of the Center for Teaching Excellence

Executive Sponsor
- [Brie Gertler](#), Vice Provost for Academic Affairs and Commonwealth Professor of Philosophy