Artificial Intelligence at Dartmouth

Opportunities and Recommendations

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Executive Summary

As part of a year-long effort to identify opportunities for Dartmouth to embrace Artificial Intelligence (AI) in its academic operations, I have been holding conversations with dozens of faculty, staff, and students since July 2024. The recommendations that follow in the body of this report are organized into four strategic and actionable categories: 1) The Generative Liberal Arts; 2) Accelerate AI-Enabled Research; 3) Expand Research Infrastructure. 4) Enhance Teaching and Learning with GenAI. Among the following 22 numbered recommendations (see **Appendix D for complete list**) are four key recommendations:

1. Invest in the computing hardware (**Recommendation 18)** and staff (**Recommendation 14)** necessary to accelerate research on and with AI;
2. Establish a corporate partnership with a major AI foundational model vendor to amplify faculty/student research and provide continuous access to the latest technology (**Recommendation 16)**;
3. Introduce an AI literacy component in all degree programs beginning in AY26; (**Recommendation 20**);
4. Identify, hire, and train "AI ambassadors" to work with faculty to make use of AI in research and to cross-pollinate AI-application ideas across all areas of campus (**Recommendation 11**).

This report draws its recommendations from summaries and analyses of formal and informal discussions held with Dartmouth faculty and staff, presentations and conversations with visitors brought to campus as part of our programming this past year, data on faculty perceptions of AI in teaching and learning acquired via a survey distributed in May 2025, and published research on the impacts of AI in education.

The following report identifies key opportunities as well as the stakes of an inadequate response to this generation-level transformation that has already had an enormous impact on how we conduct research and how we teach our students. Dartmouth has the unique opportunity to retake our leadership role in computing. Given its foundational role in the development of the field, Dartmouth is the best positioned among institutions of higher education to become an AI-native university. We have a unique responsibility and a strategic advantage. These recommendations provide a roadmap for a thoughtful engagement with today's artificial intelligence and the infrastructure and staffing needed to help design and guide the development of tomorrow's technologies.

Introduction

Dartmouth College is the birthplace of artificial intelligence. The phrase *artificial intelligence* was coined in 1955 by John McCarthy, at the time an assistant professor in the department of mathematics, as part of a grant proposal to establish the Dartmouth Summer Research Project on Artificial Intelligence. Funded by the Rockefeller Foundation, this informal workshop met during the summer of 1956 in Dartmouth Hall. Since that early moment, Dartmouth faculty have continued research on topics located within the broad field outlined in the 1956 workshop. Faculty in computer science, engineering, psychological and brain sciences, and several other departments and schools at Dartmouth have long been working on the application of and research on neural networks, machine learning, and other types of artificial intelligence technology. In 2006, Dartmouth hosted a 50th anniversary celebration of the workshop as "The Dartmouth College Artificial Intelligence Conference: The Next 50 Years" (AI@50), led by James Moor, professor of philosophy.[1]

The capabilities of large language models when combined with interactive chatbot applications caught many by surprise when they were made widely available in November 2022. Since that moment the technology has rapidly developed and has found numerous applications in research, from the analysis of large collections of unstructured texts to medical imaging research. Generative AI has also had wide uptake in the creation and editing of written documents, code, and as an assistant for summarization and thinking through challenging problems. Students at Dartmouth and elsewhere have made heavy use of Generative AI, although not always with the authorization of their instructors or in accordance with the ways in which faculty would like to see them engage with the technology. Given Dartmouth's role in founding the field of artificial intelligence, the impacts on teaching and learning, and the global consequences of this transformative and potentially epochal shifting technology, we have a special obligation to take a leadership role in the application of Generative AI to specific domains, and especially in education.

Generative AI's implications for higher education are numerous, and the stakes involved in navigating this new environment are incredibly high. While headlines focusing on teaching-related concerns about GenAI have occupied much of the public's attention regarding its role in higher education, these tools have already had a measurable impact on faculty research activities. As components of typical research workflows, faculty are using GenAI tools to discover existing scholarly work, assist in the creation of literature reviews, format references, and organize and revise their papers. Although they may appear to be novel uses of GenAI, these are relatively

[1] James Moor, "The Dartmouth College Artificial Intelligence Conference: The Next Fifty Years," *AI Magazine* 27, no. 4 (2006): 87–91.

incremental applications of the technology. In computational fields, code-specific applications and models like Claude Code or GitHub Copilot already enable researchers to prompt the creation and execution of code to solve problems and analyze data. These techniques can readily automate existing processes, convert methods from one language to another (e.g., Matlab or R to Python), increase the sophistication of workflows, and iterate, for example, through different evaluation metrics or tests of significance.

Transformative developments include the replacement of longstanding practices in experimental design and data analysis, as well as the creation of entirely new methods and workflows through cross-application of techniques from other domains or through iterative experimental testing. Building on the successful application of AI to protein folding and other problems, new research applications and products are being developed in this area. One such application is Google's "AI co-scientist."[2] In their description of this system, Google outlines methods for adapting scientific workflows to use a collection of GenAI-based agents to augment research activity by devising multiple tasks that can be performed in parallel and iteratively evaluated before output is presented to the researcher. Outside of highly constrained contexts with specialized models, these tools still carry risks.[3] As in other contexts, it is likely that commercial and open-source scientific software packages will come to incorporate some of these tools in ways that promote transparency and reproducibility and have been validated by field or method specialists.

There are also enormous impacts on teaching and learning. Students, especially during key moments in the academic calendar, including the start and end of the academic year, are the dominant users of commercial GenAI applications. These student users start early. According to a Harvard School of Education survey, in June of 2024, 51% of teenagers in the United States have used Generative AI.[4] The number of students using GenAI in higher education is reported to be much higher. A survey conducted in 2025 of British university students revealed that 92% of students were using AI tools (for any purpose) and 88% were using ChatGPT for completing

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[2] Juraj Gottweis and Vivek Natarajan, "Accelerating scientific breakthroughs with an AI co-scientist," Google Research. February 19, 2025. https://research.google/blog/accelerating-scientific-breakthroughs-with-an-ai-co-scientist/

[3] See, for example, the case of Meta's Galactica, a specialized large language model for scientific research that was trained on an archive of scientific content, which was advertised as being able to generate new papers but generated false information and biased outputs. Meta shut the tool down after just three days of public use. Will Douglas Heaven, "Why Meta's latest large language model survived only three days online," *MIT Technology Review*, November 18, 2022. https://www.technologyreview.com/2022/11/18/1063487/meta-large-language-model-ai-only-survived-three-days-gpt-3-science/

[4] Common Sense Media, "Teen and Young Adult perspectives on Generative AI: Patterns of Use, Excitements, and Concerns," (2024). https://digitalthriving.gse.harvard.edu/wp-content/uploads/2024/06/Teen-and-Young-Adult-Perspectives-on-Generative-AI.pdf

course assignments.[5] Data about student use at Dartmouth is minimal, although student-administered surveys have revealed moderate use: "According to the responses, 55% ask 1-10 prompts per week, 19% ask 10-20, 13% ask 20-30 prompts, and 4% use more than 50 prompts a week."[6] OpenAI, acknowledging this reality, made their premium models available for free for students during the Spring 2025. Google immediately followed with a similar program.[7]

While many faculty have begun revising their assignments to address the presence of GenAI—to either make use of GenAI or to evaluate learning in the absence of these technologies—a considerable number have not changed their content or their assessment methods with this new technology in mind. Dartmouth faculty have concerns about the impacts of GenAI on writing and reading and potential consequences for the offloading of critical thinking.[8] This concern is not limited to faculty; even technology entrepreneurs and evangelists believe that GenAI has the possibility to "threaten to offload reasoning itself."[9] Anthropic, in their initial research on student uses of GenAI, write that "Students primarily use AI systems for creating (using information to learn something new) and analyzing (taking apart the known and identifying relationships), such as creating coding projects or analyzing law concepts. This aligns with higher-order cognitive functions on Bloom's Taxonomy. This raises questions about ensuring students don't offload critical cognitive tasks to AI systems."[10]

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[5] Sally Weale, "UK universities warned to 'stress-test' assessments as 92% of students use AI," *The Guardian,* February 25, 2025. https://www.theguardian.com/education/2025/feb/26/uk-universities-warned-to-stress-test-assessments-as-92-of-students-use-ai

[6] Hannah Curtin, Ben Stevenson, Felipe Mendonca, Maya Beauvineau, Boo DeWitt, "Unveiling Generative AI: Environmental Costs, Labor Impacts, and Ethical Use in Academia," Geography 47 "Political Ecology," Winter 2025.

[7] Natasha Singer, "Welcome to Campus. Here's Your ChatGPT," *New York Times*, June 7, 2025. https://www.nytimes.com/2025/06/07/technology/chatgpt-openai-colleges.html

[8] Hao-Ping (Hank) Lee et al., "The Impact of Generative AI on Critical Thinking: Self-Reported Reductions in Cognitive Effort and Confidence Effects From a Survey of Knowledge Workers," in *CHI 2025*, 2025. https://www.microsoft.com/en-us/research/publication/the-impact-of-generative-ai-on-critical-thinking-self-reported-reductions-in-cognitive-effort-and-confidence-effects-from-a-survey-of-knowledge-workers/

[9] Geoff Ralston, "Building AI That Makes Us Better Thinkers," May 28, 2025. https://geoffralston.substack.com/p/building-ai-that-makes-us-better

[10] Anthropic, "Anthropic Education Report: How University Students Use Claude," April 8, 2025. https://www.anthropic.com/news/anthropic-education-report-how-university-students-use-claude Bloom's Taxonomy (1956) is a widely used framework for mapping of learning activities to cognitive capabilities across six hierarchical categories: remembering, understanding, applying, analyzing, evaluating, and creating. Benjamin S. Bloom, Max D. Engelhart, E. J. Furst, Walker H. Hill, and David R. Krathwohl, eds. *Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook I: Cognitive Domain* (New York: Longmans, Green and Co., 1956).

National surveys on faculty opinions about AI and higher education reveal faculty divisions (and divisions between faculty and administrators). In response to the question of "Generative artificial-intelligence tools offer an opportunity for higher education to improve how it educates, operates, and conducts research," 43% of administrators answered 'strongly agree', while only 16% of faculty responded to this question in the same way.[11] These divisions are also present at Dartmouth. Our survey data suggest that there is a contingent of around 10-15% of the total Dartmouth faculty who could be termed 'early adopters'. These faculty believe there is great value in leveraging GenAI in teaching and learning and have made efforts, mostly on an experimental basis, to try new assignments, make use of new tools, and rethink their learning outcomes. Another group of faculty, approximately 20-25%, are cautious in their approach but open to finding ways to use GenAI. These faculty understand the implications of the ubiquitous presence of the technology and the importance of engaging with it. The largest cohort, about 60% of the faculty, are hesitant and skeptical of the benefits of engaging with GenAI and worry about the negative effects of this technology on the educational experience of students.

Some of the greatest impacts are likely to be found in the career prospects of students. Reporting suggests that technology-related hiring has been slowing in response to GenAI tools that can create code and applications. Companies report the successful use of GenAI in coding, marketing, and information processing. According to recent reporting from Bloomburg, Alphabet and Microsoft are now using GenAI to write (or assist with writing) 30% or more of their company's code.[12] There are also profound implications for schools and programs engaging in providing professional training. These programs will need to alter not only their mode of instruction to address the use of GenAI but also rethink the tools and methods taught as part of their training.

> *We're going to have to relearn how to do medicine.*
> —Peter Solberg, Chief Health Information Officer, Dartmouth Health

Dartmouth has long been a pioneer in bringing computation to students. In the 1960s, John Kemeny and Thomas Kurtz developed a time-sharing system that democratized computing by giving every user the sense that they had sole access to a shared computing system. Together with undergraduate students, they designed a programming language called Beginners All-Purpose Symbolic Instruction Code (BASIC) that had a reduced syntax of commands and could be learned within a handful of hours. The development of the Dartmouth Time Sharing System (DTSS) and BASIC was funded by the National Science Foundation under a program to produce

[11] Beth McMurtrie, "College Leaders Are Divided on the Risks and Benefits of Generative AI" Chronicle of Higher Education, January 23, 2025. https://www.chronicle.com/article/college-leaders-are-divided-on-the-risks-and-benefits-of-generative-ai

[12] Walter Frick, "The AI Threat for Coding Jobs Is Becoming Clearer," Bloomberg, May 18, 2025. https://www.bloomberg.com/news/newsletters/2025-05-18/the-ai-hiring-pause-is-here.

an intervention in the liberal arts. At the conclusion of the grant, Kemeny and Kurtz wrote the following:

> Four years ago, Dartmouth College reached the conclusion that learning to use a high-speed computer should be an essential part of liberal education. Four years ago, this was merely a dream and considered impractical by many experts. Today, it is a reality. Computers are beginning to have an increasing effect on the lives of all of us. They play key roles in business, industry, government, and all forms of research. The average college graduate of today is almost sure to need a computer in his work twenty years from now. Therefore, we must prepare him today to use this most powerful of tools.[13]

While the technology has changed and so too has the composition of our student body, the sentiment remains the same. The present attitudes toward computers, Kemeny and Kurtz wrote, "are often a mixture of fear and superstitious awe." We find ourselves in the same position today. In the 1960s, Dartmouth decided that some basic computer literacy was important, and some components were added to the math courses taken by most first-year students.[14] Through these courses, approximately 80% of first-year students learned something about how computers worked by writing and debugging four short programs in BASIC.

Almost exactly twenty years later, another computer revolution hit Dartmouth. In 1985, Apple Computer released its Macintosh, and Dartmouth made available these machines to students at a fifty percent discount. While interacting with a computer after the first-year math course would be the experience of a minority number of students, in the 1980s, the Macintosh made computing widely available and for numerous applications. Faculty found or created programs to assist students with data analysis, to help drill the students in vocabulary for language learning, access information from the Library and other data sources, and communicate with each other through a Dartmouth-created system called BlitzMail. While some faculty were worried about what these tools would mean for students—one member of the English department was referenced in the *Dartmouth Alumni Magazine* as worried that word processing tools might "prevent students from getting a handle on writing from the ground up"—many incorporated these applications in their teaching and research, and Dartmouth became one of the most wired college campuses and was once again a pioneer in thinking about the role of computing and technology in the liberal arts.[15]

During this academic year, the Office of the Provost sponsored and invited to campus over ten internationally recognized academics, administrators, researchers, and artists to share their work

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[13] John G. Kemeny and Thomas E. Kutz, "The Dartmouth Time-Sharing Computer System," Course Content Improvement Program, National Science Foundation. Grant-NSF-GE-3864. April 1967.
[14] John G. Kemeny, "The Case for Computer Literacy," *Daedalus* 112, no. 2 (1983): 211-230.
[15] Fred Pfaff, "An Apple on Every Desk," *Dartmouth Alumni Magazine* (June, 1985): 46-50, 48.

and ideas with the Dartmouth community about artificial intelligence and the ways this technology is changing teaching, learning, and research (See **Appendix C**). These visitors also shared strategies for responding to the moment. As part of this programming effort, we invited Luciano Floridi, Orit Halpern ’94, Martha Pollack ’79, and Sylvie Delacroix to join our campus community for an extended period as Montgomery Fellows. These fellows gave public talks, visited classes, held one-on-one and group meetings with faculty and administrators, and participated in group discussions about artificial intelligence.

While much of what was learned this year came through informal conversations with faculty, staff, students, and administrators, it was also necessary to systematically collect data from faculty about their current uses of and concerns about GenAI. To this end, a brief anonymous survey was distributed to approximately seven hundred faculty members, including both research and teaching faculty across all ranks. Surveyed faculty included research faculty, lecturers and other non-tenure track teaching faculty, and tenure ladder faculty. There were a total of 292 respondents to the survey. The survey asked how faculty and their students are currently using GenAI and how they believe it may affect their work and Dartmouth’s mission in the future. It also solicited faculty experiences, concerns, and needs related to GenAI. The survey link was sent directly, in May of 2025, to faculty by the deans of Geisel School of Medicine, Thayer School of Engineering, and the Dean of the Faculty in Arts & Sciences. The request to forward the survey asked that the recipient list include all the previously mentioned faculty. The survey was apparently not forwarded to the faculty of the Tuck School of Business. **Table 1** summarizes survey respondents by their self-reported primary appointment. The instrument was designed and developed in collaboration with Associate Dean for the Social Sciences Benjamin Valentino, who also assisted in analyzing the results. Additional details about the survey, including the questions and a summary of an open-ended question about additional concerns can be found in **Appendix A**. The referenced data that follow are all derived from this survey. The remainder of this report will contain data and insights from this survey.

School	Percentage of School Faculty Responding	Percentage of Total Survey Respondents
Arts and Sciences	25.8%	64%
Geisel	35%	28%
Thayer	22%	7%
Guarini	14%	1%

Table 1: Survey respondents by school, based on self-identification of primary appointment

The remainder of this report outlines a set of interlinked recommendations to position Dartmouth as a leader in artificial intelligence. These recommendations build on our history of technological innovation, especially in relation to teaching and learning, our recent successes with integrating AI into our research activities and in the classroom, and our distinctive strengths as a tightly integrated research-intensive institution paired with a world-class undergraduate liberal-arts program. The major recommendations that follow are organized into four actionable categories: 1) The Generative Liberal Arts; 2) Accelerate AI-Enabled Research; 3) Expand Research Infrastructure. 4) Enhance Teaching and Learning with GenAI.

Broad Themes and Reflections

From Experimentation to the Enterprise

The present academic year marks a moment of transition from several years of increasing experimentation with Generative AI in the classroom and research to wanting to implement solutions and strategies that are proven, stable, and supported. Faculty recognize that students will need to become effective users of GenAI and the importance of providing students with literacy (**Figure 1**). Faculty have been using these tools to assist students with ideation, with brainstorming. They are using the tools to complement and compare with student readings of texts and images (Art History). They are using GenAI to prompt questions of course material. They are using it in combination with executable tools and agents for data analysis (Tuck). Among many other experimental projects, faculty have built tools for major advising and the summarization of student course assessments (Thayer), a tool to help medical students practice clinical reasoning and communication (Geisel), and course assistants (Tuck). Other AI-powered applications have been developed by the Center for Professional Development, Geisel School of Medicine ("Evergreen"), and the Dartmouth Center for the Advancement of Learning ("AI Curricular Explorer").

At the present moment, major systems vendors are beginning the process of integrating GenAI into their applications and general-purpose chatbots are steadily improving. Dartmouth will need to establish decision criteria (customization, flexibility, service and support, privacy, etc.) for determining whether to use off-the-shelf or in-house designed applications. This will be a difficult and critical issue. As the technology is rapidly evolving, prior decisions may need to be reconsidered, and a process should be put in place for assessing already built or purchased applications and reevaluating them in light of the present market and available features.

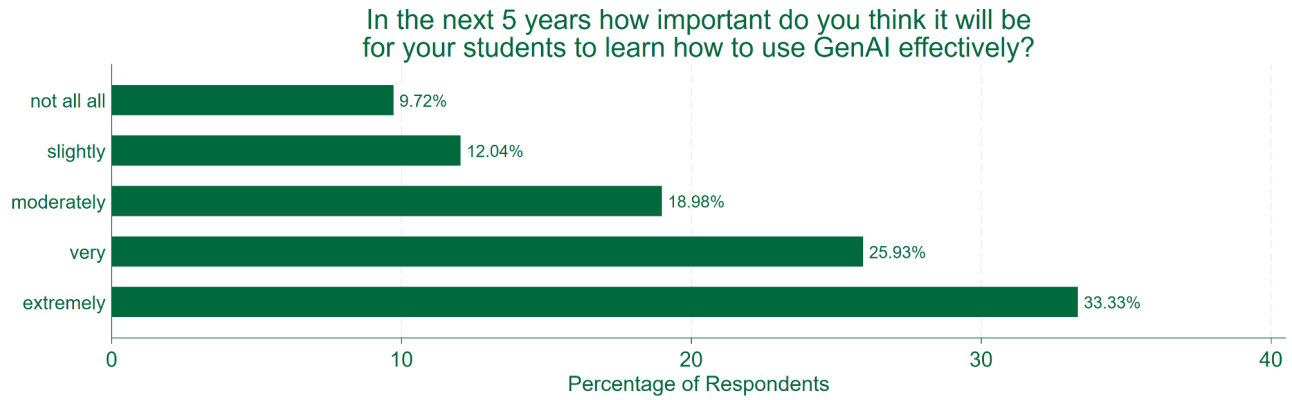

Figure 1: Faculty survey response to question of importance of effective use of GenAI by students

Key Strengths and Areas of Distinction

Dartmouth faculty have recognized that we have to be strategic in selecting areas of focus for investments. Dartmouth's biggest opportunities will not be in the creation of new models or advancing the state of the art in artificial intelligence itself but in the application of AI to important domains. These big opportunities are likely to be in pedagogy, medicine and health, and in the broad area of creativity. Other areas might address the use of AI in rural environments, and include on-device models for low connectivity, mobile, and minimal computing environments. Dartmouth's rich legacy of coupling technology with teaching and learning, from BASIC and DTSS to campus-wide wireless networking, positions the College as a likely leader in the present moment of technological disruption. Health and medicine are already important areas with established centers (CPHAI and CTBH) and there are potentially a few other areas in which we could excel. The collaborative relations between Dartmouth Health and Dartmouth College and the close links between Thayer School of Engineering and Geisel School of Medicine provide a competitive advantage for applying AI. More broadly, the question of whether machines can be creative or enhance creativity was one of the original questions brought to the Dartmouth Summer Workshop on Artificial Intelligence in 1956. Questions of creativity and innovation are important research in psychological and brain sciences and at the Tuck School of Business.[16] Dartmouth faculty in the arts and humanities have pioneered work

[16] Peter Tse, *Free Imagination: The Deep Roots of Creativity, Freedom and Meaning in the Human Brain and Mind* (New York: Oxford University Press, 2024); Peter Golder, "Why Is

applying computation to music. We are well positioned to take up cross-campus conversations and the possibilities and limits to creativity in the age of artificial intelligence.[17]

Assessments: Guidance and Policies

The expository essay, as Wharton professor of management Ethan Mollick notes, has been put under tremendous pressure by GenAI: "AI has come for the king of assignments, the essay. Essays are ubiquitous in education, where they serve many purposes, from demonstrating how students think to providing an opportunity for reflection. But they are also really easy for any LLM to generate, and AI-based essays are getting better and better. At first, AI style was conspicuous, but newer models write in a less awkward and circular way and can easily be prompted to write in a style appropriate for a student."[18] The essay had already been destabilized by automated writing and editing tools prior to the release of ChatGPT, but it had reliably served as evidence of learning. This is no longer the case. Writing researchers and teaching and learning specialists have recommended an emphasis on process over product, asking students to reflect on their writing and research process and for faculty to shift their attention to these reflective statements as the assessment object.[19]

Dartmouth faculty have consistently identified academic integrity as one of their largest concerns regarding GenAI, yet current guidance lacks a comprehensive response to this issue. The *Guidelines on using Generative Artificial Intelligence (GenAI) for Coursework* (Policy 038-0018 published on July 1, 2024)[20], responded to the immediate need for a default policy ("Students may not use GenAI tools for coursework unless expressly permitted") and provided direction to faculty to define individual AI policies for their courses. To address the gap between faculty concerns about integrity and the existing response, AI-focused units should lead a coordinated discussion focused on academic integrity and AI and evaluate existing policies and guidelines. This strategy would begin with an institution-dialogue to distinguish between uses of AI that enhance learning and those that undermine it, supported by a review of existing research and,

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Creativity Essential for Meaningful Innovation?" *Tuck Knowledge in Practice Podcast,* February 27, 2025. https://www.youtube.com/watch?v=0VNiUpkK1FQ

[17] Margaret Boden, *The Creative Mind: Myths and Mechanism* (New York: Routledge, 2004), Arthur I. Miller, *The Artist in the Machine: The World of AI-Powered Creativity* (Cambridge: MIT Press, 2019).

[18]Ethan Mollick, *Co-Intelligence: Living and Working with AI* (New York: Penguin, 2024), 162-163.

[19] "GenAI and Writing in Engineering and Technical Communication," Sweetland Center for Writing, University of Michigan. https://lsa.umich.edu/sweetland/instructors/guides-to-teaching-writing/genai-writing-in-engineering-technical-communication.html

[20] https://policies.dartmouth.edu/policy/guidelines-using-generative-artificial-intelligence-genai-coursework

where necessary, new studies funded by the institution. Faculty also need greater insight into how students are actually using GenAI, in both productive and problematic ways. Institutional policies should be reviewed and updated to include clear guidelines for AI use and misuse, along with practical solutions for secure testing environments, such as returning to the use of Internet-free computer labs or in-class phone storage, implemented in consultation with Student Accessibility Services. It is likely that these recommendations and guidelines will need regular review and potential revision.

While faculty have collected and shared sample syllabus statements related to GenAI, these are confusing to students and widely varied. Dartmouth should consider a simplified set of standard classroom policies and clarified supporting and student-directed language, such as the three-level framework (*prohibit, allow with attribution,* or *encourage*) mentioned by Cornell University's Generative Artificial Intelligence for Education and Pedagogy committee or the *No AI, OK AI,* and *No AI* recommended by the Yale Task Force on Artificial Intelligence.[21] As seen in **Figure 2**, Dartmouth faculty have made changes to their assessments, but more than half (55.3%) of faculty have made either minor or no changes.

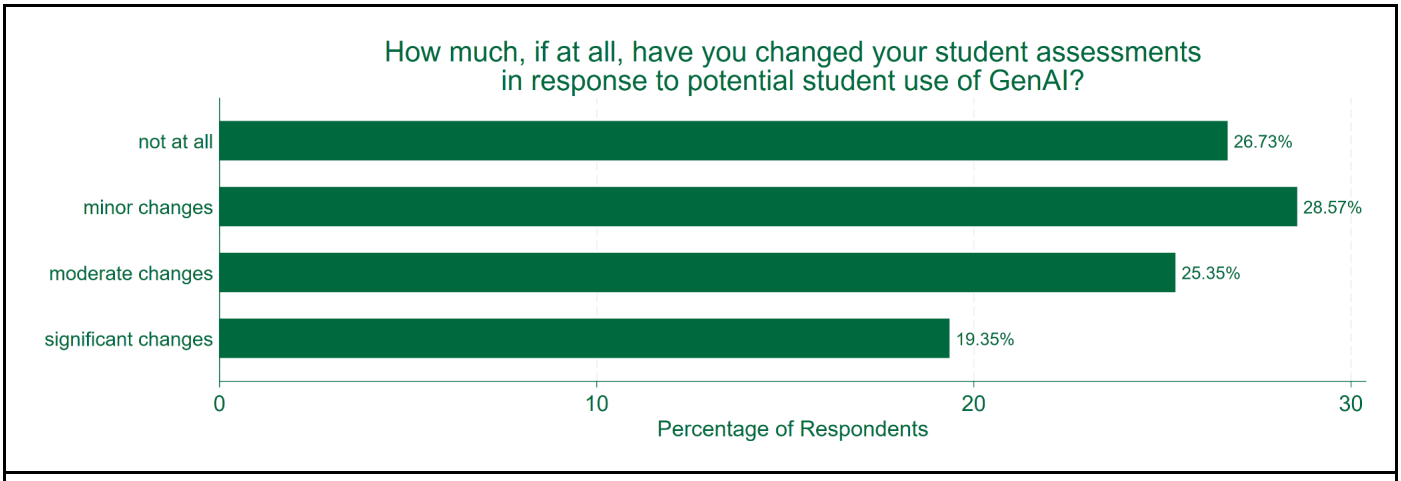

Figure 2: Faculty survey response to question of change in assessments.

In the spirit of experimentation, our faculty have updated their classroom activities and adapted

[21] "Generative Artificial Intelligence for Education and Pedagogy," Chairs Kavita Bala, Alex Colvin. Cornell University, July 18, 2023. https://teaching.cornell.edu/sites/default/files/2023-08/Cornell-GenerativeAIForEducation-Report_2.pdf; "Report of the Yale Task Force on Artificial Intelligence: Reflections and Recommendations," Yale University, June 2024. https://provost.yale.edu/sites/default/files/files/Yale%20Task%20Force%20on%20AI%20Report%20FINAL.pdf

their methods for assessment. They have brought back older assessment strategies that had long served our needs prior to the digital revolution – including oral and blue-book exams.[22] These traditional methods are again used in courses across the university. Faculty in computer science are using in-class exams to evaluate understanding of course material. Even departments and programs that are heavily dependent upon written arguments, such as philosophy and sociology, have gone back to these in-class and paper-based methods of assessment.

> *We've flipped our assessments from 80% out of class work and 20% in-class exams to the opposite*.
>
> — Computer Science professor

There are two major concerns that have emerged in this return to analog and in-class assessment. First, in returning to these traditional in-class assessments, faculty have thus far not been working in concert with Student Accessibility Services and there are concerns that these methods might not be the most appropriate in all cases and may increase the administrative work of faculty attempting to address the accommodation and access needs of our students. Students may not be prepared for extemporaneous writing and their handwriting (cursive, etc) skills may not be adequate for this mode of assessment. Second, while the essay has been de-emphasized in some courses and departments, there is still the sense that longform argumentation is a core requirement for culminating experiences and honors thesis. Students have fewer and fewer opportunities to practice longform writing and argumentation and this lack of experience may motivate, in situations in which they are asked not to use it, their use of Generative AI to complete assignments at later moments.

> *I am extremely concerned about Gen AI particularly because I am in a department where the primary assignments are reading—we seek to improve student's skills at —teaching students to develop and prove historical arguments. If students outsource this work to AI, whether through reading summaries or having AI write papers, they are not developing the critical thinking skills necessary to the study of history. In my classes, I have started to move back to in-class exams precisely because of this, but these are largely based on the easy recall of information, which isn't really the skill that the study of history really demands.*
>
> — Anonymous Faculty Survey Respondent

[22] Brad East, "Luddite Pedagogy: It's OK to Ignore AI in Your Teaching," The Chronicle of Higher Education, April 3, 2025. https://www.chronicle.com/article/luddite-pedagogy-its-ok-to-ignore-ai-in-your-teaching

Research Needed on Impact of AI on Teaching and Learning

For faculty adopting Generative AI in the classroom, there is little sense of what works and what does not work. There has not been much research by any academics in this area. AI companies, including Anthropic, have undertaken some initial studies but rigorous research is required to support decision making. Dartmouth should fund and facilitate faculty-led pedagogical research and collaborate with peer institutions to develop instruments, theories, and research-informed approaches to the incorporation of Generative AI in the classroom. Faculty are eager to use research-informed best practices that align pedagogical strategies with learning outcomes and evidence-based markers of student success in meeting these outcomes.

> *What makes it worth it for us to use GenAI in our teaching?*
>
> — Sociology professor

Impacts on Curriculum and the Dartmouth Experience

There are likely to be broad and cascading impacts on the curriculum and student experience from the integration of GenAI into teaching and learning. The use of GenAI to assist in the writing of code and the analysis of data may reduce pre-requisite courses and restructure major requirements. Students may express reduced interest in some departments and courses designed to offer additional support in mastering quantitative or rhetorical skills and reasoning. The impacts may also include a renewed emphasis on and investment in the high-touch components of our residential undergraduate programs. Given the ambitions of some universities to leverage GenAI to increase the student-to-faculty ratio, Dartmouth may find a competitive advantage in our smaller class sizes and regular interactions between students and tenure ladder faculty. GenAI may also allow faculty to shift faculty time/work from classroom teaching to out-of-class academic activities with students, e.g., to enable more students to engage 1:1 with faculty on research, culminating experiences, and theses. Experiential courses, lab courses, off-campus programs, and interdisciplinary courses may become more attractive to students. In *Robot-Proof,* Joseph E. Aoun, president of Northeastern University, describes the individualized value of experiential learning: “In many ways, experiential learning is life’s most sophisticated engine for personalized education. Because the experiences of learners are molded by the unique contexts

of their lives, they are learning in ways that are unavailable to any AI."[23] There may also be some demand for analogue environments in which students and faculty study in seminars together in the absence of technology, reading physical books, developing social and argumentative skills, and prioritizing cultivation.

> *How do we justify a student taking 10/35 classes related to acquisition of a skill that can now be acquired for free?*
>
> — Language department professor

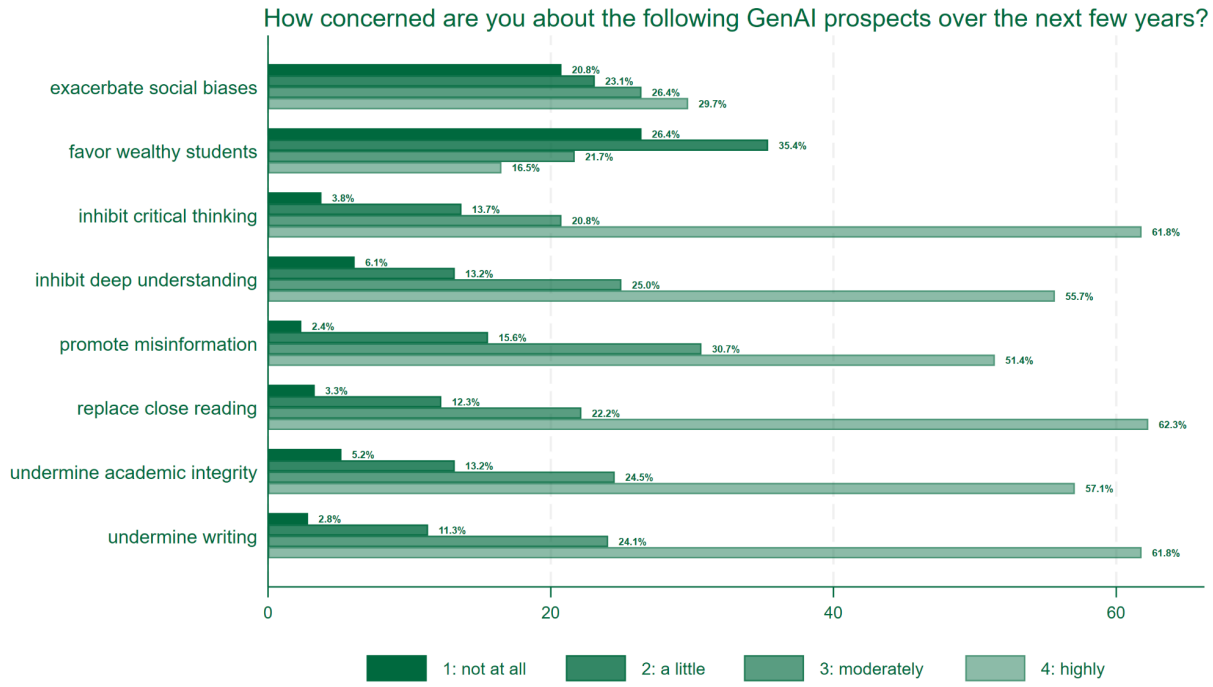

Figure 3: Faculty survey response to question of concerns related to student use of GenAI.

[23] Joseph E. Aoun, *Robot-Proof: Higher Education in the Age of Artificial Intelligence.* Revised and Updated Edition. (Cambridge: MIT Press, 2024), 96.

AI as a Subject of Study

A sustained investment in the technological study of machine learning and artificial intelligence—including the development of novel neural network architectures and the design of AI applications— is a crucially important component of Dartmouth's engagement with AI. This work, which takes place in the Department of Computer Science and Thayer School of Engineering, as well as in other departments and programs, advances the state of field and provides local expertise. Many of the recommendations in this report depend upon this research and are designed to enhance the resources available for the study of AI. Research on model alignment, the degree of fit between outputs and a community's norms, and the creation of methods to improve interpretability and explainability that lead to a greater understanding of the mechanics of how deep neural networks learn and can help improve models are critical activities and are necessary for the wider use of these technologies at Dartmouth and elsewhere. Present courses on these topics are frequently filled to capacity or overenrolled and our students are eager to take more classes about AI and ML.

At the same time, this group of AI-related technologies are rapidly developing and being applied to many aspects of everyday life. Rather than being threatened by these developments, Dartmouth's commitment to a broad, liberal education makes it the ideal site to understand the pace and scope of the changes brought by these technologies. A similar challenge arose during an earlier period of media transformation. In the mid-twentieth century, as broadcast television was reshaping the distribution of knowledge, the authors of *General Education in a Free Society* observed: "General education is the sole means by which communities can protect themselves from the ill effects of overrapid [sic] change. For its concern is with what is the same throughout all changes and with the very process of change itself and the techniques of taking account of it."[24] The "taking account" of this earlier moment of media transformation was enabled by the historical understanding of change and the authors argued that the university was a privileged site for examining change: "While it is true that the present is our only fact, nevertheless we cannot see the present so long as we are immersed in it; we need the perspective afforded by distance in time and in space. One of the aims of education is to break the stranglehold of the present upon the mind." The forms of artificial intelligence used today are simultaneously at the forefront of technological innovation and the product of more than seventy years of development. Locating the cultural, technical, and social changes brought by GenAI and the companies and researchers developing these technologies in history will be crucial to our efforts to develop in students the faculties and knowledge to create, use, and improve GenAI.

[24] *General Education in a Free Society: Report of the Harvard Committee* (Cambridge: Harvard University Press, 1950), 266.

ORGANIZATION AND STAFFING RECOMMENDATIONS

To build on the momentum of the past year and our early successes in AI adoption and innovation, Dartmouth should establish a dedicated office or role to provide ongoing leadership in this space, both on campus and nationally. Campus leadership should empower an individual or office with a sufficient budget and the authority necessary to offer institution-wide strategic direction and coordination around Dartmouth's engagement with AI.

There is a pressing need to develop a coherent and strategic vision for AI at Dartmouth, for ongoing engagement with numerous on-campus and off-campus collaborators, and frequent coordination with campus stakeholders. This report begins the work of establishing this vision by identifying areas of distinction for Dartmouth and the strategic investments necessary to provide the foundations and frameworks for accelerating our engagement with AI. Continuing this work will require a significant investment in institution-wide leadership in the area of AI. Peer institutions have created positions like Associate Provost (Brown University)[25] or Vice Provost for AI (NYU)[26], Chief of Artificial Intelligence (Northeastern)[27] or Vice Dean for AI (Columbia University[28] and University of Pennsylvania[29]). Given the scope and coordination required for efficient program and policy development, this role should be centralized and located in the Office of the Provost. Because the proposed work will be centered on the academic mission, it is imperative that this office have the direct oversight and approval from the Provost and faculty involvement. Additional staff—such as an executive director or program manager—may also be needed to manage and lead different aspects of Dartmouth's AI initiatives.

> *AI presents a massive collective action problem… Solutions need to come [from the] college level.*
>
> — Anonymous Faculty Survey Respondent

The stability and effectiveness of the program would be further enhanced by the creation of a steering committee composed of key campus stakeholders and faculty representatives from all

[25] https://www.brown.edu/about/administration/provost/communications/michael-littman-appointed-brown%E2%80%99s-inaugural-associate-provost-artificial-intelligence
[26] https://www.nyu.edu/about/leadership-university-administration/office-of-the-president/office-of-the-provost/clay-shirky.html
[27] https://www.khoury.northeastern.edu/khoury-professor-javed-aslam-appointed-as-northeasterns-inaugural-ai-chief/
[28] https://fas.columbia.edu/news/arts-and-sciences-announces-two-new-faculty-leadership-roles-ai-and-special-initiatives
[29] https://research.upenn.edu/news/provosts-office-announces-penn-ai-council/

schools. This committee would provide feedback on strategic direction and help communicate the developed vision, resources, and programs across the teaching and research community.

> *I know that many faculty members at Dartmouth, both on an individual basis and as in the form of group research projects, are experimenting with using AI in teaching, and it would be good if those efforts could be synthesized in some way and presented to the entire college community, which would allow individual instructors to pick and choose what techniques work best for them.*
>
> — Anonymous Faculty Survey Respondent

This body should be charged with the development of campus-wide policies addressing AI in teaching and research; the creation of a centralized website for AI-related resources and communications at Dartmouth; development of corporate partnerships; coordination and oversight of campus-wide AI initiatives and services; and the assessment of AI's impact on teaching, research, and service. This body should recommend and participate in the creation of institutional policies, especially those related to ethical engagement with AI.[30] It should also evaluate contracts and services from vendors involving AI technologies, in collaboration with ITC, OGC, and Procurement. Teaching and learning professionals currently working with faculty on AI should be reorganized as needed, and additional staff should be hired in the Provost Division to help faculty fully leverage AI in the classroom. The following table summarizes existing staff FTE in the major units supporting AI for research and teaching. The FTE represents the composite total of the staff time addressing AI in that unit.

Unit	Present FTE Dedicated to AI
Research Computing (ITC)	2.0
Learning, Design and Innovation	1.0
Research Data Services (Dartmouth Libraries)	1.5
DCAL	0

[30] Recommendations for institutional-level frameworks for ethical engagements have recently been made in an EDUCAUSE working paper. Maya Georgieva et al., "AI Ethical Guidelines" (EDUCAUSE, June 24, 2025), https://library.educause.edu/resources/2025/6/ai-ethical-guidelines.

MAJOR RECOMMENDATIONS

The Generative Liberal Arts

1. **Support College-wide discussions, including a series of University Seminars dedicated to AI topics (e.g., language learning; social sciences; public health; pedagogy).**

Dartmouth faculty are eager to meet and talk with each other about discipline-specific ways of responding to Generative AI. In terms of teaching, the technology is rapidly developing and regular meetings to share and jointly develop pedagogical strategies responding to these changes are likely to be necessary to ensure learning outcomes are still targeted by assignments and achieved by students, whether they are using GenAI or not.

2. **Design an undergraduate interdisciplinary minor in AI-generated media to address methods and theories for the analysis of these objects, their production, and circulation.**

The many new creative uses of Generative AI and the advent of multi-modal models has created opportunities to study the creation and distribution of synthetic media. There are also important interdisciplinary concerns connected with these new media objects, especially in their use as part of misinformation. Cross-campus connections could also be reinforced with co-curricular components in the programs, centers, institutes, for example, by programming and workshops offered by the DREAM Studio. In his Montgomery lecture, Luciano Floridi proposed the creation of a new area, one he terms *content studies,* which would be a "unified academic framework to analyse and optimise the whole lifecycle of content—including the stages of creation and design, distribution and dissemination, and use and consumption—within these rapidly evolving contexts."[31] This approach joins quantitative and qualitative methods with experimental and design-based research to study AI-produced objects. An investigation undertaken in the area of content studies would shift attention away from outputs to the inputs and processes used by creators and content producers.

[31] Luciano Floridi, "Content Studies: A New Academic Discipline for Analysing, Evaluating, and Designing Content in a Digital and AI-Driven Age," *Philosophy & Technology* 38, no. 2 (June 2025).

3. **Integrate faculty with expertise in social dimensions of AI-related technologies into existing centers focused on the application of AI to medicine and health.**

Liberal-arts solutions are needed for the potential problems involved in the automation of health decision making and medical knowledge production. Those who deliver research and services for healthcare-related needs should fully engage with faculty experts at Dartmouth studying inequity in this area and the ethical dimensions of using GenAI for these applications. Dartmouth's faculty from across the disciplines should be involved in assessing the risks and benefits of AI-enabled healthcare delivery. Workshops and conferences dedicated to these issues should be supported and Dartmouth-developed or supported AI applications should provide a model for socially responsible AI. While the ethics and standards of using AI in medicine and healthcare are a topic of research by those working directly in these fields, there is not a multidisciplinary collective focus on these topics. By incorporating perspectives and research from fields such as philosophy, anthropology, literature, psychology, computer science, engineering, business, practitioners, behavioral intervention scientists, and implementation scientists, Dartmouth and our partners would have the potential of being a leaders in providing the safest and most effective AI-enabled healthcare technologies.

4. **Sponsor programming and courses on being human and humane in the AI era.**

Generative AI has important implications for key liberal arts concerns and subjects including the status of 'the human' and post-human philosophy and theories[32] in relation to GenAI and the influence of human behavior in response to chatbots and other products of the Generative AI technology. Artificial intelligence invokes questions about values across nearly all disciplines, from engineering to government, from medicine to religion, from philosophy to writing.[33] These issues cross disciplinary boundaries, address important questions, and involve all members of the campus community. Example topics or courses might include the ethics of computer-assisted decision making, the limits of machine creativity, or a course in mathematics that examines what it means to 'do' math, where much of the work to prove theorems can be done by AI. Amherst College's "AI in the Liberal Arts" provides an example of a student-centered initiative to foreground questions of the human and humane ways of interacting with each other and with

[32] N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999); Rosi Braidotti, *The Posthuman* (New York: Polity Press, 2013); Bernhard Siegert, *Cultural Techniques: Grids, Filters, Doors, and Other Articulations of the Real*, trans. Geoffrey Winthrop-Young (New York: Fordham University Press, 2015).

[33] Naomi S. Baron, *Who Wrote This: How AI and the Lure of Efficiency Threaten Human Writing* (Stanford: Stanford University Press, 2023) and Meghan O'Gieblyn, *God, Human, Animal, Machine: Technology, Metaphor, and the Search for Meaning* (New York: Doubleday, 2021).

technology.[34] These topics were identified by Martha Pollack in her Montgomery presentation[35] as essential for debate and discussion for institutions like Dartmouth.

> *I'm struggling to figure out how to live with these models.*
>
> — Philosophy professor

5. **Catalyze campus-wide conversations on the intersection of human creativity and AI.**

Dartmouth has a rich history and legacy of integrating computing and creativity, especially in music. Generative AI has important consequences for the philosophical, legal, and practical aspects of creativity. Our faculty has conducted theoretical and empirical research on human creativity in psychological and brain sciences and in the Tuck School of Business. These accounts of fostering and harnessing human creativity, human agency and volition, the limits of machine-derived creativity, and promoting creative thinking with machines are essential topics for the contemporary liberal arts. As emergent modalities are incorporated into generative models and their capabilities improve, creativity across modes and in new areas will require expertise in visual and auditory culture in addition to an understanding of language and text-based creative production.

6. **Integrate discussions of AI use and development with ongoing work on climate, energy, and the environment in student-facing AI literacy training and in policies, planning, procurement, workshops, and faculty research.**

Dartmouth's decarbonization goals may be on a collision course with the energy requirements of large-scale AI technologies. While AI has been used in service of sustainability, the energy requirements for training and using contemporary models are significant.[36] Several student groups have already provided feedback and input to make sure that we consider the environmental impact of Generative AI in future decisions and especially in AI literacy content. Dartmouth faculty have identified these concerns as an impediment to the adoption of Generative AI in their teaching and research. Student groups working on climate issues have also identified the likely environmental impacts of greater use of GenAI as a major concern and an important

[34] https://www.liberal-arts.ai/
[35] "AI and the Mission of Higher Education: A Talk by Martha Pollack," Dartmouth College, April 21, 2025. https://www.youtube.com/watch?v=-9LbqnoEWBM
[36] Peter Daivergne, *AI in the Wild: Sustainability in the Age of Artificial Intelligence* (Cambridge: MIT Press, 2022); Steven Gonzalez Monserrate, "The cloud is Material: On the Environmental Impacts of Computation and Data Storage," MIT Schwarzman College of Computing, 2022. https://mit-serc.pubpub.org/pub/the-cloud-is-material/release/2

aspect of any developed AI literacy content: "the social and environmental costs of the production and consumption of Gen-AI must be centered on institutional initiatives to increase AI literacy and engagement." [37]

7. **Inaugurate AI certificates and design interdisciplinary graduate programs in AI+X.**

There has already been a substantial impact on research methods because of the advent of contemporary AI and Generative AI; while some institutions have created degree programs in AI itself (B.S. major: CMU, University of Pennsylvania, Illinois Institute of Technology, Purdue, etc.; M.S. degree: Northeastern, JHU, NJIT, UT Austin, etc.), it is far more likely that applying AI to problems within existing fields will be the successful route for institutions like Dartmouth. Interdisciplinary graduate programs (e.g., AI in Healthcare, AI in Business) and AI-related certificates would ask students to develop core competencies in the technical aspects of AI and its application and to understand its ethical applications and limitations within a particular domain or context.

8. **2026: Sponsor a national-level event at Dartmouth to commemorate the 70th anniversary of 1956 summer workshop as part of a yearlong series of events.**

The AI@50 conference in 2006 was an important milestone in measuring the progress of the field. There is no longer a need to produce the case for the importance of the 1956 Dartmouth Workshop and the field of artificial intelligence. We need to seize the moment to mark the occasion with a forward-looking series of events that links ongoing research and work in applying AI at Dartmouth with the larger conversation in the field. The seventieth anniversary will be the ideal time to demonstrate progress on some of the goals outlined in this report and produce an event that delivers on Dartmouth's now aspirational role to have a leadership role in the field and, on the national and global level, in the application of AI to research and teaching and learning.

9. **2027 and beyond: Sponsor an interdisciplinary annual AI Summer Workshop for graduate students and early-career scholars modeled on a reimagined version of the 1956 workshop.**

Dartmouth's campus provides an ideal setting for summer programming for early career researchers and scholars. An annual summer workshop in artificial intelligence would provide opportunities for Dartmouth faculty and graduate students to share their research and insights

[37] Hannah Curtin, Ben Stevenson, Felipe Mendonca, Maya Beauvineau, Boo DeWitt, "Unveiling Generative AI: Environmental Costs, Labor Impacts, and Ethical Use in Academia," Geography 47 "Political Ecology," Winter 2025.

with others from around the globe. A reimagined workshop could feature lectures, seminars, poster sessions, and demonstrations of the latest advances in artificial intelligence.

Accelerate AI-Enabled Research

10. Recruit a strategic group of new AI-focused faculty across departments and schools.

A strategic investment in recruiting new faculty with shared interests in researching and applying AI to domain-specific problems is likely to enhance existing research at Dartmouth, foster the growth of emergent AI-powered fields, and drive methodological innovation. To maximize their impact, these new faculty should ideally be embedded within schools, departments, and programs where they can engage in cross-disciplinary collaboration and contribute to the above identified areas of institutional distinction. These faculty would work with the proposed "AI ambassadors" to build communities of practice and share research and methods with the Dartmouth community.

11. Identify, hire, and train "AI ambassadors" to work with faculty to make use of AI in research and to cross-pollinate AI-application ideas across all areas of campus.

While recruiting faculty to Dartmouth will help enhance existing research and drive innovation with AI across the institution, the upskilling of our researchers to make use of new paradigms will take considerable effort. Identifying, training, and compensating a small set of internal 'ambassadors'—who might be predoctoral or postdoctoral fellows, visiting faculty, or highly skilled Dartmouth faculty—with expertise in applying AI technology within and across disciplines—would be instrumental in building a core body of knowledge and skills among the faculty. As **Figure 4** shows, there is a small number of "early adopter" faculty making use of GenAI in research, but more than half (59.63%) have made no use of GenAI in their research or creative work.

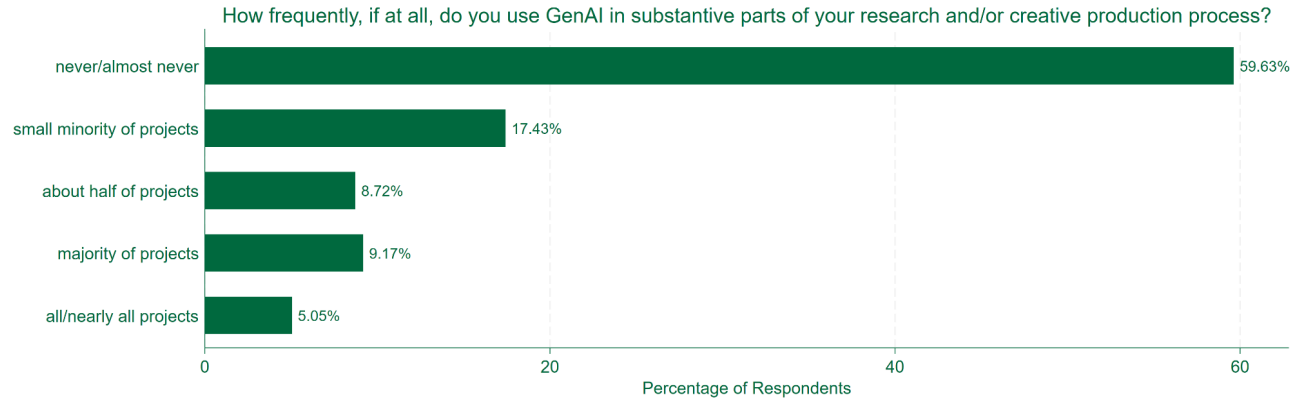

Figure 4: Faculty survey response to question of the use of GenAI as a substantive part of research and/or creative production process.

12. Develop research partnerships with established and emerging AI-focused companies, e.g., OpenAI, Google, Amazon, Anthropic, Microsoft, or Meta.

In addition to exploring possible partnerships with foundation model vendors, Dartmouth should establish broader collaborations with AI-focused companies to jointly pursue research and development initiatives. While expanding internal AI research infrastructure is essential, leveraging corporate infrastructure can provide access to high-performance computing environments and real-world datasets. These resources are critical for advancing new methodologies and addressing challenges inherent in current-generation generative AI, including ethical, legal, privacy, social, and security concerns, especially in those applications involving human users.[38]

13. Support faculty-led training and development for the use of AI methods.

GenAI research tools are changing how faculty conduct their research and enabling researchers to use sophisticated pipelines. GenAI enables large-scale analysis of unstructured text, rendering text as data without manual coding or labeling of training data. GenAI extends the reach of computation into fields that have largely remained outside its purview, offering new means of

[38] A number of these challenges can be found in Simon Lindgren, *Critical Theory of AI* (New York: Polity Books, 2024); Joy Buolamwini, *Unmasking AI: My Mission to Protect What Is Human in a World of Machines* (New York: Penguin Books, 2023); Calum Cant, James Muldoon, and Mark Graham, *Feeding the Machine: The Hidden Human Labor Powering A.I.* (London: Bloomsbury, 2024); Orit Halpern and Robert Mitchell, *The Smartness Mandate* (Cambridge: MIT Press, 2023).

modeling and engaging with complex scholarly materials, especially unstructured texts and archival materials that have resisted formal representation. Fields that work with text, especially in the social sciences and humanities, are now able to extract insights from these collections without learning natural language processing (NLP) pipelines or using packaged analysis software. While there are potential benefits to avoid the need to hire and train human raters and annotators, there are also consequences. Kate Crawford warns of the possibility of unanticipated consequences of using AI and NLP technologies for social science research: "The risk profile of AI is rapidly changing as its tools become more invasive and as researchers are increasingly able to access data without interacting with their subjects."[39] Because these tools enable large-scale analyses and because they do not necessarily operate like prior qualitative and quantitative methods, additional training and faculty development will be necessary for using these tools in rigorous and ethical ways, especially when addressing human subject data.

14. Invest in additional analysts, programmers, and engineers in ITC and the Library to support faculty research and infrastructure.

The Dartmouth Libraries Research Data Services team and ITC's Research Computing team facilitate Dartmouth research with (and about) GenAI through their collaborative relationship. These teams are jointly developing tools, sponsoring workshops, hosting training events, and consulting with those interested in research uses of GenAI. Additional staffing will be necessary to deeply support faculty research using GenAI, especially as applications develop from pilot explorations to established projects. Crucial areas will be the development of information preprocessing and data processing pipelines and strategies to implement data-centric methods like Retrieval Augmented Generation (RAG), Model Context Protocol (MCP) connectors, and agentic systems. These support staff engage with the increasingly complex data and research lifecycle for computationally sophisticated work, from the discovery and collection of objects through processing, publication, and distribution and storage.

15. Support faculty-led AI-based research initiatives, such as the "Evergreen" student mental-health and wellness app (Marsch, Campbell, Jacobson, et al.).

Dartmouth faculty have already led several innovative research projects applying AI. To encourage faculty to further drive developments in this area, additional support should be provided for these efforts, including application development partnerships with DALI and other groups, access to computing resources, and networking with appropriate offices and units to identify opportunities and resources.

[39] Kate Crawford, *Atlas of AI* (New Haven: Yale University Press, 2021), 116.

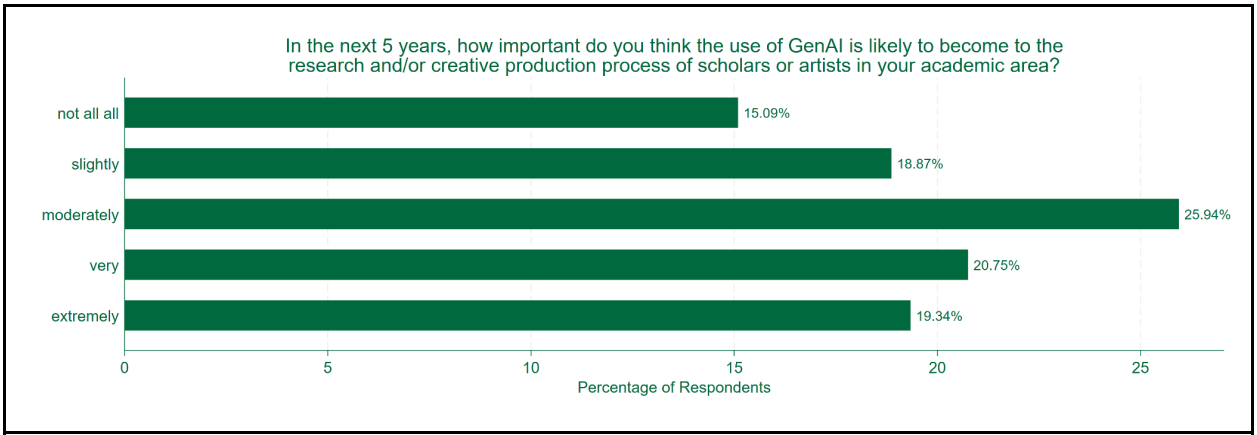

Figure 5: Faculty survey response to the question of expected use of GenAI in research and/or creative production process.

Expand Research Infrastructure

To recruit and maintain faculty working on developing AI as a technology, Dartmouth needs to greatly increase its investment in computing infrastructure. This computing infrastructure will also enable AI-powered research, by making available computing resources to safely and securely apply neural networks to research data. The following recommendations target the infrastructure, organizations, and support staff necessary for developing expertise and enabling innovation and new research.

> **16. Enhance support for our local AI sandbox (DartmouthChat: chat.dartmouth.edu) and/or partner with a major foundation model vendor to provide a commercial platform for general (chatbot) and research use (API).**

Created as a collaborative effort between the Dartmouth Libraries and ITC's Research Computing group, DartmouthChat is a hosted open-source chat application (OpenWebUI)[40] that provides access to both hosted commercial and open-weights local models. DartmouthChat presently provides all members of the Dartmouth community with free access to recent models from OpenAI, Meta, Anthropic, Google, and Mistral. Access is capped to limit the number of tokens used. The platform also provides limited API-based access to the models for inference, enabling research use of these models without independent, paid accounts.[41] By the end of AY24-25, there were 4,410 active users, broken down as shown in the following table.

[40] https://www.openwebui.com

[41] An 'API' is an *application programmer interface,* which enables researchers to write code to interact with AI models.

Primary Affiliation	Number	Percentage
Student	2570	62.05%
Staff	875	21.13%
Faculty	474	11.44%
Unknown	79	1.91%
Member	65	1.57%
Alum	50	1.21%
ExEmployee	23	0.56%
Affiliate	3	0.07%
None	3	0.07%
Total DartmouthChat Users. June 12, 2025.		

Based on survey responses, Dartmouth faculty are generally satisfied with DartmouthChat, although a high number of survey respondents were not familiar with the service (**Figure 6**: 55.93%). From their encounters with faculty, ITC staff have identified a strong interest in a commercial platform to supplement and provide similar services as DartmouthChat. In addition to providing a range of model choices, the selected commercial platform should provide the technical and engineering support needed for supporting classroom use of tools. Any selected platform should also enable adequate token allocations and a range of model choices to support experimentation, iteration, and refinement.

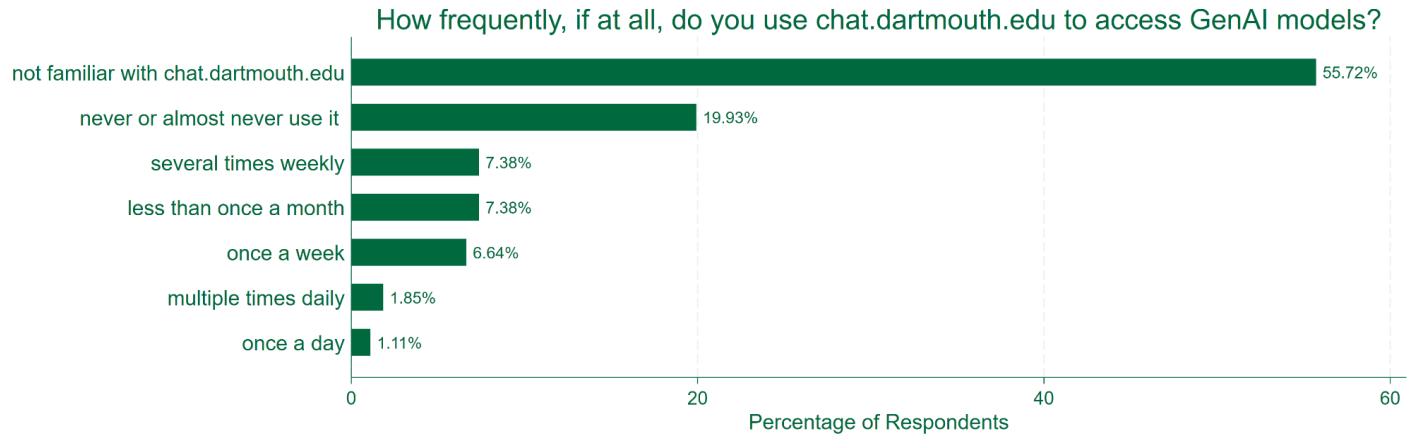

Figure 6: Faculty survey question about frequency of usage of DartmouthChat.

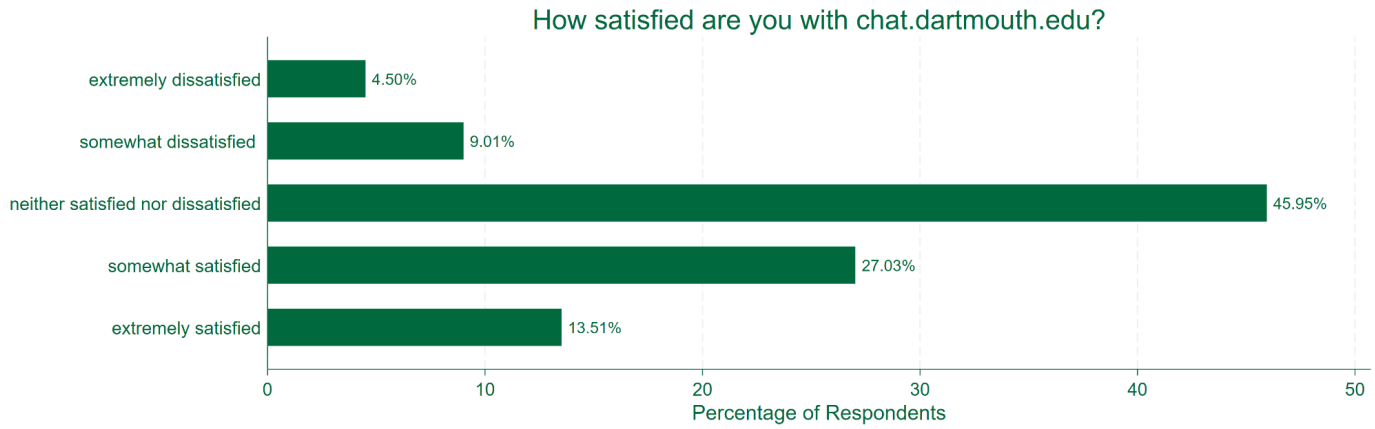

Figure 7: Faculty survey question about satisfaction with DartmouthChat.

Establishing a mutually beneficial partnership with a leading foundation model vendor would significantly enhance AI research at Dartmouth. Such a collaboration would provide researchers with access to state-of-the-art models, engineering expertise, and dedicated support services. Joint development of tools and integration with existing software infrastructure would also enable faculty to incorporate these technologies into their teaching. Dartmouth's existing faculty strengths in areas such as large language models and computer vision align closely with active areas of foundation model research. Moreover, advancing critical work in interpretability and explainability—fields that increasingly demand substantial compute and privileged model access—requires precisely the kind of partnership that ensures both resources and institutional visibility for high-impact AI research.

17. Develop regional partnerships to invest in existing or develop new shared research-computing services.

While very few academic institutions are able to maintain all the infrastructure necessary for advanced uses of AI and for new model development, on their own, a number of institutions are forming regional partnerships and collaborations with state and local governments. New York's "Empire AI"[42] is a consortium of public and private universities and the State of New York, which is hosting a research hub and data center for advanced research with AI. The New Jersey AI Hub was created with the support of corporate sponsors, including Microsoft and Coreweave, along with the State of New Jersey and Princeton University.[43] Similarly, Massachusetts

[42] https://www.empireai.tech/
[43] https://www.princeton.edu/news/2025/03/28/founding-partners-unveil-nj-ai-hub-center-innovation

announced an AI Hub that includes a partnership between the state and university members of the Massachusetts Green High Performance Computing Center (MGHPCC), including many of Dartmouth's peers.[44] There are possibilities of partnering with other institutions and governments to create a similar "hub" or consortium in Northern New England that would expand access, enable the sharing of resources, and build on our experience and expertise to provide a center of excellence for AI-enabled teaching and learning. Recall that in the late twentieth century Dartmouth pioneered the use of remote networking via telephony to expand access to the Dartmouth Time Sharing System (DTSS) to area institutions, including secondary schools, and to provide toolkits for the teaching of computer literacy.[45] Expanding access and technological equity was a major goal of DTSS; enabling those at lower resourced institutions to participate in programming and to have access to shared services for AI should be a priority of a potential Northern New England AI hub or center.

18. Add GPUs, and commit to their periodic upgrade, to maintain our cutting-edge on-premises high-performance computing cluster for research on AI and applied AI.

Dartmouth presently has a handful of GPUs capable of loading recent generation large language models and other AI-related neural networks. (GPUs are *Graphics Processing Units,* the sophisticated chips that power large language models). Some of these GPUs are powering DartmouthChat and the others are in *Discovery,* Dartmouth's existing on-campus high-performance computing cluster. The existing supply is insufficient to meet current needs. The limited ability to access recent LLMs for programmatic use, including training and inference (rather than for generation from prompts) has been identified as an impediment to faculty recruitment and conducting research by our present researchers. A faculty member serving on a hiring committee in AY24-25 says: "if we are to have any hope of conducting research in this space, as well as attracting talent….it does seem necessary to improve [our access to GPUs]." From the faculty survey, 16.4% of respondents identified "increased high-performance computing resources" as very helpful.

[44] https://www.mass.gov/news/governor-healey-announces-massachusetts-ai-hub-to-make-state-global-leader-in-applied-ai-innovation

[45] Joy Lisi Rankin, *A People's History of Computing in the United States* (Cambridge: Harvard University Press, 2018).

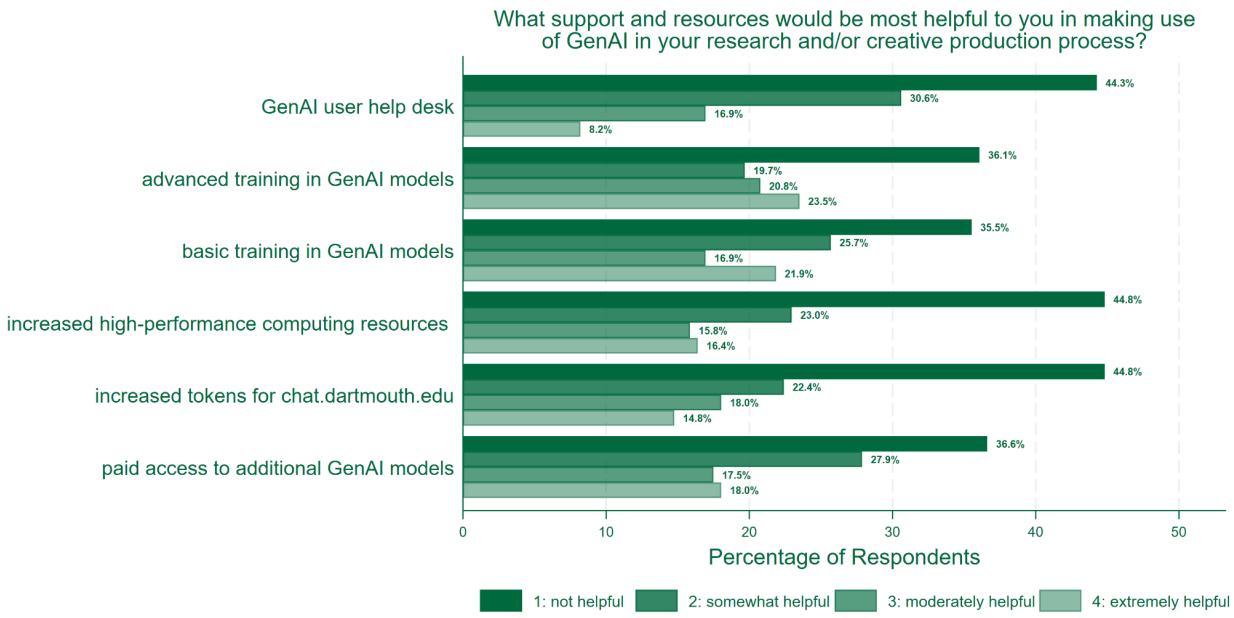

Figure 8: Faculty survey question about resources needed for applying GenAI to research

19. Expand resources for student development centers including DALI and the Cable Makerspace, to build AI applications and develop new technologies.

Dartmouth students are already building AI applications but there is limited support for on-premises development and deployment of these applications. Peer institutions have expanded makerspaces, which are hands-on, collaborative development spaces, to include access to systems with GPUs for training and development of AI applications.[46] Dartmouth's DALI and Cable Makerspaces should be enhanced with both access to the tokens necessary for innovative building of AI applications and the local hardware necessary for learning and developing with these technologies.

Enhance Teaching and Learning with GenAI

The following three recommendations are based on several years of existing effort, across the College, to respond to the increasing use of GenAI by Dartmouth students and the growing presence of AI in classrooms. These recommendations address the need for exposing students to school and program expectations, policies, and guidelines and the possibilities and limitations of GenAI in their academic work at an early stage in their programs. There are some shared

[46] https://coe.gatech.edu/academics/ai-for-engineering/ai-makerspace

capacities that should be inculcated in students; these are termed *literacies*. Others might be field-specific and, given the different rates of adoption of GenAI, will greatly depend upon faculty interest. In her remarks during her Montgomery presentation Martha Pollack named three big things that higher education should do to address GenAI: 1) AI literacy for students and faculty; 2) make learning more effective by adapting AI tools; 3) use these tools to become more efficient with our teaching.

> **20. Develop AI literacy programming for each of the schools; integrate into existing curricular frameworks where possible (e.g., ethics requirement for Guarini and first-year seminar for undergraduate A&S students).**

AI literacy is a crucial capacity for the use of AI in higher education. Literacy in this context is deeply connected with the disciplinary structures in which students are learning, thinking, and conducting research. José Antonion Bowen and C. Edward Watson describe the need for AI literacy in these discipline-specific terms:

> We mostly teach critical thinking as some form of disciplinary thinking. There are distinctive tools and skills that distinguish digital literacy and critical thinking in history from computer science, but we want all graduates to possess shared general thinking skills, like being able to evaluate the credibility and logic of a source or being able to compare conflicting research findings. Thinking with AI will be similar: we need both a general skeptical evaluation of everything we receive from AI and some understanding of the disciplinary implications.[47]

Martha Pollack identified developing AI literacy among our students as one important, practical step that faculty can take. She outlined key elements of AI literacy content that includes learning how these applications work, how they are different from prior technologies like search engines, understanding their limitations, concepts like hallucination and sycophancy, concerns connected to AI ethics, and how the use of GenAI might interact with expectations related to academic integrity.

While some institutions have revised general education requirements to include AI literacy, others have integrated this content in existing courses.[48] There are several AI literacy

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[47] José Antonion Bowen and C. Edward Watson, *Teaching with AI: A Practical Guide to a New Era of Human Learning* (Baltimore: Johns Hopkins Press, 2024), 42

[48] The SUNY system modified an existing information literacy requirement to include content about Generative AI. https://www.insidehighered.com/news/tech-innovation/artificial-intelligence/2025/01/16/suny-adds-ai-education-its-information. Ohio State University has added AI literacy to required first-year programming and survey courses. https://news.osu.edu/ohio-state-launches-bold-ai-fluency-initiative-to-redefine-learning-and-innovation/

frameworks available from research organizations and professional associations. These share features and some content recommendations. The curricular locations for AI literacy tend to be early in programs and tightly integrated into existing course content. The MLA-CCCC Joint Task Force on Writing and AI from the Modern Language Association and Conference on College Composition and Communication, for example, has produced a set of recommendations and a framework advocating that "[GenAI] literacy should be embedded into the curriculum of an entire course instead of offered as a stand-alone lesson or unit." The members of this task force, coming from organizations with a special concern with first-year writing courses, make a recommendation to begin with first-year writing: "An almost universal graduation requirement, first-year writing courses are intended to provide students with literacy skills and strategies they will draw from throughout their college careers. For this reason, such courses have a special responsibility to teach students how to use [GenAI] critically and effectively in academic situations and across their literate lives."[49]

21. Build on prior successful pilots and experiments to launch a program to support the reimagining of key/gateway courses to make use of GenAI in productive ways that encourage deeper learning and enhance critical thinking. Provide resources and incentives to faculty, including trained student course assistants.

The Gateway Initiative, organized by DCAL, redesigned fourteen large-enrollment and introductory courses to more closely resemble the smaller, upper-division courses taught within the disciplines.[50] The model provided by this initiative, which offered training and support for instructional faculty and student assistants (learning fellows), should be deployed to think about broad ways of using GenAI in introductory courses. These courses are good targets for such an initiative because they are the courses in which there are already likely uses of GenAI by students; as introductory courses, they are the curricular locations most susceptible to the misreading of hallucinations, misinformation, and other errors; the skills and capacities developed would inform work in upper-division courses; and they would have a higher return on investment of resources due the larger enrollments.

22. Create lifelong-learning programs for professionals retraining/retooling with AI in a broad, liberal-arts framework – for example, programs aimed at mid-career business executives, government leaders, or K-12 teachers.

[49] "Building a Culture for Generative AI Literacy in College Language, Literature, and Writing," MLA-CCCC Joint Task Force on Writing and AI, October 2024. https://aiandwriting.hcommons.org/working-paper-3/

[50] https://dcal.dartmouth.edu/about/impact/gateway-initiative

Some of the professional development and training programs developed for faculty will be useful in other contexts. Dartmouth should consider creating outreach programming for instructional staff in secondary schools, community colleges, and other colleges and universities that would leverage and disseminate our developed frameworks and capabilities, experiences, and research-based results. This programming, potentially in the form of workshops, could be offered during the summer and have deep and fruitful connections to other recommended summer programming, including an interdisciplinary annual AI Summer Workshop for earlier career researchers.

Likewise, and in a slightly overlapping area, the retraining and upskilling efforts required to enable Dartmouth faculty to leverage GenAI in their research are shared by many other mid-career professionals. Building on the model provided by the Tuck Executive Education program and Dartmouth Institute lifelong learning program in the liberal arts for executives, a summer program should be developed to train professionals to use GenAI in an ethical and informed manner. The mission of the Dartmouth Institute, when launched in 1972 in response to President John Kemeny's call for the creation of lifelong learning programs, was to provide participants with "a chance to reflect, to apply the liberal arts to the great issues of our time - personal, scientific, technological, and political - to gain thereby insights into the depth of these issues and their interrelatedness."[51] The present technical and cultural moment creates enormous opportunities for rethinking and reskilling. The proposed program would link concerns relating to reconceptualizations of the human and being humane, mentioned as part of the Generative Liberal Arts, with practical training in using the tools. Participants would situate the use of these new tools and methods alongside their ethical, historical, and social concerns and consider the benefits and consequences of altering existing processes and workflows.

[51] Gilbert R. Tanis, director of the Dartmouth Institute, quoted in "The Dartmouth Institute," *Dartmouth Alumni Magazine,* March 1974. https://archive.dartmouthalumnimagazine.com/article/1974/3/the-dartmouth-institute

CONCLUSION

The emergence of Generative AI and the rapid developments in this technology present urgent challenges to higher education. These challenges far exceed concerns with the unauthorized use of the technology by students that have thus far occupied the attention of many academics. GenAI has already become incorporated into scholarly processes and workflows through the embedding of these models and tools into everyday applications used for writing, information discovery, and the composition and execution of code. Vendors and developers of research tools and frameworks are deploying specialized models and neural networks. Tools like AlphaFold, which predicts the structures of proteins and their interactions, has enabled the modeling of two hundred million proteins, leading to new discoveries and broad impacts across scientific fields, including drug discovery.[52] In more applied biomedical areas, GenAI models are now routinely used to analyze medical imaging data, providing a first pass before a human radiologist interprets the images. In business strategy and social scientific research, GenAI has been used to analyze market trends and predict consumer behavior. In all these areas and more, this technology is restructuring knowledge production.

While it continues and intensifies the processes of 'datafication' and the externalization of knowledge that are already decades old, it introduces new aspects and new dimensions that need to be considered. As the philosopher Jean-François Lyotard wrote in 1979 of the information transformation that he witnessed as part of the growth of what he termed "computerized societies": "The old principle that the acquisition of knowledge is indissociable from the training (Bildung) of minds, or even of individuals, is becoming obsolete and will become ever more so."[53] Information is no longer restricted to databases and archives; insights are being generated outside the traditional structures established by disciplined training in collectively established fields of study. The fact that this transformation in knowledge production is occurring alongside a decline in public confidence in higher education and a growing distrust in specialization and specialists suggests that we are in the midst of an epistemological crisis.[54]

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[52] John Jumper, Richard Evans, Alexander Pritzel, et al. "Highly Accurate Protein Structure Prediction with AlphaFold," *Nature* 596, 583–589 (2021). https://doi.org/10.1038/s41586-021-03819-2.

[53] Jean-François Lyotard, *The Postmodern Condition: A Report on Knowledge.* Translated by Geoff Bennington and Brian Massumi. (Minneapolis: University of Minnesota Press, 1991).

[54] Jeffrey M. Jones, "U.S. Confidence in Higher Education Now Closely Divided," Gallup, July 8, 2024. https://news.gallup.com/poll/646880/confidence-higher-education-closely-divided.aspx

This crisis cannot be answered by refusal and retreat.[55] The urgent task facing universities is to understand and critique these new conditions of knowledge production. Critique, in this context, would be the rigorous analysis of the capabilities and limitations of the technological, social, cultural, and political conditions that have a) made this moment possible and b) are shaping the crucial processes of knowledge discovery, evaluation, distribution, and education that are the mission of colleges and universities. As contemporary GenAI models operate on language or make use of information extracted from language, the intellectual resources required to critique this technology and the socio-technical environment in which it operates are found across the entire university. Following twentieth-century theorists of language, Leif Weatherby reframes language as less a tool than a medium and argues that "The name for that medium is not just language but 'culture,' and now we are seeing even cognitive scientists forced to admit that one of their greatest achievements to date — generative AI — is a culture machine."[56] While the university has evolved from its humanist origins, in which "knowledge was essentially text based; it was to take place through the recovery and understanding of the works of classical antiquity,"[57] the centrality of language to GenAI, the fact that new knowledge is capable of being generated from the world's textual inheritance, and the import of the above-mentioned transformations urgently prompts us to return to scholarship on these founding concerns and necessitates collaboration with researchers in language and text-focused disciplines.

Artificial intelligence affords what Vijay Govindarajan and Venkat Venkatraman call "fusion strategies," the innovative combinations across domains, disciplines, and the physical world that are shaping and reshaping entire industries.[58] While higher education is an industry especially subject to these disruptive forces, the most important opportunities for Dartmouth, for our students and faculty, will be in linking together–fusing–the development of skills and techniques to leverage these powerful technologies with a critical consciousness to assess the impact and consequences of the insights extracted, knowledge generated, and decisions made with artificial intelligence.

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[55] Emily M. Bender and Alex Hanna, *The AI Con: How to Fight Big Tech's Hype and Create the Future We Want* (New York: HarperCollins, 2025); Jennifer Sano-Franchini, Megan McIntyre, and Maggie Fernandes, "Refusing GenAI in Writing Studies: A Quickstart Guide" https://refusinggenai.wordpress.com/; "AI Refusal in Libraries: A Starter Guide." https://acrlog.org/2025/06/11/ai-refusal-in-libraries-a-starter-guide/

[56] Leif Weatherby, "Artificial Intelligence and the Significance Crisis," The Chronicle of Higher Education, February 26, 2024. https://www.chronicle.com/article/artificial-intelligence-and-the-significance-crisis

[57] Hanna Holborn Gray, *Searching for Utopia: Universities and Their Histories* (Berkeley: University of California Press, 2012), 35.

[58] Vijay Govindarajan and Venkat Venkatraman, *Fusion Strategy: How Real-Time Data and AI Will Power the Industrial Future* (Boston: Harvard Business Review Press, 2024).

Dartmouth's unique responsibility and strategic advantage as the birthplace of artificial intelligence calls for our leadership in shaping the field, to make AI more human and humane by infusing models and future technologies with ethical and social awareness and making them responsive to our values. Strategic and thoughtful investments in technology, staffing, partnerships, and programming alongside a creation of a centralized leadership office are essential to the delivery of this vision.

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APPENDICES

Appendix A: Faculty Survey

The following questions were included in the Qualtrics survey sent to approximately seven hundred faculty in May, 2025. Faculty were asked about recent experience teaching or researching before being shown questions addressing these topics.

General and Demographic Questions

- In which school is your primary appointment at Dartmouth?
- In which academic department is your primary appointment?
- What is your formal Dartmouth title or rank?

Familiarity with GenAI

- How frequently, if at all, do you use any of the following models for any purpose?
- (Google Gemini, OpenAI GPT, Meta Llama, Grok, Claude, DeepSeek, Other)
- Do you have a paid (premium, pro, etc.) account with any GenAI platform?
- How frequently do you use chat.dartmouth.edu to access GenAI models?
- How satisfied are you with chat.dartmouth.edu?
- If you would like to explain your answer or suggest improvements for chat.dartmouth.edu, please do so here.

Teaching

- Have you been involved in classroom teaching in the past two years?
- Do you have an official policy for students on the use of GenAI in your courses?
- Which of the following best describes your course policy regarding GenAI?
- You said you permit GenAI use. Which uses do you permit? (select all that apply)
- How common do you believe unauthorized student use of GenAI is in your courses?
- How confident are you in detecting unauthorized GenAI use?
- How concerned are you about the following GenAI-related teaching risks over the next few years? (e.g., critical thinking decline, academic integrity, misinformation, bias, inequity, writing ability, reading displacement)
- How likely is it that students will benefit from GenAI in the following ways in the next 5 years?
- (e.g., creativity, personalized learning, better writing, concept understanding, coding ability, research quality)
- How much, if at all, have you changed course assessments due to GenAI?
- How, if at all, do you personally use GenAI in your teaching? (select all that apply)

- Over the next 5 years, do you expect GenAI's impact on students' educational experience to be positive or negative?
- How important will it be for your students to learn how to use GenAI effectively?
- If you'd like to explore GenAI in your courses, in which areas do you need support? (select all that apply)

Research and Creative Production

- Have you been involved in research or creative production in the past two years?
- How frequently do you use GenAI in substantive parts of your research/creative process?
- How frequently do you use GenAI in the following research tasks?
- (e.g., editing, code writing, summarizing, idea generation, translation, data collection, etc.)
- How frequently do you use GenAI for professional tasks?
- (e.g., emails, abstracts, letters, grant writing)
- How important do you think GenAI will be for research/creative production in your field in the next 5 years?
- Do you expect GenAI to have a more positive or negative impact on research/creative production in your field?
- What support/resources would help you use GenAI in research or creative work?

Final Thoughts

- Please describe any other concerns or questions you have about GenAI in teaching and research/creative production at Dartmouth.
- If you're willing to share your experiences with GenAI at Dartmouth, follow the link to leave contact information.

Appendix B: Open-Ended Survey Responses

The final question of the faculty survey asked respondents to complete an optional open-ended question with the prompt to "describe any other concerns or questions you have about the use of GenAI in teaching and research/creative production at Dartmouth." There were eighty-five responses to this question (29% of respondents). These responses have been categorized and tabulated using ChatGPT with the o3 model. By using a prompt to produce a reproducible Jupyter notebook, the model defined a set of keywords for each category. These were applied using standard pattern matching techniques and regular expressions for case-insensitive matching.

The responses were then labeled with the following eight themes (each response could belong to multiple categories). These themes and keywords were GenAI-discovered.

Theme	Keywords
1) Impact on student learning & critical-thinking skills	[critical, think, thinking, learning, analyze, analysis, student, students, shortcut, understanding, skills]
2) Need for clear institutional policy, training & support	[policy, guidance, framework, support, training, institution, administration, college-wide, clear]
3) Opportunities & positive applications	[helpful, positive, useful, benefit, opportunity, speeds, accelerate, facilitate]
4) Research-integrity, confidentiality & IP concerns	[confidential, sandbox, privacy, proprietary, confidentiality, ip, intellectual, integrity, skewed]
5) Bias, inaccuracy & broader ethical risks	[bias, biased, inaccurate, accuracy, ethical, environmental, costs, banalities, amplifies, risks]
6) Academic-integrity & plagiarism detection	[plagiarism, cheat, cheating, integrity, detection, unique work, original]
7) Job displacement & changing faculty roles	[job, jobs, roles, responsibilities, displacement, redundant, less necessary]
8) Competitive pressure & pace of adoption	[moving, fast, slow, behind, peers, pressure, rush, adoption]

Responses	Percentage	Theme
58	69%	Impact on student learning & critical-thinking skills
20	24%	Need for clear institutional policy, training & support
16	19%	Opportunities & positive applications
13	15%	Academic-integrity & plagiarism detection
9	11%	Research-integrity, confidentiality & IP concerns
7	8%	Competitive pressure & pace of adoption
6	7%	Bias, inaccuracy & broader ethical risks
5	6%	Job displacement & changing faculty roles

These open-ended responses suggest a highly polarized but deeply engaged community. They suggest a strong need for institutional leadership on questions of policy and guidance, especially in relation to teaching and learning, and discipline-specific support for research.

Appendix C: Invited Speakers for AI Lecture Series in AY24-25

Dennis Tenen (Columbia University) “The Myth of Creativity: Text Reuse in Contemporary Fiction,” September 19, 2024. Dennis Yi Tenen is an associate professor of English at Columbia University, where he also co-directs the Center for Comparative Media. His research happens at the intersection of people, text, and technology. His most recent books include *Plain Text: The Poetics of Computation* (Stanford University Press, 2017) and *Literary Theory for Robots* (W.W. Norton, 2024).

Milad Doueihi (Laval University), “Beyond Intelligence: Imaginative Computing. A Minority Report,” October 10, 2024. Milad Doueihi is Chair of Research on Digital Cultures, Laval University and a pioneer of “digital humanism,” which proposes that the digital transition is a form of collective religious conversion. Among his other books, he is the author of *Digital Cultures* (Harvard University Press, 2011).

Leif Weatherby (New York University) “The Poetics of AI,” October 29, 2024. Leif Weatherby is associate professor of German and founding director of the Digital Theory Lab, and the Director of Digital Humanities at New York University. Weatherby’s research focuses on literary theory, digital culture, and the history of science. He is the author of *Transplanting the Metaphysical Organ: German Romanticism between Leibniz [LIBE - NITS] and Marx* (Fordham, 2016) and *Language Machines: Cultural AI and the End of Remainder Humanism* (University of Minnesota Press, 2025).

Fabian Offert (University of California, Santa Barbara) “Vector Media,” February 20, 2025. Fabian Offert is assistant professor of History and Theory of Digital Humanities and director of the Center for the Humanities and Machine Learning at the University of California, Santa Barbara. He conducts research in several areas, including the digital humanities, computational literary studies, and digital art history. One of his major areas of focus is the epistemology of artificial intelligence.

Luciano Floridi (Yale University), “AI and the Future of Content,” February 26, 2025. Montgomery Fellow. Luciano Floridi is founding director of Yale's Digital Ethics Center and Professor in the Practice in the university's Cognitive Science Program. An influential philosopher of computing, Floridi has conducted research on information, agency, and artificial intelligence. He has produced important theorizations of information and the infosphere, the broader environment in which information, devices, and software operate on other objects and people. His books include *The Philosophy of Information* (Oxford University Press, 2011) and *The Ethics of Artificial Intelligence* (Oxford University Press, 2023).

Martha Pollack (Cornell University), “AI and the Mission of Higher Education,” April 21, 2025. Montgomery Fellow. Martha Pollack is president emerita of Cornell University. Before taking up the presidency at Cornell, she was provost and executive vice president for academic affairs at the University of Michigan. Prior to becoming an administrator, Pollack conducted research on artificial intelligence and served as the president of the Association for the Advancement of Artificial Intelligence (AAAI). She is a fellow of the American Association for the Advancement of Science, the Association for Computing Machinery, and the Association for the Advancement of Artificial Intelligence.

Sylvie Delacroix (King’s College, London) “The Architecture of Moral Attention: LLMS, Habit Plasticity & Moral Transformations,” April 30, 2025. Sylvie Delacroix is a philosopher and legal theorist. Her work addresses the ethical, legal, and political dimensions of technology. She has published work on habit, an area of human life that she describes as "both nature and 'more than mere' nature." In addition to theorizing digital ethics, she has also contributed to policy work on trust and transparency in relation to governmental use of data and the use of algorithms in criminal justice. She is the author of *Habitual Ethics?* (Bloomsbury, 2022).

Marcin Nowicki (The Noviki) “Beyond the Tool: Rethinking Authorship and Artistic Agency in the Age of AI,” May 7, 2025. Marcin Nowicki is a graduate of the Academy of Fine Arts in Warsaw and co-founder of a design and research studio called “The NOVIKI.” Through his work with this collaborative, Nowicki combines visual arts with studies of how technology influences culture. He develops graphic design and video artworks, multimedia projects, and curatorship ventures while focusing on theory and education.

Mercedes Bunz (King’s College, London) “On The Calculation of Meaning, Or Doing Words Without Things,” May 12, 2025. Mercedes Bunz is Professor of Digital Culture & Society at King's College London. She is a member of the Interdisciplinary Network for the Critical Humanities Terra Critica, a co-founder of the Creative AI lab, a collaboration with the Serpentine Gallery, and co-founder of Meson Press, a digital and open access publisher. Her books include *From Storage to Distribution: The History of the Internet* in 2008, *The Silent Revolution: How Digitalization Transforms Knowledge, Work, Journalism and Politics without Making Too Much Noise, The Internet of Things* and *Communication.*

Orit Halpern (TU Dresden) “Financializing Intelligence: AI, Neo-Liberal Economics, and Reactionary Politics,” May 14, 2025. Montgomery Fellow. Orit Halpern is a media scholar and historian of science. She has researched the intertwined histories of computing, science, and design. Her analysis links mid-twentieth century perceptual and information systems with accounts of capitalism and contemporary economic thought through the description and operation of neural networks and machine learning emerging in the 1950s. Her books include *Beautiful Data: A History of Vision and Reason since 1945* (Duke, 2015) and *The Smartness Mandate* (MIT Press, 2022).

Appendix D: List of Recommendations

1. Support College-wide discussions, including a series of University Seminars dedicated to AI topics (e.g., language learning; social sciences; public health; pedagogy).
2. Design an undergraduate interdisciplinary minor in AI-generated media to address methods and theories for the analysis of these objects, their production, and circulation.
3. Integrate faculty with expertise in social dimensions of AI-related technologies into existing centers focused on the application of AI to medicine and health.
4. Sponsor programming and courses on being human and humane in the AI era.
5. Catalyze campus-wide conversations on the intersection of human creativity and AI.
6. Integrate discussions of AI use and development with ongoing work on climate, energy, and the environment in student-facing AI literacy training and in policies, planning, procurement, workshops, and faculty research.
7. Inaugurate AI certificates and design interdisciplinary graduate programs in AI+X.
8. 2026: Sponsor a national-level event at Dartmouth to commemorate the 70th anniversary of 1956 summer workshop as part of a yearlong series of events.
9. 2027 and beyond: Sponsor an interdisciplinary annual AI Summer Workshop for graduate students and early-career scholars modeled on a reimagined version of the 1956 workshop.
10. Recruit a strategic group of new AI-focused faculty across departments and schools.
11. Identify, hire, and train "AI ambassadors" to work with faculty to make use of AI in research and to cross-pollinate AI-application ideas across all areas of campus.
12. Develop research partnerships with established and emerging AI-focused companies, e.g., OpenAI, Google, Amazon, Anthropic, Microsoft, or Meta.
13. Support faculty-led training and development for the use of AI methods.
14. Invest in additional analysts, programmers, and engineers in ITC and the Library to support faculty research and infrastructure.
15. Support faculty-led AI-based research initiatives, such as the "Evergreen" student mental-health and wellness app (Marsch, Campbell, Jacobson, et al.).
16. Enhance support for our local AI sandbox (DartmouthChat: chat.dartmouth.edu) and/or partner with a major foundation model vendor to provide a commercial platform for general (chatbot) and research use (API).
17. Develop regional partnerships to invest in existing or develop new shared research-computing services.
18. Add GPUs, and commit to their periodic upgrade, to maintain our cutting-edge on-premises high-performance computing cluster for research on AI and applied AI.
19. Expand resources for student development centers including DALI and the Cable Makerspace, to build AI applications and develop new technologies.

20. Develop AI literacy programming for each of the schools; integrate into existing curricular frameworks where possible (e.g., ethics requirement for Guarini and first-year seminar for undergraduate A&S students).
21. Build on prior successful pilots and experiments to launch a program to support the reimagining of key/gateway courses to make use of GenAI in productive ways that encourage deeper learning and enhance critical thinking. Provide resources and incentives to faculty, including trained student course assistants.
22. Create lifelong-learning programs for professionals retraining/retooling with AI in a broad, liberal-arts framework – for example, programs aimed at mid-career business executives, government leaders, or K-12 teachers.

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