Building a Culture for Generative AI Literacy in College Language, Literature, and Writing

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Introduction

This working paper asserts that educators should draw on our collective expertise to shape how generative AI is used, both in our areas of professional responsibility and in society, given the significant impact these tools have on our civic, cultural, and economic activities (Gallagher, "Writing" and "Ethics"; Noble; Benjamin; Baron).

There is the risk in documents such as this, however, that through the very act of creating them we are foreclosing alternatives by acquiescing rather than resisting. After all, we did not ask for or create these tools, so why should we make a good faith effort to engage with them now? But the technology *is* here, and while most educators were not its architects we believe it is in our collective professional interest to offer students, colleagues, and administrators balanced and informed perspectives on the risks and harms as well as the potential benefits.

As we conclude work on this document in the early summer of 2024, Apple has announced widespread integration of generative AI technologies into its platforms and devices, Google has moved aggressively to embed AI-generated content into its search results, and OpenAI has launched *ChatGPT Edu* to partner with colleges and universities by providing language models that claim to be fine-tuned to their institutional missions and needs. These developments suggest that AI technologies are mainstream enough to affect education and literacy in numerous ways that have been addressed in our first two working papers. Nonetheless, many uncertainties remain around how AI will evolve and how we humans will integrate it into our lives.

The term *artificial intelligence* may stimulate the imagination with futuristic overtones, but its functioning is automated and algorithmic. Some key definitions of the various types of AI follow:

- *Artificial intelligence* (AI) refers to machine learning systems that make predictions based on statistical models constructed from vast quantities of data.
- *Generative AI* (GAI), also predictive, refers to AI that produces synthetic text, images, or video in response to a user's prompt.
- *Large language models* (LLMs) are text-generation systems that use statistical calculations to predict the likelihood that words or parts of words will appear successively. They are trained on human-written text drawn from the Internet and other sources that have been digitized and produce a result based on a user's prompt. LLMs involve various forms of human intervention behind the scenes, including human feedback and content moderation that influence their performance.
- *Artificial general intelligence* (AGI) refers to a potential future kind of AI with human-like intelligence that would be able to teach itself to solve problems and perform new tasks without prior training. This kind of AI does not yet exist.

GAI tools work quickly, drawing on immense amounts of data and computing power. It is important to understand that, while they appear to work like magic or to think like a human, they are data-driven and machine-enabled, the product of theoretical and empirical work in advanced mathematics, statistics, computer science, engineering, and linguistics as well as the input of millions of everyday computer users. Without the benefit of human understanding, GAI tools perform tasks that typically require human decision-making, such as analyzing natural language, recognizing patterns in data, and making predictions. LLMs produce documents that are reasonable facsimiles of human prose across a wide variety of subject areas, prose that is often "good enough" for typical everyday uses. The purported "intelligence" attributed to AI lies in the ability to simulate cognitive functions that humans use. However, "AI" systems are not thinkers but statistical models that "learn" by recognizing patterns in large bodies of training data. The systems become increasingly adept in producing outputs that draw from that training data, even as they also inevitably reproduce the biases or gaps in the original information. As a result, in many situations where GAI output looks and sounds plausible at the level of grammar and syntax, it is factually or demonstrably untrue.

Educators are now operating in an environment where the very term *artificial intelligence* can create unrealistic expectations by implying the existence of an entity capable of independent logic and reasoning. However, it can quickly become apparent to users of GAI that its processes and output require the supervision and intervention of critically thinking humans.

Compounding the situation, GAI is no longer a stand-alone technology in the sense of its being "out there" (as a website or app) that individuals may choose either to use or not use. GAI is increasingly being embedded and integrated directly into everyday services, applications, and devices, from Internet search to email and word processing. The technological landscape is already one in which there are no clear dividing lines between what is and isn't a GAI tool or technology. Called for, urgently, is a focus on GAI literacy.[1]

The organizations that have contributed to the development of this working paper position GAI literacy as building on two goals, initially introduced by the New London Group in relation to multiliteracies: accessing "evolving language[s]" across different contexts and developing critical frameworks that help imagine better "social futures" (New London Group 60). Since GAI will affect nearly all aspects of our literate spaces with significant consequences, we advocate in this working paper for conscious attention to improving the GAI literacy of all agents in the academic enterprise: students, faculty members, programs or departments, and institutions. The practices suggested go beyond mere technical fluency to support the development of critical orientations, creative responses, community strategies, and personal approaches to GAI.

I. GAI Literacy for Students

Students need practical, instrumental strategies for using GAI to accomplish specific objectives. They also seek to understand how GAI may influence expectations for performance in their courses, the quality of the education they may receive from instructors who use GAI tools, and the job market they will face upon graduation. GAI literacy, however, should also include the capacity to design or critique tools (Selber), to reshape the rhetorical situation in which one is writing in order to claim more agency, and to question the ethics and efficacy of using these tools in the first place.

In this section, we offer a set of GAI literacy outcomes for students, primarily those at the early undergraduate level. Students need to be prepared to make wise judgments about when to use GAI systems and when not to use them. With LLMs in particular, all users benefit from an understanding of the practices of critical reading, writing, research, and thinking as these tools become more integrated into our everyday composing practices. While the outcomes described here are intended for educators and students to read, a succinct student handout has been prepared.

Learning Outcomes for GAI Literacies

College students can learn and demonstrate the following outcomes for making decisions about using GAI as a tool for writing:

Evaluate GAI output for accuracy. The accuracy and precision of GAI differ according to the version of the tool being used. Whereas free versions of these tools may invent information based on a user's prompt and an algorithmic formula, subscription versions often accommodate more user input and have access to more data to improve the accuracy of their results. However, price is not necessarily a measure of quality in the information-gathering process. When asking GAI to produce text that asserts facts about reality, students need to be sure that the information they receive is correct by checking for other sources to verify the accuracy of the results. References need to be checked through a library database, online search engine, or documentation in the print record.

Evaluate GAI output for relevancy. Effective uses of GAI and other technologies produce results that match the purpose of a reading, writing, or research task. Since chatbots, unless specially programmed to do so, do not ask users probing questions that will help generate relevant results, GAI will not always produce results that are useful or relevant for an academic task or learning activity. The value of GAI is thus limited by the extent to which a human writer can assess whether the output is relevant to the task. For example, if a writing task asks for analysis and the text produced is summary, then the writer must be able to assess the differences between these two textual purposes and make choices about how to adapt, revise, or reprompt to generate appropriate material.

Evaluate GAI output for bias. The output of GAI systems is only as good as the data it has been trained on. Because the data used so far tend to reflect the knowledge and practices of the majority, GAI is likely to produce output that reflects the most commonly used and standardized practices. This is the case with language use, where it has been noted that the patterns of language use in AI-generated texts are rather normative and unreflective of multilingual and multicultural varieties (Rettberg). An important part of student development is learning to question the kinds of received stereotypes that GAI may reproduce.

Understand the role of privacy and data security when deciding on GAI use. It is important to understand what data we are signing away when choosing to use a GAI tool and how this information will be used by the companies whose property it has become. It is not always clear to users precisely what data is being collected when information is fed into a GAI system, and such uses are being continually renegotiated at corporate and regulatory levels. Neither is it easy to understand the agreements users enter into in order to use a GAI product. Students and teachers alike should be aware of the terms they agree to when signing up for a GAI system and may want to analyze those together in class before unpacking the implications.

Consider asking, What data and metadata are the company collecting? What will it do with the data? Are those purposes ethical? If not, what options are there? Who benefits and who loses when the input or output of GAI is commercialized?

Adapt to different GAI tools as technology changes over time. GAI and other technologies change rapidly. Each new iteration of GAI tools will produce more robust, more responsive, and "smarter" responses and also may have different "guardrails" that prohibit harmful or dangerous information. College students need to develop the flexibility to make choices about using different technologies as tools for reading and writing instead of focusing only on how to use a particular tool for a particular task. Expect that the practical and ethical choices that students need to make about technologies and the skills they need to use will evolve as new technologies emerge.

Analyze the rhetorical situation of a writing task and determine the appropriate uses of GAI for that task (if any). Effective choices about writing depend on the situation, including the writer's purpose, audience, and genre, and writers need to develop the ability to match uses of GAI and other technologies with each new writing situation. GAI-literate users will be familiar with the multiple purposes for which they might use GAI—for help with brainstorming, creating an outline, summarizing an unfamiliar source, forging a deeper understanding of a topic through question-and-answer exchange, editing, or citation creation, among other tasks—whereas new users may not recognize the applications or the limitations of such tools immediately. Developing GAI literacy means being able to break down a writing, reading, and research task into clear, manageable steps and assessing at each phase what GAI has to offer for that point in the process.

Explain the reasons for informed choices about using or not using GAI for critical reading, writing, research, and learning processes. Understanding how GAI might be used as part of the writing process is part of technological proficiency. As important, however, is a writer's ability to explain why they chose to use GAI for particular processes. Metacognition—thinking about thinking—is a core part of literacy; expert writers and expert GAI users can articulate the rationale for their choices, including how the use of GAI helped contribute to the final product.

Accurately represent the use of GAI in research and writing processes through attribution or meta-commentary. All writers using GAI to generate text or to support their work as writers and researchers need to be transparent about their use. Depending on the context, this transparency might include a footnote explaining the use, an author's note or memo, an introductory acknowledgement, in-text citations that follow a recognized documentation style and the recommended format provided in that system of citation, or an appendix or link with the full record of prompts and outputs. GAI text submitted for a graded assignment or course credit, for professional purposes (such as scholarship applications), or for admissions essays must follow the standards laid out by the reviewing entity. Writers who are GAI-literate will always err on the side of transparency.

Access and understand policies and guidelines for using GAI set by an instructor or institution. Permissible and successful uses of GAI are determined by institutional policy and by the instructor, course, field of study, purpose of assignments, and requirements for different learning activities. Students need to know how to locate resources at their school that describe their rights and responsibilities when using GAI for coursework. They also need to recognize that these guidelines might change over time and might be shaped

by national or international regulations about privacy, intellectual property, or other concerns. Students who have an accommodation plan for a disability may have other rights connected to using GAI as an assistive technology tool. For each course, students need to find relevant guidelines in the syllabus, orientation unit, or online resources to help determine when and how they might use (or cannot use) GAI tools.

Monitor GAI use in relation to their learning goals, including recognizing when an overreliance on GAI tools prevents learning. Any technology used as a tool for learning can shape how and what a student learns. Students need to develop an awareness of how their uses of GAI influence and change their learning processes and experiences. Whether students choose to use GAI or are required to do so, they need to monitor when and how it helps them learn. Monitoring GAI use for learning means that students pay attention to situations where using GAI makes learning difficult, keeps them from achieving the goals of a course, or prevents them from developing skills needed for future learning.

Monitor how GAI affects their development as writers and identify when GAI use limits their growth and potential. Proficiency and development in writing evolve from repeated experiences with actual writing. Writers need to learn how to adapt their writing to diverse situations that involve audiences of human readers. Whether students choose or are required to use GAI, they need to critically reflect on how its use affects their abilities to develop skills, strategies, and processes that help them achieve their writing goals and their assumptions about human trust and understanding. They need to be able to identify when learning to use GAI tools might help them successfully complete a writing task while also recognizing the limitations of GAI in supporting their growth and development as writers.

Build on existing rhetorical and narrative skills to effectively prompt GAI and understand what GAI is and is not capable of producing. Students should recognize that technology-specific strategies for prompting LLMs are likely to change as the technology changes (Mollick). GAI-literate students will work to write prompts that effectively describe what they seek by drawing from rhetorical awareness of the intended audience, tone, genre, and style of a writing task. They will be able both to describe the steps needed to achieve what they seek ("chain-of-thought prompting") and to ask the GAI system to make changes that will improve the results (iterating).

II. GAI Literacy for Educators

Here we pose the technical, pedagogical, and ethical questions that educators should consider as they approach GAI in the classroom. Then we offer recommendations for instructors, tutors, and mentors seeking to cultivate an understanding of GAI to facilitate student learning.

Technical Skills and Resources

- Is my understanding of how GAI works sufficient to enable me to help students develop GAI literacy?
- Is my understanding of how GAI "detectors" work sufficient to enable me to make informed choices about their use (Tang et al.)?
- Is my understanding of how GAI tools are integrated into educational technologies and how their settings work sufficient to enable me to knowledgeably opt in or out of the tools?

Pedagogical Considerations

- How, if at all, will GAI enhance the learning experience for students?
- What is the distinction between using GAI to facilitate learning and using GAI as a work-around or substitute for learning?
- How might the use of GAI affect my students' creativity?
- Can content generated within a GAI exchange be seen as original?
- Does GAI promote or mediate linguistic bias?
- How will I assess content that includes GAI?
- Is my knowledge of GAI sufficient not only to inform decisions about integrating GAI into my assignments but also to enable me to guide students through the process of using it effectively and responsibly?
- Am I able to advocate for the professional development needed to address more ambitious AI literacy goals?

Ethical Considerations

- Who owns the intellectual property rights to content generated within an AI exchange?
- What happens to the work (their own and others' texts, assignments, etc.) that users share with the chatbot?
- What information are users explicitly and tacitly sharing with the companies who own the GAI?
- How can educators protect their own and their students' privacy?
- When is it appropriate for creators to use content generated within a GAI exchange? How should they acknowledge the use of GAI, especially in a situation of content drift, where the GAI output cannot be duplicated in a new search?

These considerations are by no means exhaustive but begin to suggest the complexities educators face in using or experimenting with GAI.

Developing GAI Literacy for Educators

The landscape of GAI technologies and programs is rapidly evolving. We encourage educators to actively engage with the technologies in order to have an informed understanding of how they work and how their students might be using them.

Experience and experiment with these technologies. With the increasing implementation of GAI technologies into widely used systems (such as word processors, operating systems, and search engines), it becomes harder to opt out of considering the impact of these technologies. Ignoring GAI is not a sustainable position, because without guidance, students may use GAI uncritically in their writing. We recommend that educators familiarize themselves with GAI tools and consider when students might benefit from them and when they would not. Beyond familiarity, we encourage educators to play with the tools in order to understand their capacity for language, invention, and narrative.

Seek out professional development. While institutions and departments should provide avenues for professional development in GAI literacy, educators may need to participate in, create, and locate alternative sources. Options might include joining the many active discussions of GAI in education on social media, establishing professional learning communities of educators on focused topics, or seeking out reading circles and discussion groups that support instructors in this work.[2]

Read current articles and popular nonfiction about AI as well as emerging Critical Artificial Intelligence Literacy (CAIL) scholarship. Readings with dense technological jargon may appear intimidating, but not keeping current with relevant scholarly literature may affect job performance or professional advancement and hinder participation in dialogues about changing pedagogical practices. Fortunately, many authors have published CAIL scholarship written for a broad readership (Brossard et al.; Buolamwini; Crawford). Continuing research will allow educators to consider how the evolution of GAI necessitates changes in the work we assign and how we scaffold instruction as well as how tutors consult with learners on their projects.

In many cases, we will need to supplement our current disciplinary and pedagogical knowledge through interacting with GAI or in conversations with internal and external experts in the field. Through continued research, instructors can educate themselves about how interactions with GAI affect not only what is taught and how it is taught (or tutored) but also our capacities to imagine potential areas for resistance and other forms of critical action in related spheres, including types of literacies, definitions of authorship, research agendas and the research process itself, employment prospects (our own and those of our students), and larger political, economic, and labor frameworks for these technologies.

Foreground an ethic of transparency. It is important for instructors who incorporate GAI into their own composing practices to model the ethic of transparency that they would want students to emulate. For example, if AI is used to schedule meetings, summarize video calls, or create visual illustrations, it is important to discuss this with students. (However, we and others [see Furze; Warner] would caution against using LLMs to assess student writing or to write tailored feedback to students, given the danger of undermining trust and human connection in the classroom.) Appropriately acknowledging the use of these assistive technologies encourages students to disclose their own patterns of use. For example, it is important to discuss the difficulties of "citing" output from LLMs that are drawn from enormous databases of fragments derived from heterogeneous sources. Encouraging students to share as much material from the writing process as is practically feasible—including prompts, outputs, and drafts—will assist with building an environment of transparency and mutual respect.

Situate contemporary AI use within a larger historical and cultural context of teaching with technology. Educators must help students frame GAI literacy within their existing literacies. These technologies are new, but the emotional, intellectual, and creative skills needed to ethically and successfully navigate these changes are not.

Acknowledge how linguistic and social biases can be exacerbated by GAI. Educators must examine their own implicit biases and assumptions about the relationship between language and identity, taking care to avoid making negative assumptions about marginalized writers on the basis of their academic writing. They must also be aware that GAI output is suspected of inherent cultural bias.

Literature across a number of disciplines has shown that international students and multilingual students who are writing in English are more likely than native English speakers to be accused of GAI-related academic misconduct (Parthner; Tzanni; Foltynek et al.; Liang et al.; Weber-Wulff et al.). The problem is twofold. Studies have shown that GAI detectors are more likely to flag English prose written by non-native speakers as AI-generated (Liang et al.; Weber-Wulff et al.), but even instructors who do not use AI detectors should be aware that suspicions of misuse of GAI are often related to a complex of factors, including culture, context, and unconscious "native-speakerism," rather than actual misconduct (Parthner; Tzanni).

Affirm the importance of shared governance and academic freedom in creating guidelines and policy around academic uses of GAI. The American Association of University Professors states that academic freedom includes "the right of the faculty to select the materials, determine the approach to the subject, make the assignments, and assess student academic performance in teaching activities for which faculty members are individually responsible" ("FAQs"). For instructors who face growing pressure to include these technologies in their classrooms, disciplinary expertise and decision-making through shared governance are essential in determining what approach is appropriate for their students and curricula. We encourage colleagues to engage in those conversations when called upon in the interest of arriving at shared disciplinary or governance unit stances that are both flexible and equitable.

Respect the choice to opt out. One potential outcome of CAIL might be an instructor's informed decision not to engage with or permit AI technologies in particular assignments, activities, or courses. Instructors need to consider that deciding to opt out means that the burden of teaching students to use these technologies responsibly is shifted to other classes and instructors, including those in more precarious positions who may not enjoy the same degree of academic freedom. Some instructors may face consequences in hiring and evaluation processes when they opt out of teaching AI literacies in their classrooms, particularly when shared governance processes have determined department-wide uses for AI in the curriculum.

Protect student privacy. Many LLMs require users to share personal information in order to access their platforms for composing. It is important to allow students to opt out of these forms of disclosure. Institutions may also use AI to monitor student writing, which may raise many privacy concerns (Han et al.).

Additional Considerations for Instructors

Those who design curricula, assign work, and evaluate students' learning have specific responsibilities when it comes to GAI literacy. In designing assignments or projects with GAI in mind, we must first ask what educational purpose GAI has in our assignments or projects. We must also ask how much labor we are willing to put into designing or redesigning assignments and projects with GAI in mind. Both questions require careful consideration. Most importantly, faculty members who evaluate student work must use great care in incorporating AI technologies into the feedback and grading process.

Below are key considerations for incorporating GAI literacy into syllabi and classroom policy:

- GAI literacy should be considered vital to the teaching of research, writing, language, and literature across a variety of course topics and departmental curricula. The importance of such literacy should be reflected in course learning objectives that are the grounds for assessment rather than in the mere addition of new academic honesty verbiage or the superficial retooling of individual assignments.

- Educators should carefully consider issues of power and privilege through the discussion of access and linguistic diversity so their GAI policies will empower rather than harm students.
- Educators should be transparent in their incorporation of GAI literacy into their syllabi, assignments, writing projects, research, and assessment.
- Classroom policies on GAI should align with institutional policies where those exist.
- Educators may want to think about developing teaching approaches that enable students and teachers to reflect on and discuss the role of GAI in their writing process, project stages, or research strategies.
- Making classroom and institutional policies available for students' reference is not sufficient to promote GAI literacy; scaffolding must occur in class.

Graduate Student Instructors

Graduate teaching assistants (college instructors who while enrolled in a graduate degree program have full or partial responsibility for instruction of undergraduate courses, sections, or labs) can find themselves in a liminal position regarding policy and literacy development. The ways they are learning to use and integrate GAI tools into their own research and writing may differ from those they might wish to apply in instruction or materials creation in classes they are responsible for. And, since many graduate teaching assistants are pursuing graduate degrees directly or shortly after their undergraduate education, there may be assumptions about their knowledge and proficiency with these tools. Consider graduate students' dual roles as both teachers and students when creating resources or policies that affect GAI use in classrooms.

III. GAI Literacy for Programs and Departments

The impact that GAI is having on writing studies and the humanities, as well as other disciplines, cannot be overstated. In this section, we spell out key issues, questions, and responsibilities facing academic units broadly as well as coordinators, administrators, or chairs of academic units. We identify common issues as well as local contexts that influence the creation of a culture within a program to develop GAI literacy.

We address here those programs with responsibility for various types of language, literature, communication, and writing-intensive fields of study. These might include any of the following:

- corequisite support for composition courses
- creative writing
- developmental reading and writing
- English programs and degrees
- first-year writing
- general education writing and writing-intensive courses beyond first-year writing
- graduate programs in English studies and related fields
- integrated reading and writing
- technical and professional writing
- TESOL and ESL programs
- writing across the curriculum
- writing centers
- writing minors or majors

For such programs, coordination and administration responsibilities can be distributed in a variety of ways. We address here the multiple configurations in which this labor may take place. Many programs have a dedicated coordinator position, faculty overload work, reassigned time, or shared governance structures like working groups or committees (see Calhoon-Dillahunt). In any of these structures, program development work must address common teaching and learning needs in relation to GAI.

Program coordinators should start thinking about GAI literacies in their local contexts by developing student learning outcomes related to GAI literacies such as those provided in section I. Rather than add new outcomes, it is recommended to fold GAI literacies into existing outcomes. The purpose of this approach is threefold: to reduce the labor associated with adding to what may be an already long list of outcomes; to avoid the "add-on" approach that minimizes the role and purpose of digital technologies, including GAI, in the curriculum and instruction; and to incorporate GAI literacies into the work instructors already do in their classrooms. Hence, program coordinators should deconstruct the existing student learning outcomes of their program to identify the places where GAI literacy outcomes may be incorporated.

The following list includes much of the learning expected to happen at our programs, and program coordinators should expand this list depending on the goals of their respective programs:

- foundational knowledge and understanding of GAI
- knowledge of the affordances, limitations, harms, and opportunities of GAI
- understanding of the ethics of GAI
- understanding of the embedded bias in GAI systems
- understanding the role of GAI in the workplace
- understanding the expectations of GAI literacies in possible future career paths
- use of GAI in literacy development that addresses issues of power and privilege
- prompt engineering as a rhetorical practice
- use of GAI as part of the iterative processes of composing
- use of GAI ethically, rhetorically, and recursively in the writing process
- source attribution and documentation as a professional and ethical practice beyond the plagiarism narrative

Taking a Program-Level Approach to GAI Literacy

Though there is much variety in what individual educators can do to support GAI literacy in their courses, we recommend thinking about GAI literacy at the program level as well in order to support instructors as they develop their knowledge and skills.

Build on existing practices. Programs need to adapt GAI curricula and teaching resources to the varied purposes and outcomes of a range of courses. For example, English departments may offer reading, writing, literature, cultural studies, and other types of courses. Approaches to developing curricula and teaching support for GAI literacy need to build on existing effective teaching practices that reflect the purposes of each course, the literacy strategies students need to successfully complete each course and program, and

the unique features of each English studies subfield. Similarly, language departments that house instruction for multiple languages must consider the linguistic and cultural approaches to teaching that support effective curriculum and instruction for a particular language.

Design courses strategically. Course design strategies can embed GAI literacy across a program in a way that supports students' literacy development as they transition to new courses, grow as college learners, and work toward completing a degree. An effective GAI curriculum supports students' development throughout a program, from basic language and literacy courses to upper-division coursework. Programs need to consider the GAI literacy skills and strategies required for navigating the final course in a program and then work backward toward earlier courses to determine basic GAI literacy skills that lead to more complex critical engagement with GAI in subsequent courses.

A comprehensive approach to embedding GAI literacy (and other forms of literacy instruction) throughout a program considers both overall program goals and outcomes and the learning outcomes for individual courses. For example:

- Developmental writing, reading, and integrated reading and writing courses can teach basic skills and strategies that provide a foundation for understanding GAI and its uses and for learning more complex skills and strategies as students practice reading, writing, and learning in other disciplines.
- First-year courses can introduce students to GAI literacies that they later build on for reading, writing, and learning in major courses.
- Beginning language courses can introduce students to strategies for using GAI effectively and ethically as a language learning tool to support later learning, including the development of critical approaches to GAI, in intermediate and advanced courses.

Rather than focusing on particular technologies, program-level course design strategies should focus on helping students develop skills and strategies that they can adapt as GAI technologies change over time.

Start 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 GAI critically and effectively in academic situations and across their literate lives. First-year writing courses taught through concurrent enrollment and dual credit models, many of which are taught in secondary settings by high school teachers, share this mandate. As policy approaches may differ between high school and college contexts, it will be especially important to ensure conversations are taking place between sites of to ensure consistent quality of learning for college writers.

Assess needs of ESL programs. At institutions that offer both ESL and second language writing courses, program coordination work connected to GAI needs to address curricular differences between the two programs. When students can self-select either program, and when writing programs enroll students who have previously completed ESL coursework, writing and ESL programs can collaborate on approaches to embedding GAI literacies into the curriculum to support students' transitions to the writing program and other credit-bearing coursework. TESOL faculty members and second language writing specialists can help inform the writing program about how students use GAI for language learning.

Academic support units merit additional special considerations. Individual educators and program leaders who work with students outside the traditional teacher-student relationship have unique opportunities to foster deep learning. While many learning professionals and tutors see themselves as uniquely positioned to address GAI literacy with writers and language learners, we must acknowledge that tutors do their work within the parameters of others' expectations. We therefore recommend taking the following steps before discussing GAI with clients or employing AI tools within the tutoring environment:

1. Determine whether the institution, the department, or the individual faculty member who created the assignment has a policy regarding whether, how, and when GAI may be used.
2. If a clear and coherent policy exists, tailor your practice and the professional development of your tutors to it. If you disagree with the policy, advocate for a change to the degree that you can. Many campuses have created an AI task force; make the case that the writing or learning center should be on it. If support organizations are represented in the conversation, they can remind others that GAI is not a replacement for a human audience.
3. If a policy does not yet exist or policies across campus are contradictory—a situation that is all too common, according to an empirical study conducted by Chiu and colleagues in late 2023—then try the following:
    - Seek leadership. Help your campus colleagues understand that academic integrity policies that were designed before GAI are insufficient to address the complexities of these new technologies in relation to academic integrity. Encourage them to work toward coordinated GAI policy across campus rather than leaving policymaking to individual educators. This is a great opportunity to make your services visible, to exercise leadership, and to frame the conversation in a way that protects rather than harms students.
    - Start with your unit. After seeking input from relevant stakeholders at your institution and consulting best practices, develop a visible policy clarifying the degree to which GAI is used in your context. In addition to serving as a model for your campus, this step could help forestall criticism of your tutoring practices as inconsistent with academic integrity.
    - Provide professional development on GAI for your tutors. Tutors not only need to understand the issues raised in this paper but also need to know how to discuss the use of GAI and facilitate it for assignments and purposes that are not their own. In other words, their training needs to be specific to their roles as outside experts and mediators.
4. Whether or not your campus has a policy regarding GAI, we recommend that you assure learners, tutors, faculty members, and administrators that the role of academic support services does not include surveillance of and reporting on learners' GAI use.

Developing Curricula and Instructional Resources

GAI literacy should be embedded into the curriculum of an entire course instead of offered as a stand-alone lesson or unit. Program coordinators and faculty leaders might support instructors in embedding GAI literacy into a course through some of the following approaches:

- Create a model course schedule that shows instructors how to introduce GAI concepts and then build on them in recursive ways in subsequent parts of a course.
- Develop examples of classroom and online activities that demonstrate how to incorporate GAI literacy into existing course activities.
- Suggest breaking model writing projects into manageable process steps for students with ideas for incorporating critical GAI literacy into the process at each stage.
- Provide examples of language about GAI literacy for the course syllabus to show its connection to course learning outcomes.
- Suggest activities that help students learn through experience where GAI is useful, appropriate, or ethical to draw from.
- Suggest reflective activities that engage students in connecting GAI literacies to their learning in current and future courses and in a future career.
- Discuss modeling student agency to not use GAI.

Programs should develop model curricula and teaching resources for incorporating critical GAI literacies into individual courses and across a program. A program-level approach creates consistency across course sections, reduces course preparation workload for part-time and contingent faculty members, and creates resources that instructors can build on for developing their own teaching materials. Examples of model curricula include course development shells, a shared drive or folders with sample materials, and peer mentoring and support relationships.

In order to achieve those learning outcomes and to ensure coherent teaching of the revised curriculum, program coordinators should argue for building faculty development opportunities for instructors in their programs. These opportunities should be ongoing to allow for deep and meaningful engagement with the topics presented and the emergence of generative discussions. In other words, the one-shot workshop model will not support the intended outcomes. We make the following recommendations in relation to faculty development:

- Faculty development meetings should be a space for building instructors' conceptual knowledge about GAI literacies, helping them develop theory-informed pedagogical practices for integrating GAI into their teaching, and allowing them to experiment with GAI technologies and develop their technological skills.
- Such gatherings can simultaneously address instructors' resistance, fear, and hesitation about using GAI in their teaching while also recognizing that faculty development programs cannot make instructors experts in GAI, which is not an attainable goal given the fast-changing nature of these technologies.

- Continue to build on instructors' current teaching knowledge and practices in the course of working from conceptual knowledge to pedagogical and instructional practices that instructors may transfer to their classrooms. Instructors are likely to integrate GAI in their teaching when they see it as related to what they already know and do.
- Coordinators can look for opportunities to collaborate with other units at their institutions that may provide logistical, technical, or administrative support for their faculty development endeavors. Units such as libraries and centers for teaching and learning may be willing to contribute resources (such as space, time, and scheduling) in exchange for support of their mission and programming (which coordinators might provide by putting together a panel on GAI literacies at their facility, for example).

We advise that program coordinators position themselves, their programs, and their administrative work as part of the bigger-picture work happening at their institution, emphasizing the ways in which their work contributes to student learning and preparing GAI-literate citizens.

IV. GAI Literacy for Institutions

Institutions, from executive-level administrators to staff members with decision-making responsibilities across a campus or system, are grappling with the changes that GAI is ushering in. Prioritizing GAI literacy is consistent with the research missions of all institutions of higher education, because these sites of collective knowledge-making must continue to promote transparency, informed consent, and harm reduction in the research process.

In this section, we sketch out what GAI literacy at an institutional level looks like.

Citizenship, Ethics, and Integrity as Institutions

One of the most important responsibilities of colleges and universities is to foster a culture of ethics and integrity that serves as a model for students as they not only become trained for a profession but also develop as global citizens. Discussions of ethics and integrity as related to AI technologies should not be focused exclusively on caveats to students about using GAI for the purpose of academic dishonesty. Rather, while educating the students who will eventually be refining AI technologies and creating new ones, institutions that foreground the crucial role of humanities disciplines, such as language and literature, rhetoric and composition, technical and professional communication, philosophy and ethics, history, and cultural studies, not only increase the career readiness of their STEM students but also help shape their understanding of why ethics and integrity in the conceptual and developmental phases of these technologies are so important to the future of humanity and democracy.

AI Literacy and Research

When institutions provide funding and support for AI research, they should also recognize that this research occurs in many places across campus, including in writing programs, libraries, and language departments. In other words, AI research is not the sole domain of STEM fields. An unsiloed "AI across the curriculum"

approach to AI literacy that includes students as researchers does not assume that this literacy is remedial, self-evident, or unrelated to other discourses of power.

It is also important not to assume that AI research only occurs in high-prestige Research 1 institutions. Researchers at access-oriented institutions with closer and more reciprocal relationships with people from marginalized groups, in precarious economic positions, and at risk of incarceration and deportation provide valuable perspectives on these technologies.

Because research partnerships often involve transnational or corporate ties, it is also important to recognize that AI technologies are being used for surveillance, disinformation, censorship, and profiling around the globe in ways that are inconsistent with the democratic values of higher education. For example, in 2018 a positive headline declared, "MIT and SenseTime Announce effort to Advance Artificial Intelligence Research." The following year, *The New York Times* ran stories about how SenseTime had enabled persecution of ethnic Muslims in China using AI (Mozur).

When investing in educational technologies ("ed tech") to support students' scholarly and professional development, seek ways to build on lessons learned from past initiatives in information literacy and digital literacy that are grounded in the literature of peer-reviewed research. Administrators should be cautious about investing deeply in unproven technologies that might promise results without evidence and also lack the agility to respond to rapid development and obsolescence patterns.

Diversity, Equity, and Inclusion

Many cutting-edge technologies—including speech to text, text to speech, and video captioning—began as assistive technologies for people with disabilities and have found wide application beyond those communities. AI may accelerate these services to students, faculty members, and staff members who often experience wait times for accessible course materials. Research centers such as the Maryland Initiative for Digital Accessibility can be sources of information on balancing the benefits of these technologies with privacy protections for students.

AI-enhanced technologies are also being employed to increase first-generation and minoritized students' sense of belonging and retention. The National Institute for Student Success at Georgia State University recently received a $7.6 million Department of Education grant "to study how chatbots can improve student outcomes in foundational college math and English courses" ("National Institute"). At the same time, it is vitally important that issues of consent and student data protection be considered in the adoption of such technologies.

Hiring, Admissions, and Other Decision-Making Processes

AI is increasingly used for decision-making in high-stakes situations such as hiring (from writing job ads to screening and ranking applications) and immigration (from processing applications to border security). When considering the use of AI technologies for decision-making of any kind, institutions need to keep foremost in mind the great potential for algorithmic bias that the popular media often neglects or downplays, such as in a recent article in *Forbes* about the use of AI in hiring and firing (Kelly).

Given the highly problematic nature of using algorithms to determine people's livelihoods and futures, we suggest that institutions exercise extreme caution in implementing AI technologies in an attempt to make hiring, student admissions, and other application review processes more efficient and cost-effective. Researchers are developing tools that may reduce algorithmic bias in college admissions processes (Neda et al.), but close human oversight will continue to be needed to ensure hiring and admissions selections that result in a diverse student body, faculty, and staff.

AI Literacy and Career Readiness

AI literacy will obviously be important in preparing graduates for the job market, creating the jobs of the future, and retraining in job sectors eliminated by automation, including historically designated white-collar professions, such as the law and computer programming. AI literacy will also be important in the creative industries that produce music, film, books, and video games as society begins to grapple with difficult questions around credit and compensation for GAI content synthesized from multiple sources. We urge readers with institutional-level influence and responsibilities to take the following steps:

- Recognize differences between as-yet-unrealized artificial general intelligence (AGI) and current applications of machine learning and statistical modeling while acknowledging the contributions of training in literary and film criticism—particularly in science fiction and other forms of speculative fiction—to understanding how popular attitudes about AI have already been shaped by the ways these technologies have been imagined.
- Account for the fact that AI literacy involves speaking, writing, reading, and research across multiple media forms, texts, and languages. Although automated translation for utilitarian purposes might seem sufficient for many career applications, the deeper cultural knowledge connected to language acquisition offered by language departments continues to be important for global careers that require cultural sensitivity, awareness of social relationships, and understanding of shared histories.
- Include training in composing that focuses on process as well as product, given how GAI may be used differently in contexts for planning, conceptualizing, organizing, revising, providing feedback, and summarizing the work of others. Attention to process in AI literacy is particularly important for careers that require collaboration, project management, problem-solving, iterative design, and learning and reflection.

Community Engagement

Institutions engaging in research and development of AI technologies that are intended to benefit the public should work directly with the relevant communities to ensure that they are filling an actual need or addressing an existing challenge rather than inadvertently creating new problems for those communities. More generally speaking, the potential unintended negative consequences of all AI research on communities should also be carefully considered and periodically reevaluated throughout the research and development process. The authors of *A Call for Universities to Develop Requirements for Community Engagement in AI Research* note that "working only with data instead of people means that AI researchers

have the ability to develop systems that change hundreds of lives or impact culture without ever involving anyone from impacted communities in their research" (Black et al. 2).

Government Relations, Compliance, Risk Management

At a moment when the legislative and regulatory environment for GAI is unsettled—and there is active litigation over copyright issues around LLMs—colleges and universities may think about balancing risk management with the encouragement of experimentation, innovation, and creativity. Administrators will find expertise among scholarly communication and information policy librarians as well as a robust conversation among civic tech and civil society organizations engaged in AI-related advocacy for privacy, civil liberties, and balanced copyright. This kind of expertise can inform policy around the use of GAI in computational research, privacy and consent agreements for students and creators, and licensing and procurement negotiations and decisions with ed tech providers.

In the copyright realm, the National Endowment for the Humanities funded the development of legal literacies for text and data mining that can inform discussion around GAI ("Building"). The Library Copyright Alliance has published a set of principles around copyright and AI that endeavor to clarify the distinction between ingesting copyrighted materials to train an LLM under the fair use doctrine and the evaluation of AI-generated output that might infringe copyright ("Library Copyright Alliance").

Modeling and Efficiency and Productivity

Colleges and universities are accountable to their key stakeholders to run operations with efficiency, and productivity is a core value of the research and knowledge enterprise. GAI technologies offer a range of real and imagined solutions for efficiency and productivity in areas such as records management, admissions review, measuring faculty and departmental performance, and predictive analytics of success that might guide decision-making. Indeed, it has been suggested that employing AI to address routine tasks allows humans to redirect their energies toward higher orders of creativity and intellectual pursuit.

The role of humans in evaluating the uses, design, and outputs of AI technologies is critical here. Administrators making determinations about AI-enabled products will want to weigh promises of technological efficiency against other core values of the institution—including climate resilience and sustainability; shared governance; critical thinking; diversity, equity, and inclusion; and basic fairness. Some of these areas were well examined in the "2024 EDUCAUSE AI Landscape Study," which focuses on strategic planning, partnerships, and institutional policy development and concludes with reflections on the future of higher education and AI and some early consensus principles regarding appropriate and inappropriate uses (Robert).

V. Conclusions and Recommendations

AI, machine learning, and algorithms already pervade daily life. As these technologies develop further, institutions of learning must be open to considering how some of them might enhance teaching, research, and community engagement activities while also recognizing the potential of this rapidly proliferating technology to exacerbate inequities in access to technology.

In this document, we have identified a number of needs in respect to educational institutions:

- the need for campus coordination and resourcing to support emerging AI technologies
- the need for a commonly understood, if evolving, definition of GAI literacy and widespread education about what the different types of AI technologies are and how they work
- the need for awareness in institutions and the people within them about their own complicity and unwitting participation in advancing neoliberal aims through uncritical acceptance of AI technologies
- the need for a culture of integrity and ethics as well as a critical openness surrounding AI technologies on our campuses

Successful, ethical and meaningful engagement with AI at colleges and universities in both teaching and research is a result of collaborative, cross-disciplinary efforts that include students, instructors, staff members, and community stakeholders working together toward common prosocial and prodemocratic goals. Guidelines and policy documents surrounding GAI literacy and AI technologies more generally must foreground human oversight at every step to help prevent algorithmic bias and discrimination and to ensure maximum accessibility.

A culture of critical AI literacy is meant to be neither for nor against the use of AI; rather, it involves a measured examination and evaluation of its potential advantages for humanity alongside its pitfalls and limitations. CAIL informs decisions about when and how to use AI, whether that decision is being made by individual students, teachers, programs and departments, or institutional leaders.

Notes

1. For the purposes of this working paper, we distinguish between AI literacy, AI literacies, and critical AI literacy. We use *AI literacy* as a student-friendly term encompassing foundational ideas—namely, acknowledging the connections between technologies and communication skills. The term *AI literacies* is rooted in communication disciplines and builds on the notion of multiliteracies (Selber), an understanding whose interconnected and component parts include functional, rhetorical, and critical literacies. *Critical AI literacy* refers to a set of skills and an orientation that might include skepticism, questioning, situatedness, and an awareness of power (Bali).

2. Some professional organizational resources include the following: The International Society for Technology in Education offers professional development and webinars (iste.org/learning-library), and the American Association of Colleges and Universities holds webinars about GAI in higher education and its implications (e.g., www.aacu.org/event/teaching-with-ai). The MLA-CCCC Joint Task Force on Writing and AI publishes blog posts and working papers that can situate educators and tutors with the discourse on GAI in higher education (aiandwriting.hcommons.org/working-papers/). The Association of College and University Educators sponsors webinars and professional development on GAI (acue.org/ai-series), and the Global Society of Online Literacy Educators regularly offers low-cost webinars and workshops on a variety of digital teaching and learning topics (gsole.org/webinars).

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