GenAI in the Classroom

Possibilities and Limitations of Generative AI in the Classroom: UTA Guidelines for Using Generative AI in Instruction to Achieve Student Learning Outcomes (SLOs)

Welcome to the UTA guidelines for the considered use of generative AI (Gen AI) in instruction. This resource is crafted to foster informed decisions about leveraging GenAI in teaching and learning within UTA's diverse academic landscape. Our aim is to illuminate the spectrum of possibilities—from cautious restraint to enthusiastic adoption—always with a clear eye on how these technologies can serve or, at times, detract from achieving the specific Student Learning Outcomes (SLOs) in your courses.

By embracing a balanced perspective, this document endeavors to support instructors in making judicious choices about when and how to integrate GenAI into their pedagogy, as well as when to exclude it, in favor of methods that better align with their educational objectives. Whether considering a nuanced incorporation of GenAI tools or contemplating a comprehensive application, the guidelines within will help faculty navigate these decisions in alignment with UTA's standards of academic integrity.

We encourage faculty to consult the Table of Contents to find discussions and recommendations most pertinent to their discipline and teaching goals. It is our hope that this guide will serve as a dynamic resource in their instructional toolkit, enabling them to tailor use of GenAI in ways that are most conducive to fulfilling the SLOs of each course taught at UTA.

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Background on Generative AI

Generative AI, or GenAI, is a subset of artificial intelligence focused on creating new, seemingly original content based on huge learning models that can include text, images, audio, video, smells, and other media. Unlike machine learning (ML), that is designed to analyze data and provide insights or predictions, GenAI takes this a step further to extrapolate new, and not necessarily deterministic, combinations of information consistent with learned patterns to produce novel content that mimics human creativity.

At its core, GenAI operates through machine learning models that are trained on large datasets. These datasets can range from collections of literary works to vast libraries of visual art. Machine learning models, such as neural networks, analyze these data points to discern underlying patterns and structures. They then use this learned information to generate content that is similar in nature but is uniquely its own creation.

The history of GenAI can be traced back to the advent of neural networks and the evolution of machine learning. One of the landmark moments in GenAI was the development of Generative Adversarial Networks (GANs) in 2014, which significantly advanced the field of synthetic image generation. Since then, technology has progressed rapidly, leading to more sophisticated models capable of generating not just images but also coherent and contextually relevant text.

In October 2023, OpenAI made headlines with a release of ChatGPT, a chat interface to its advanced large language model (LLM), which represented a significant leap in text-based interaction with GenAI. ChatGPT was notable for its ability to engage in dialogues, answer questions, and create content that often resembles that of a human author. It was trained on a dataset encompassing a wide array of text sources, allowing it to generate responses across numerous topics and styles fed into its model in 2022.

In the visual domain, OpenAI's DALL-E is a tool that uses a similar approach to create images from textual prompts, displaying a remarkable ability to interpret and visualize concepts in diverse and creative ways.

The performance of GenAI models is closely tied to the quality and diversity of the training data they are exposed to. They are typically not static and evolve over time as they ingest more data. This ongoing training process allows GenAI to become more in line with the goals of that training and nuanced in its content generation.

Generative AIs Available at UTA

The University of Texas at Arlington is committed to providing its faculty and students with state-of-the-art tools to enhance their educational and research endeavors. As part of UTA's license with Microsoft, employees may use Copilot for Microsoft 365, a.k.a., Bing Chat.

https://www.bing.com/chat

Instructors and students can access these tools by visiting the Copilot website and logging in with their UTA credentials. The advantage of using the GenAI Copilot platform is the assurance of data privacy; the inputs you provide to these GenAI systems remain private to UTA and are not used to further train the AI. This measure is intended to ensure your intellectual property and information are not exposed outside of UTA.

As part of UTA's license with Adobe, all employees have access to Adobe Express which includes Adobe Firefly. Firefly can be used to generate royalty-free artwork based on text prompts and reference seed images. While the employee is logged in with their UTA credentials, they can access these tools and have the expectation that their work is kept private to UTA.

https://firefly.adobe.com

While there is a plethora of GenAI systems available beyond those provided by UTA, it is important to exercise caution with free services. Many free GenAI tools use input data to refine their models, meaning that the data you input may be integrated into their systems and potentially used in ways beyond your control. This is true of the free version of Grammarly, for example. This could raise concerns about the confidentiality of the content created and the privacy of the individuals involved. The TAP process is designed to help vet technologies that are introduced into UTA's environment. It can also be the first step to research a new tool.

https://go.uta.edu/tapreq

For instructors considering the use of GenAI tools in their coursework, it is essential to weigh the benefits of these innovative technologies against the need for data security. When exploring GenAI options outside of the UTA-provided suite, you are advised to thoroughly understand the data usage policies of these tools and to inform your students likewise.

For those looking for more than Bing Chat and Firefly, there is Copilot Pro. It is available for $360 per user per year and includes access to ChatGPT 4.0. Users wanting to get a license may contact the OIT Service Desk.

https://ithelp.uta.edu

For researchers and faculty wanting to work directly with the OpenAI platform or similar products from AWS, Google, and Nvidia, UTA may already have vendor agreements in place that can fast track getting access to those tools. Please contact the OIT Service Desk to set up a consultation.

GenAI Use in Teaching and Learning

Generative AI (GenAI) holds promise as a tool for enriching the educational experience when applied judiciously in alignment with Student Learning Outcomes (SLOs). Instructors have at their disposal a wealth of innovative strategies for leveraging GenAI to both enhance the learning process and accurately assess student performance through thoughtfully designed course assignments and assessments.

The fundamental aim of course assignments is to evaluate the extent to which students have achieved the designated SLOs. In pursuit of this aim, instructors are encouraged to harness their creativity or to seek inspiration from the compendium of [GenAI teaching strategies](#) curated by the Center for Research on Teaching and Learning Excellence (CRTLE) at UTA.

Policies regarding GenAI usage may naturally differ from one instructor to another and even across different courses taught by the same instructor, reflecting the unique requirements and goals of each course. It is imperative for faculty to articulate their GenAI policy clearly within the course syllabus, ensuring that it complements existing college or departmental policies. Furthermore, collective efforts within programs or departments to develop and embrace cohesive policies are also supported.

By thoughtfully integrating GenAI, instructors can empower students to reach their learning potential while maintaining the integrity and rigor of the academic program.

Four Approaches to Using or Not Using GenAI

As instructors design their syllabus policies regarding Generative AI (GenAI), it is crucial that each policy be crafted with the primary goal of achieving Student Learning Outcomes (SLOs). The following four policy options (modified from AI policies by [Duke University](#)) are presented with consideration of how they may influence students' ability to meet their SLOs:

Prohibited Use of GenAI: Choose this approach when the use of GenAI could impede the achievement of SLOs, particularly where individual critical thinking, content mastery, and the learning process are paramount and may be compromised by AI-generated assistance.

Restricted Use of GenAI: This policy is appropriate when GenAI can play a beneficial role in achieving certain SLOs but may be counterproductive if used without constraints. Instructors may allow GenAI under specific conditions that support the SLOs, such as for drafting phases of writing assignments or for generating initial research insights, with a focus on enhancing learning rather than substituting it.

Cited Use of GenAI: When transparency in the use of GenAI is necessary for assessing the attainment of SLOs, students should be required to disclose any GenAI assistance. This ensures that the evaluation of student work accurately reflects both the students' learning and the extent to which GenAI was used to achieve the SLOs.

Unrestricted Use of GenAI: If the integration of GenAI aligns with the SLOs and can facilitate their attainment—for instance, in courses focusing on innovation, technology integration, or where understanding the use of AI is itself an outcome—students may be allowed to use GenAI freely. Educators should ensure that students are achieving the desired competencies and not solely relying on AI-generated content.

Each policy option corresponds to different educational needs and outcomes. *The instructor is responsible for aligning these policies with the course's SLOs and communicating the chosen approach to students in the syllabus.*

Syllabus Policy Samples for the Four Approaches

The following are sample syllabus policy statements for the aforementioned approaches:

Prohibition of GenAI Use: "In this course, the focus is on the development of independent critical thinking and the mastery of subject-specific content. To ensure that all submitted work accurately reflects personal understanding and original thought, the use of Generative AI (GenAI) tools in completing assignments or assessments is strictly prohibited. This policy supports our commitment to academic integrity and the direct measurement of each student's learning against the course's Student Learning Outcomes (SLOs). Any work found to be generated by AI will be subject to academic review."

Restricted Use of GenAI: "While this course recognizes the potential benefits of Generative AI (GenAI) as a supplementary tool for certain learning activities, its use is restricted to specific assignments where GenAI's role is clearly defined and aligns with the course's Student Learning Outcomes (SLOs). These assignments will be clearly marked, and students must adhere to the guidelines provided for GenAI use. Unauthorized use of GenAI outside these parameters will be considered a breach of academic integrity."

Cited Use of GenAI: "This course permits the use of Generative AI (GenAI) as a resource for completing assignments. However, transparency is crucial, students are required to explicitly cite any GenAI tools they utilize in the creation of their work. This citation requirement allows for the acknowledgment of the collaborative nature of GenAI in the learning process while enabling the assessment of student learning to remain focused on the achievement of the course's Student Learning Outcomes (SLOs)."

Unrestricted Use of GenAI: "In this course, the integration of technology, including the use of Generative AI (GenAI), is encouraged to fulfill the course's Student Learning Outcomes (SLOs). Students may use GenAI tools freely to assist in the creation of content and to achieve learning objectives. It is expected that students will engage with these tools ethically and responsibly, ensuring that their use of GenAI contributes to a deeper understanding of the subject matter and the development of relevant competencies."

Syllabus Samples from Peer Institutions

Instructors have the flexibility to adopt a singular approach or blend multiple policies from the provided list to govern the use of Generative AI (GenAI) in their teaching, depending on what best aligns with the Student Learning Outcomes of their courses. It is essential for instructors to craft a clear syllabus statement that outlines the guidelines for GenAI use within their classes.

For inspiration and guidance, educators may refer to [a crowd-sourced compendium assembled by Lance Eaton,](#) featuring a variety of sample syllabus statements on GenAI use collected from faculty across different universities and disciplines. While not prescriptive, this document can serve as a valuable starting point for developing personalized and effective GenAI policies.

Other examples of GenAI Guidelines and syllabus statements can be found on the [University of Michigan,](#) [University of Kentucky,](#) and [DePaul University](#) websites.

Data Privacy Considerations

As the educational landscape evolves with the integration of Generative AI (GenAI) in teaching, data privacy emerges as a pivotal concern. The intellectual contributions made by students when interacting with GenAI tools—whether in the form of essays, questions, or creative works—constitute data that may be sensitive in nature. When this data is entered into AI systems, there exists the potential for it to be stored, analyzed, and utilized in ways that may extend beyond the initial scope of the classroom.

Instructors must therefore exercise due diligence in evaluating the data privacy policies of any GenAI tool before its adoption in coursework. It is incumbent upon educators to ensure that students' intellectual property is respected and that they retain control over their own data. In crafting a GenAI policy and designing assignments, consider the following:

Transparency: Clearly communicate to students how their data will be used by the GenAI tools they are interacting with, what data might be retained by these tools, and for what purposes.

Informed Consent: Students should be made aware of the potential for their data to be used beyond their personal educational context and should give their consent if their work is to be utilized in this manner.

Alternative Options: Provide alternatives for students who are not comfortable using GenAI tools due to privacy concerns.

> **Secure Tools:** Preferentially choose GenAI tools that have a strong commitment to data privacy and ensure that students' work remains confidential and is not used to further train AI models without explicit permission.

Typically, software provided for all employees goes through a review to make sure that UTA's data is protected consistent with Federal, State, and local regulations. When considering external GenAI tools, the onus is on the instructor to scrutinize and understand their privacy implications.

By being proactive in addressing these privacy concerns, instructors will not only safeguard their students' intellectual property but will also foster a learning environment that respects and upholds the values of privacy and autonomy.

Academic Integrity and Intellectual Labor

It is crucial for students to understand that the use of Generative AI (GenAI) in course assignments and assessments must align with the guidelines established by the instructor. Unauthorized use of GenAI could result in breaches of academic integrity. Instructors bear the responsibility of clearly delineating the permissible uses of GenAI in their courses, underscoring the importance of responsible and ethical application of these tools.

The following excerpts from the UTA Office of Community Standards articulate the university's stance on academic integrity and scholastic dishonesty. Instructors should reinforce to their students that these standards extend to the use of GenAI. Unauthorized or unapproved use of GenAI in academic work falls within the scope of these policies and will be subject to the same disciplinary procedures.

Academic Integrity and Scholastic Dishonesty

The University of Texas at Arlington strives to uphold and support standards of personal honesty and integrity for all students consistent with the goals of a community of scholars and students seeking knowledge and responsibility. The Office of Community Standards promotes academic integrity and enforces these standards in accordance with the policies outlined in the HOP (Handbook of Operating Policies). Alleged academic integrity violations may be reported to the Office of Community Standards by using the online referral form below.

UTA Honor Code

Scholastic Dishonesty, including, but not limited to, cheating, plagiarism, and collusion on an examination or an assignment being offered for credit. Each student is accountable for work submitted for credit, including group projects.

Cheating on an examination or an assignment includes:

- *copying the work of another, allowing someone to copy, engaging in written, oral or any other means of communication with another, or giving aid to or seeking aid from another when not permitted by the instructor.*

- *using material during an examination or when completing an assignment that is not authorized by the person giving the examination or making the work assignment, including, but not limited to, electronic or digital devices such as calculators, cell phones, camera phones, scanner pens, personal digital assistants, or flash drives, etc.;*

- *taking or attempting to take an examination for another, or allowing another to take or attempt to take an examination for a student;*

- *using, obtaining, or attempting to obtain by any means, the whole or any part of an examination or work assignment that is not provided for your use by your instructor;*

- *resubmission of work which has previously been submitted for course credit at any educational institution, unless prior approval is received from both faculty;*

- *any act designed to give unfair advantage to a student or the attempt to commit such an act;*

Plagiarism means the unacknowledged incorporation of the work of another in work that is offered for credit; collusion means the unauthorized collaboration with another in preparing work that is offered for credit.

It is important to communicate to students that consistent with the UTA Honor Code, plagiarism or collusion also applies to unauthorized and/or uncited use of GenAI in the same manner as any other resource.

GenAI Detection (AI Detectors) Guidelines

While GenAI detection tools such as those incorporated into Turnitin, or specialized software like ChatGPTZero, are available to instructors aiming to discern the origin of student work, reliance on these technologies should be approached with skepticism. The effectiveness of such tools is currently limited, and their usage can raise significant ethical considerations:

1. **Accuracy Concerns**: GenAI detection tools are known to generate false positives, particularly in the case of second language learners or submissions that incorporate technical jargon. The inverse is also true; some AI-generated content may evade detection, undermining the reliability of these tools.

2. **Privacy Considerations**: Submitting student work to external GenAI detection applications risks infringing upon students' rights to privacy and intellectual property. This action may inadvertently contribute original student work to databases, contravening ethical standards for the handling and protection of

student-produced content. Ongoing improvements in GenAI technology do not necessarily address these foundational privacy and security concerns.

3. **Equity Issues**: Employing detection tools can lead to selective scrutiny where some students may be unjustly penalized for their method of assistance. Academic support is multifaceted, ranging from AI tools to human editors and academic services. An over-reliance on GenAI detectors may inadvertently create an imbalance, penalizing those who use AI while overlooking other forms of assistance.

UTA subscribes to Turnitin, which includes a feature to detect AI-generated content. However, due to a high incidence of false positives rendering it unreliable, this feature has been disabled following thorough evaluation and remains so until its efficacy and reliability can be substantiated.

Instead of detection tools, we recommend engaging in dialogue with students when the unauthorized use of GenAI is suspected. Such conversations can often provide more insight into the students' understanding and the authenticity of their work.

When GenAI is not permitted for use in assignments, it is imperative that instructors clearly communicate this restriction and its rationale to students. Alternative assessments can be designed to ensure academic integrity, such as prompts based on personal experiences, collaborative data analysis, and other tasks that require a demonstrable engagement with the subject matter.

Embracing the potential of GenAI can indeed be a part of our pedagogical future, enhancing students' critical thinking and creative capacities. As educators, we have a responsibility to guide our students through this evolving landscape, equipping them for a future where AI is increasingly integrated into all facets of society. (Refer to the Future of Jobs Report for insights into the growing impact of AI and machine learning.)

Closing Thoughts and Looking Forward

As we conclude this guide on the use of Generative AI in the educational sphere at UTA, we stand at the threshold of a new era in teaching and learning. The emergence of GenAI as a tool in academia is not merely a trend but a paradigm shift that presents both opportunities and challenges that we must navigate together.

We encourage an ongoing dialogue among our faculty, students, and the broader academic community about the implications, ethics, and best practices related to GenAI. The conversation should not be static, as the field of artificial intelligence is in constant evolution, much like the learning journey itself. By maintaining open channels of communication, we ensure that our policies and strategies remain dynamic, inclusive, and at the forefront of educational innovation.

Let us embrace the promise that GenAI holds with thoughtful consideration and a spirit of collaboration. The ultimate goal is to enhance the educational experiences of our students, preparing them to be thoughtful, informed, and adaptable individuals ready to excel in a future where AI will be an integral part of the professional and personal landscape.

As we look to the future, UTA is committed to revisiting and revising our approach to include GenAI as part of our educational toolkit, ensuring it aligns with our core values and the evolving needs of our community. Together, we will continue to explore the most effective and ethical ways to incorporate these technologies into our curricula, bolstering our students' success both within the university and beyond its walls.