

Applications and Reference Guidelines for Generative AI Tools at Ming Chuan University

Generative Artificial Intelligence (Generative AI) applications are rapidly developing. AI-assisted collaboration and human-machine cooperation are unstoppable trends of future development. Artificial intelligence not only changes the definition of future professions but also brings new challenges to teaching and learning for faculty members and students. Our university adopts a positive and constructive attitude, encouraging faculty members to consider generative AI tools (such as text-based ChatGPT, image-based Midjourney, DALL·E2, etc.) as opportunities to enhance teaching. In response to the development of new tools, timely adjustments to the curriculum are made to design teaching content and learning assessments that better align with course objectives. Students should also understand the limitations of AI tools and learn how to use these tools to assist in their future learning.

Technology brings convenience to humanity while also generating numerous new topics for discussion. Therefore, these measures will continue to be updated incrementally as technology progresses, assisting our faculty, students, and administrative staff in the prudent and responsible use of AI in teaching, learning, and work. The following measures and explanations are provided by our university regarding the teaching and learning of generative AI tools.

I. General Principles

1. Ensure that the use of AI adheres to academic ethics: Faculty and students should uphold the spirit of honesty, accuracy, fairness, and objectivity, adhere to academic integrity, properly preserve research records and raw data, and comply with government regulations and ethical codes related to research. Behaviors such as falsification, fabrication, plagiarism, outsourcing to others, or using translation to substitute for authorship are not acceptable.
2. Properly cite AI responses: If using AI responses as data in academic reports or papers, please follow correct citation formats and ensure that AI system name is listed as a data source in the references.
3. Do not treat AI responses as absolutely correct: Despite being based on vast amounts of data training, AI may still make mistakes or provide incomplete or incorrect answers. When using AI responses, always maintain critical thinking to independently verify and validate these answers.

4. Ensure personal information security: Since the content input into AI may be recorded and used for learning applications, it is necessary to carefully verify the usage. Undisclosed documents, personal messages, and other information should not be input into dialogue boxes unless necessary. When communicating confidential information with AI, such as personal identity or confidential institutional information, ensure that communication and access methods are secure and private.

5. Avoid overreliance: Proper use of generative AI tools can significantly improve work efficiency. However, attention should be paid to avoid overreliance. These tools should be treated as aids, and the generated text should be used for reference only. Users, when reducing writing burdens, should focus on the quality and accuracy of the content and scrutinize the generated text from a critical reading perspective, taking responsibility for the final content.

II. Teaching

1. Faculty's response to students' use of generative AI tools:

(1) Clearly communicate the methods and limitations of using generative AI tools to students: Faculty members should clarify the principles and norms of using generative AI tools in the course. In addition to verbally explaining and reminding students of relevant regulations, these should be explicitly stated in the course syllabus to reach a consensus with students to avoid disputes. Faculty members also need to consider which classroom activities and assignments can or cannot use generative AI tools. In situations where their usage is allowed, what are the methods or scope of use? If not allowed, how will student usage be detected, and how will misuse be addressed?

(2) Strengthen practical exercises or drills in class: Provide students with learning activities they must carry out or complete during class, depending on the nature of the course.

(3) Adjust the assessment methods: Broaden the scope of learning assessments, focusing not only on a single assessment or final result but also on students' progress or cumulative achievements during the learning process. Another approach is to deepen the content of learning assessments, increase the difficulty of assignments or exam questions, add unique course content, or design assessment methods that better reflect students' individual learning outcomes.

2. Use of generative AI tools in teaching work:

(1) Create exam questions or test answers: Use generative AI tools to draft exam questions. If most answers are correct, adjustments to the questions may be needed. Faculty members can adjust questions' difficulty, add unique course content, or reflect students' personal characteristics from different perspectives.

(2) Draft teaching plans or assignment instructions: Use generative AI tools to create drafts or organize ideas, then refine and modify them to improve efficiency. Generative AI tools can also be used to review whether assignment instructions are complete and identify areas that need correction or further explanation.

(3) Create teaching or learning materials: Use generative AI tools to create worksheets, practice questions, activity instructions, or resources for student self-directed learning.

3. Detection of student use of generative AI tools

(1) Currently available detection tools for AI-generated content include OpenAI AI Text Classifier, CheckforAI, GPTzero.me, and Content at Scale.

(2) Current technology for detecting AI-generated text does not provide sufficient accuracy for faculty members to determine whether AI-generated content is used in specific assignments.

(3) If the generated content has been modified rather than used directly, detection becomes more difficult.

(4) AI-generated text consists of randomly generated text combinations. Therefore, even if detection tools identify the use of AI-generated text in assignments, they cannot provide definitive evidence (unlike existing originality checking tools that can clearly indicate similar content in journals or web pages).

(5) Faculty members should use caution when applying any tools to detect AI-generated content to avoid situations where errors in detection cannot be effectively verified, leading to greater controversy.

4. Design and response of teaching assessments:

(1) Confirm assessment goals and content: Under the explanation of course requirements, it can be agreed to use AI to assist in completing assessment content. Faculty members should present learning outcomes in diverse ways (such as oral reports, handwritten reports, video production, situation-based problem-solving, etc.) and avoid using AI to assess irrelevant or inappropriate content.

(2) Optimize assessment quality: Faculty members can use AI to review the appropriateness of assessment questions, improve the accuracy, diversity, and efficiency of the selection of assessment items, and demonstrate this to students in class.

(3) Ensure that students understand assessment requirements and the limitations of AI usage: When using AI for learning assessment, ensure that students understand assessment requirements and the limitations of AI usage.

(4) Guide students in using AI to annotate and edit content, and note possible risks of usage.

III. Learning

1. Using generative AI tools to aid learning

(1) Answering questions: Ask generative AI tools questions to clarify unclear concepts or ideas in learning topics or course content.

(2) Providing feedback: Analyze assignments and provide relevant feedback as a reference for thinking and improvement.

(3) Using as reference examples: Use AI-generated content as reference examples to compare or analyze the strengths and weaknesses of one's own work.

(4) Editing text content: Assist with coursework or reports by editing grammar or improving content.

(5) Practicing language: Use conversation and question-and-answer functions for language learning.

(6) Practicing critical thinking: Since AI-generated content may contain information biases and errors, one must learn to check, evaluate, and analyze information. For content lacking supporting evidence or seeming incorrect, seek other authoritative sources to ensure information is correct, reliable, and meets academic and research needs.

(7) Clarifying ideas and confirming objectives: When using Generative AI tools, questions must be as clear and specific as possible to obtain high-quality responses. Therefore, the process of questioning with Generative AI tools can help clarify ideas and confirm learning objectives further.

2. Using AI: Precautions to be taken

(1) Avoid overreliance: The content produced by Generative AI tools should only serve as reference material and cannot replace personal reflection and research findings. Therefore, neither learning nor research should solely rely on the content generated by AI tools. Instead, the generated content should be used as reference material, combined with personal analysis and reflection to complete the learning process.

(2) Improve the quality of questions: To obtain high-quality answers from AI-generated content, high-quality questions must be posed first. The questions should be as clear and specific as possible, enabling the Generative AI tool to understand the questions more easily and provide valuable answers. However, it should be noted that even with this approach, Generative AI tools may still produce some incorrect or ambiguous answers. Therefore, users should judge and confirm the accuracy of the answers themselves.

(3) Define learning objectives clearly: Before using generative AI tools, clear learning objectives should be established to focus on questions and answers related to these objectives. Information obtained through generative AI tools deepens understanding of the learning topic. Apart from fact-checking on your own, it is also recommended to engage in discussions with classmates and faculty members to gain different perspectives and opinions, thereby confirming whether the use of related information aligns with learning objectives.

(4) Proper citation format: When using generative AI tools to write class assignments or reports, the content generated by AI tools should be clearly attributed. This helps readers understand which resources the author used to support their arguments. If the content used is found to be from others' work, it is preferable to follow the citation format requirements of the institution or course, such as APA, MLA, Chicago Manual Style, etc. Furthermore, the exact source of the content should be specified. When using AI-generated content, information verification must be carried out, and compliance with academic ethics and integrity requirements, avoiding plagiarism or copyright infringement, must be ensured.

IV. Administrative Aspect

1. Using AI to assist in work

(1) Language translation: Generative AI tools, as large-scale language models, can assist in language translation. However, it is still necessary to personally review aspects such as word choice, grammar, and semantics to ensure the accuracy of the translation.

(2) Shortening project timelines: Generative AI tools can be used to quickly aggregate large amounts of data and handle tasks with high repetition, such as writing meeting minutes or summarizing data articles, to improve work efficiency.

(3) Writing plans, copy, and email correspondence: By inputting text structures, goals, or desired outputs, generative AI tools can provide reference materials and produce initial drafts of copies. Administrative personnel can then adjust the content based on professional knowledge. If there's already a draft, generative AI tools can also assist in revising or refining the text.

2. Precautions when using AI

(1) Confirm compliance with institutional policies regarding AI usage: Before using AI, please review the institutional policies and corresponding measures and ensure compliance with relevant regulations. If there are any questions or uncertainties, please contact relevant units of the institution, such as the Academic Affairs Division, Information and Network Division, or Library.

(2) Ensure the security and privacy of AI: When using AI, protect your data and the institution information security. If there's a need to store or share student or staff data, follow the institution data protection and privacy policies.

Reference Links

National Taiwan University's Teaching Responses to Generative AI Tools
<https://www.dlc.ntu.edu.tw/ai-tools/>

National Taiwan Normal University - Learning Applications and Reference Guidelines for Generative AI
https://ctld.ntnu.edu.tw/generative_ai

National Tsing Hua University's Statement on Ethics of Generative Artificial Intelligence
<https://curricul.site.nthu.edu.tw/p/404-1208-248357.php?Lang=zh-tw>