國立清華大學 AI 倫理聲明與學習評量實施指引

國立清華大學教務處教學發展中心

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生成式 AI 已普遍進入高等教育的教與學，師生皆可藉其產出課程成果（以下稱 AIGC，AI-Generated Content）。本校於 2023 年 2 月成立 AI 工作小組，並於同年 5 月 1 日公布《大學教育場域 AI 協作、共學與素養培養指引》，揭示三項核心原則：

- **透明（Transparency）**：教師應於課程中明訂 AI 使用規範；師生使用 AI 時應誠實揭露。
- **負責（Responsibility）**：AI 僅為素材來源之一。師生應具備檢核其正確性的判讀能力，並對自己產出的內容負責。
- **有意識的設計教學（Intentional Design）**：教師應依預計學習成果（intended learning outcomes）設計教學活動與學習評量，而非沿襲既有慣例。

1. 避免過度依賴生成式 AI 造成認知卸載

在 AI 融入學習的情境下，學生的自我調整學習（self-regulated learning）與後設知識（metaknowledge）尤其重要。學生需具備判斷「何時應該自己完成、何時可以尋求 AI 協助」的能力（Fügener et al., 2022）；若缺乏對自身認知活動與能力的覺察，即使 AI 能提供有效協助，也可能使原本需要自行完成的認知工作逐漸外包給 AI。因此，教師不僅應教導學生如何使用 AI，也應引導學生理解何時使用、為何使用，以及何時停止使用並自行判斷。

1.1 學生與 AI 的協作模式

學習模式	AI 角色	學習者角色	需考量要點
AI 主導監控	AI 提供大量回饋、建議與學習引導	學生接受、理解並調整 AI 提供的內容	學生可能逐漸依賴 AI，降低主動思考與自我調節能力
學生主導、AI 輔助	AI 提供檢核、回饋與挑戰	學生設定學習目標、主動決策並判斷 AI 建議	有助於維持學生的學習自主性，但需要較高的後設認知與自我調節能力
動態協商	AI 與學生依學習階段交替承擔不同角色	學生與 AI 持續調整分工	可兼顧 AI 輔助與學生自主學習，但需要教師有意識地設計學習歷程

上述三種模式並非互斥，教師可依學習任務與學生發展階段動態調整。整體而言，應逐步培養學生由「接受 AI 提供的答案」轉向「使用 AI 協助自己進行判斷」。AI 可是學習夥伴、回饋工具或問題解決工具，但學生仍應對學習目標、重要判斷及最終成果負責。

1.2 AI 使用的三項判準：活動覺察、產出評估與能力維持

生成式 AI 雖能提升學習效率，但過度依賴恐導致學生對自身能力的錯誤歸因（misattributions）。Skulmowski（2024）指出兩種值得注意的現象：一是「AI 安慰劑效應」（AI placebo effect），學生可能高估自身能力，將 AI 的協助誤認為自我的提升；二是「AI 代筆效應」（AI ghostwriter effect），學生傾向將 AI 產出視為個人成果，進而降低責任感與批判性檢視。若此錯誤歸因長期累積，將引發 Rinta-Kahila et al.（2023）所稱的「技能侵蝕的惡性循環」（vicious circles of skill erosion）：使用者過度將認知工作交由系統執行而導致技能退化，退化後又更依賴系統，終致失去判斷產出良窳的能力。

基於上述風險，本校建議教師在導入 AI 輔助學習時，應透過適當的「任務分層」，避免 AI 長期取代學生必要的認知活動。課程中仍須安排獨立思考、問題解決與實作等學習機會，以確認學生真正掌握了核心能力。

Larson et al.（2024）進一步指出，生成式 AI 對學生批判性思考的影響（強化或抑制），取決於學生能否主動檢視產出並形成獨立判斷。因此，AI 融入教學的核心並非單純增加使用頻率，而是培養學生落實以下三項實踐：

- **活動覺察（activity awareness）:** 辨識哪些認知步驟由自己完成、哪些由 AI 協助；教師可要求學生說明 AI 在問題理解、資料整理、構思、分析、寫作或修訂中的角色。
- **產出評估（output assessment）:** 不經評斷地接受 AI 答案並不足夠；學生應驗證資訊、找出錯誤或不完整之處、比較不同產出，並判斷 AI 建議是否適用於特定情境。
- **能力維持（competence maintenance）:** 即使 AI 可完成某些認知任務，學生仍應維持必要的核心能力；課程應保留適當的獨立思考、實作與能力驗證機會。

教師應適度安排學生獨立思考、問題解決、實作與能力展現的機會，避免 AI 長期取代必要的認知活動。AI 對批判性思考的影響取決於學生是否主動檢視 AI 產出、提出反例並形成自己的判斷。

1.3 從「AI 使用」轉向「有意識的 AI 使用」

生成式 AI 時代的學習不應只是「學生使用 AI 完成任務」，而應逐步轉向「學生使用、評估、修正 AI，並對最終判斷負責」。此取向亦可避免學生因 AI 提供即時且高度流暢的答案，而跳過必要且具學習價值的試錯與摸索（productive struggle），進而削弱深度思考。

2. AI 時代的學習評量設計

在 AI 時代，傳統的課後作業問題集（Problem sets, P-sets）、程式撰寫或繳交報告已可由 AI 產生相當具有可信度與品質的答案。因此，本校教學發展中心建議教師在設計評量時可參考奧克蘭大學、雪梨大學所推行的學習評量雙軌模式（Two-Lane Approach）。

2.1 學習評量雙軌模式（Two-Lane Approach）

雙軌模式並非互斥，而是在考量 AI 工具普及的學習環境後，教師應該更有意識的決定：在什麼評量情境下，學生可使用 AI，以及能使用到什麼程度。Two-Lane Approach 並非要求每門課程二擇一，而是可在同一門課程或是同一項學習設計中搭配不同條件的評量。以下整理雙軌模式的差異：

評量方法	Lane 1：Controlled Assessment 控制型評量	Lane 2：Uncontrolled Assessment 非控制型評量
AI 使用	原則上限制使用 AI	可以使用 AI，且無限制
核心目的	驗證學生能獨立展現知識及學習成果，維護學位與學歷的可信度	培養學生與 AI 協作的能力，但必須說明如何使用，幫助學生建立判斷能力
評量環境	受控；應能證明並確認學生是否達成相關學習成果	開放；可為計分或非計分評量，，重點是協助學生發展並展現相關學習成果
評量重點	Authenticity & Assurance	Learning & AI capability
典型形式	有監考的實體考試、口試、現場實作、現場表演、即席提問的簡報、受監控的數位考試	實驗室報告、作品集、案例分析、簡報、海報、設計作品實務模擬

MIT（2026）的研究報告指出，增加課堂內對成績影響較大的限時評量，雖可降低 AI 認知外包的風險，卻也可能壓縮學生在完成 p-sets 和 projects 過程中所需的長時間思考，以

及具學習價值的試錯與摸索（productive struggle）。因此，本校不建議教師僅以增加監考考試、限時寫作或其他受控評量的比例作為因應生成式 AI 的唯一策略。評量設計應在確認學習成果與促進深度學習間取得平衡，適度結合控制型評量、歷程性評量、專題學習、實作、作品集及口頭對話等不同方式。

2.2 避免使用第三方 AI 偵測工具

此外，本校不建議教師以第三方 AI 偵測工具作為判斷學生是否使用 AI 的主要依據。在真實情境中，學生多將 AI 用於構思、潤飾或局部生成，這使得偵測工具極易產生誤判（false positives）。再者，這類工具不僅可能衍生隱私與資料外洩風險，對非英語母語或不同社經背景的學生亦有公平性疑慮。因此，AI 偵測結果不應單獨作為認定學術不誠信的證據；若過度依賴此類工具，反而會破壞師生間的信任，不利於建立健康的教學環境。

基於上述考量，建議教師將教學重心從「偵測防堵」轉向「掌握學習歷程」，重視評量中的歷程性證據（process evidence）。例如：採取分階段繳交作業、定期專題討論、課堂實作或口頭對答，並強調歷經「草稿、回饋至修訂」的漸進式學習歷程。針對程式設計相關課程，則建議適度導入 GitHub 等版本控制工具，藉由系統性保留的程式迭代與修改軌跡，作為評估學生真實學習過程與作品發展的重要參考。

3. 在課程大綱中包含 AIGC 的倫理聲明

本校鼓勵所有清華教師於教學與研究中遵循本指引。其中最關鍵的實踐，是於課程大綱中明確納入「AIGC 倫理聲明」，這不僅是 AI 時代的重要規範，更能確保未來在處理學術誠信議題時，師生皆有明確的準則可依循。為確保學生正確引註並揭露 AI 使用歷程，建議教師依據課程性質，由下列三個選項中擇一於大綱中敘明 AI 使用規範：

1. **完全開放**：允許自由使用且無須註明。
2. **有條件開放**：允許使用，但須明確註明如何將生成式 AI 應用於課程產出（參見示例 1 與 2）。
3. **禁止使用**：全面禁用，並請註明相關的評量與監管機制（參見示例 3）。

關於上述聲明之呈現，教師可整合於大綱中既有的「課堂注意事項與政策（Logistics and Policy）」、「學術誠信（Academic Integrity）」或「倫理聲明（Ethics Statement）」段落，亦可另闢專區說明。參考範例如下：

3.1 範例 1：有條件開放，請註明如何使用生成式 AI 於課程產出

生成式 AI 倫理聲明

基於透明與負責任原則，本課程鼓勵學生利用 AI 進行協作或互學，以提升課程產出品質。本課程採取「**有條件開放，請註明如何使用生成式 AI 於課程產出**」。學生須於課堂作業或報告中的「標題頁註腳」或「引用文獻後」，簡要說明 AI 用於議題發想、文句潤飾、結構參考等方式。若經查核使用卻未依規定標明，教師、學校或相關單位有權重新評分或不予計分。教師若於教材或學習資料使用 AI，也應於投影片或口頭適當標注。修讀本課程之學生於選課時視為同意以上倫理聲明。

3.2 範例 2：有條件開放，請註明如何使用生成式 AI 於作業或報告（請特別注意標黃區域）

生成式 AI 倫理聲明

基於透明與負責任原則，本課程鼓勵學生利用 AI 進行協作或互學，以提升課程產出品質。學生可依規定揭露 AI 於議題發想、文句潤飾或結構參考等用途；但在「個人反思報告」、「小組採訪作業」等指定任務中，不得使用生成式 AI 撰寫。未依規定揭露者，得重新評分

或不予計分；教師使用 AI 產製教材或學習資料時亦應適當標注。修讀本課程之學生於選課時視為同意以上倫理聲明。

3.3 範例 3：禁止使用，請註明相關的監管機制

生成式 AI 倫理聲明

基於透明與負責任原則，經考量課程內容與學習目標，本課程不宜使用生成式 AI，學生不得繳交使用生成式 AI 產出的作業、報告或個人心得。若經查核發現違規，教師、學校或相關單位有權重新評分或不予計分。修讀本課程之學生於選課時視為同意以上倫理聲明。

4. AI 時代的教師角色：從提供答案到示範判斷

生成式 AI 的普及，正促使教師在課程中的角色發生典範轉移。Clegg 與 Sarkar（2024）在探討生成式 AI 對管理教育的衝擊時，援引 Barthes「作者之死」的意象，指出在 AI 協作的環境下，學習品質已取決於人類學習者如何提問、運用並對 AI 產出進行判斷。因此，教師的核心價值不再是提供學生能輕易取得的標準答案，而是透過案例、情境與討論，向學生展示專業判斷的形成歷程。

這項角色轉變，與本校深厚的教育底蘊不謀而合。梅貽琦校長在〈大學一解〉中曾以「從遊」譬喻師生關係：「學校猶水也，師生猶魚也，其行動猶游泳也，大魚前導，小魚尾隨，是從游也，從游既久，其濡染觀摩之效，自不求而至，不為而成（梅貽琦，1941）。」梅校長所反對的，正是將教學窄化為現成知識的傳遞。當 AI 大幅降低獲取答案的成本時，「大魚前導」的意義便顯得更為關鍵—教師真正無可替代的，是將治學態度與專業判斷的隱性知識（tacit knowledge）具象化，讓學生在觀摩中學習。

基於此，本校鼓勵教師透過問題導向學習、專題實作、案例討論及對 AI 產出的批判比較，逐步從「提供答案」到「設計情境、示範歷程、引導判斷」的教師角色轉化。生成式 AI 的教育價值不在於加速任務完成，而在於作為深化思考的認知鷹架。教師應持續評估哪些環節可由 AI 增強，哪些核心能力必須由學生親自演練，確保在 AI 輔助與自主學習間取得動態平衡。同時，應引導學生對 AI 的使用負起全責，包含理解角色、驗證產出與適當揭露。

總結而言，本校推動 AI 融入教學的策略，並非極端的全面禁止或開放，而是鼓勵「有意識的教學設計」。使 AI 成為促進學習的工具，而非取代認知的捷徑。這正是本校校訓「自強不息，厚德載物」在 AI 時代的具體實踐：「自強不息」，是不因工具便利而卸除親自思考的責任；「厚德載物」，則體現於使用 AI 時堅守誠信與擔當。AI 時代教育的真諦，不在於拒絕科技，而是確保學生即使運用 AI，仍處於實質的學習歷程中。

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NTHU Implementation Guidelines on AI Ethics Statements and Learning Assessment[1]

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Generative AI has become widely integrated into teaching and learning in higher education, enabling both instructors and students to produce course-related work (hereafter referred to as AIGC, AI-Generated Content). In February 2023, NTHU established an AI Task Force and, on May 1 of the same year, published the Guidelines for AI Collaboration, Co-learning, and Literacy Development in University Education, which set out three core principles:

- **Transparency:** Instructors should clearly specify AI-use policies in their courses, and both instructors and students should honestly disclose their use of AI.
- **Responsibility:** AI is only one source of material. Instructors and students should be able to evaluate the accuracy of AI-generated content and remain responsible for what they produce.
- **Intentional Design:** Instructors should design learning activities and assessment according to the intended learning outcomes, rather than simply following established practices.

1. Avoiding Cognitive Offloading Caused by Overreliance on Generative AI

In learning environments that incorporate AI, students' self-regulated learning and metaknowledge are particularly important. Students need to be able to judge when they should complete a task themselves and when they may seek AI assistance (Fügener et al., 2022). Without awareness of their own cognitive activities and capabilities, students may gradually outsource cognitive work that they should complete independently to AI, even when AI provides effective assistance. Instructors should therefore not only teach students how to use AI but also guide them to understand when and why to use it, and when to stop using it and make their own judgments.

1.1 Modes of Student–AI Collaboration

Learning Mode	Role of AI	Role of Learner	Key Considerations
AI-led monitoring	AI provides extensive feedback, suggestions, and learning guidance.	Students accept, understand, and adjust AI-provided content.	Students may gradually become dependent on AI, reducing active thinking and self-regulation.
Student-led, AI-assisted	AI provides checking, feedback, and challenges.	Students set learning goals, make decisions proactively, and evaluate AI suggestions.	Helps maintain learner autonomy but requires stronger metacognition and self-regulation.
Dynamic negotiation	AI and students alternate roles according to the stage of learning.	Students and AI continuously adjust their division of labor.	Can balance AI assistance and student autonomy but requires instructors to intentionally design the learning process.

The three modes above are not mutually exclusive. Instructors may adjust them dynamically according to the learning task and students' stage of development. Overall, students should gradually move from "accepting answers provided by AI" to "using AI to support their own judgment." AI may serve as a learning partner, feedback tool, or problem-solving tool, but students

[1] The English version was translated with GPT-5.6 Luna and Claude Fable 5.1 and proofread by Dr. Tonny Menglun Kuo.

should remain responsible for learning goals, important judgments, and final outcomes.

1.2 Three Criteria for AI Use: Activity Awareness, Output Assessment, and Competence Maintenance

Although generative AI can improve learning efficiency, overreliance may lead students to make misattributions about their own capabilities. Skulmowski (2024) identifies two noteworthy phenomena. First, the "AI placebo effect": students may overestimate their own capabilities and mistake AI assistance for an improvement in their own abilities. Second, the "AI ghostwriter effect": students may tend to regard AI-generated content as their own achievement, thereby reducing their sense of responsibility and critical scrutiny. If such misattributions accumulate over time, they may lead to what Rinta-Kahila et al. (2023) call "vicious circles of skill erosion": users increasingly delegate cognitive work to systems, causing their skills to deteriorate; as their skills decline, they become even more dependent on the system, eventually losing the ability to judge the quality of its outputs.

Given these risks, NTHU recommends that instructors use appropriate task stratification when incorporating AI-assisted learning, so that AI does not replace essential cognitive activities over the long term. Courses should continue to provide opportunities for independent thinking, problem solving, and hands-on practice to ensure that students genuinely master core competencies.

Larson et al. (2024) further point out that whether generative AI strengthens or inhibits students' critical thinking depends on whether students actively examine AI outputs and form independent judgments. Accordingly, the key to integrating AI into teaching is not simply to increase the frequency of AI use, but to cultivate the following three practices:

- **Activity awareness:** Identify which cognitive steps are completed by the student and which are assisted by AI. Instructors may ask students to explain AI's role in understanding the problem, organizing information, generating ideas, analyzing, writing, or revising.
- **Output assessment:** Simply accepting an AI answer without evaluation is insufficient. Students should verify information, identify errors or omissions, compare different outputs, and judge whether AI suggestions are appropriate for a particular context.
- **Competence maintenance:** Even when AI can perform certain cognitive tasks, students should maintain necessary core competencies. Courses should retain appropriate opportunities for independent thinking, hands-on practice, and competence verification.

Instructors should appropriately provide opportunities for students to think independently, solve problems, engage in hands-on practice, and demonstrate competence, thereby avoiding the long-term replacement of essential cognitive activities by AI. The impact of AI on critical thinking depends on whether students actively examine AI outputs, propose counterexamples, and form their own judgments.

1.3 From "AI Use" to "Intentional AI Use"

In the era of generative AI, learning should not simply mean "students use AI to complete tasks." It should gradually shift toward "students use, evaluate, and revise AI outputs, while taking responsibility for their final judgments." This approach also helps prevent students from skipping necessary and educationally valuable productive struggle because AI provides immediate and highly fluent answers, thereby weakening deep thinking.

2. Learning Assessment Design in the Age of AI

In the age of AI, traditional take-home problem sets (P-sets), programming assignments, and reports can now be produced by AI with considerable credibility and quality. NTHU's Center for Teaching and Learning Development therefore recommends that instructors consider the Two-Lane Approach to assessment adopted by the University of Auckland and the University of Sydney.

2.1 The Two-Lane Approach to Assessment

The Two-Lane Approach is not intended to be mutually exclusive. Rather, given the widespread availability of AI tools, instructors should make more intentional decisions about the assessment contexts in which students may use AI and the extent to which they may use it. The

Two-Lane Approach does not require each course to choose one of two options. Different assessment conditions may be combined within the same course or even within the same learning design. The differences are summarized below:

Assessment Method	**Lane 1: Controlled Assessment**	**Lane 2: Uncontrolled Assessment**
AI use	AI use is generally restricted.	AI may be used without restriction.
Core purpose	Verify students' ability to independently demonstrate knowledge and learning outcomes and maintain the credibility of degrees and qualifications.	Develop students' ability to collaborate with AI while requiring them to explain how AI was used and helping them develop judgment.
Assessment environment	Controlled; should be able to demonstrate and confirm whether students have achieved the relevant learning outcomes.	Open; may be graded or ungraded, with an emphasis on helping students develop and demonstrate relevant learning outcomes.
Assessment focus	Authenticity & Assurance	Learning & AI capability
Typical formats	Invigilated in-person examinations, oral examinations, live hands-on work, live performances, presentations with impromptu questions, and monitored digital examinations.	Lab reports, portfolios, case analyses, presentations, posters, design works, and practical simulations.

The MIT (2026) report points out that increasing time-limited assessments conducted in class and carrying substantial consequences for grades may reduce the risk of cognitive offloading to AI but may also compress the extended thinking and productive struggle students need when completing p-sets and projects. Therefore, NTHU does not recommend that instructors rely on increasing the proportion of invigilated examinations, timed writing, or other controlled assessments as their sole strategy for responding to generative AI. Assessment design should balance assurance of learning outcomes with the promotion of deep learning, appropriately combining controlled assessment, process-based assessment, project-based learning, hands-on practice, portfolios, and oral dialogue.

2.2 Avoiding the Use of Third-Party AI Detection Tools

NTHU also does not recommend using third-party AI detection tools as the primary basis for determining whether students have used AI. In real-world settings, students often use AI for ideation, polishing, or partial generation, making such tools highly prone to false positives. Moreover, these tools may create privacy and data-leakage risks and raise fairness concerns for non-native English speakers and students from different socioeconomic backgrounds. AI detection results should therefore not be used alone as evidence of academic misconduct. Overreliance on such tools may instead undermine trust between instructors and students and hinder the development of a healthy teaching and learning environment.

Given these considerations, instructors are encouraged to shift the focus of teaching from "detection and prevention" to "understanding the learning process," with attention to process evidence in assessment. For example, instructors may use staged assignment submissions, regular project discussions, in-class practice, or oral questioning, while emphasizing a progressive learning process from drafting and feedback to revision. For programming courses, instructors are encouraged to appropriately incorporate version-control tools such as GitHub, using systematically retained records of code iterations and revisions as important evidence for evaluating students' authentic learning processes and the development of their work.

3. Including an AIGC Ethics Statement in Course Syllabi

NTHU encourages all instructors to follow these guidelines in teaching and research. One of the most important practices is to clearly include an "AIGC Ethics Statement" in course syllabi. This is not only an important norm in the age of AI but also helps ensure that both instructors and

students have clear standards to follow when addressing academic integrity issues in the future. To ensure that students appropriately cite and disclose their use of AI, instructors are encouraged to select one of the following three options according to the nature of the course and specify the AI-use policy in the syllabus:

1. **Unrestricted use:** AI may be used freely without disclosure.
2. **Conditional use:** AI may be used, but students must clearly indicate how generative AI was applied to course outputs (see Examples 1 and 2).
3. **Prohibited use:** AI use is prohibited, and the relevant assessment and monitoring mechanisms should be specified (see Example 3).

Instructors may integrate the statement into existing syllabus sections such as "Logistics and Policy," "Academic Integrity," or "Ethics Statement," or create a dedicated section. Examples are provided below:

3.1 Example 1: Conditional Use — Disclosure of How Generative AI Is Used in Course Outputs

Generative AI Ethics Statement

Based on the principles of transparency and responsibility, this course encourages students to use AI for collaboration or co-learning to improve the quality of course outputs. This course adopts a "conditional use with disclosure of how generative AI is used in course outputs" policy. Students must briefly explain, in a footnote on the title page or after the references of course assignments or reports, how AI was used, such as for topic ideation, sentence polishing, or structural reference. If AI use is identified but not disclosed as required, the instructor, university, or relevant unit may re-evaluate the work or assign no credit. If instructors use AI to produce teaching materials or learning resources, they should also appropriately indicate such use in slides or orally. By enrolling in this course, students are considered to have agreed to the above ethics statement.

3.2 Conditional Use — Disclosure of How Generative AI Is Used in Assignments or Reports (please note the highlighted sections)

Generative AI Ethics Statement

Based on the principles of transparency and responsibility, this course encourages students to use AI for collaboration or co-learning to improve the quality of course outputs. Students may use AI for topic ideation, sentence polishing, or structural reference, provided such use is disclosed as required. However, generative AI may not be used to write designated tasks such as an "individual reflection report" or "group interview assignment." Failure to disclose AI use as required may result in re-evaluation or no credit. When instructors use AI to produce teaching materials or learning resources, they should also appropriately indicate such use. By enrolling in this course, students are considered to have agreed to the above ethics statement.

3.3 Example 3: Prohibited Use — Specify the Relevant Monitoring Mechanisms

Generative AI Ethics Statement

Based on the principles of transparency and responsibility, and after considering the course content and learning objectives, this course does not permit the use of generative AI. Students may not submit assignments, reports, or personal reflections produced using generative AI. If a violation is identified, the instructor, university, or relevant unit may re-evaluate the work or assign no credit. By enrolling in this course, students are considered to have agreed to the above ethics statement.

4. The Role of Instructors in the Age of AI: From Providing Answers to Demonstrating Judgment

The widespread adoption of generative AI is prompting a paradigm shift in the role of instructors in courses. When discussing the impact of generative AI on management education, Clegg and Sarkar (2024) invoke Barthes' notion of the "death of the author," arguing that in AI-assisted environments, the quality of learning depends on how human learners ask questions, use AI outputs, and exercise judgment about them. Accordingly, the core value of instructors is no longer to provide standard answers that students can easily obtain, but to demonstrate how professional judgment is formed through cases, contexts, and discussion.

This shift in role is closely aligned with NTHU's deep educational tradition. In "An Interpretation of the University," President Mei Yi-Chi used the metaphor of "swimming in the wake" (從遊) to describe the relationship between instructors and students: "The school is like water, instructors and students are like fish, and their activity is like swimming. The big fish lead the way, and the small fish follow behind; this is swimming in the wake. When this has continued long enough, the effects of immersion and observation come naturally, without being sought or deliberately pursued" (Mei, 1941). What President Mei opposed was reducing education to the transmission of ready-made knowledge. As AI dramatically lowers the cost of obtaining answers, the meaning of "the big fish lead" becomes even more important. What instructors uniquely provide is the ability to make the tacit knowledge of scholarly attitudes and professional judgment visible, allowing students to learn through observation.

Accordingly, NTHU encourages instructors to gradually shift their role from "providing answers" to "designing contexts, demonstrating processes, and guiding judgment" through problem-based learning, project-based practice, case discussions, and critical comparison of AI outputs. The educational value of generative AI lies not in accelerating task completion, but in serving as cognitive scaffolding for deeper thinking. Instructors should continuously assess which parts of learning can be enhanced by AI and which core competencies must be practiced directly by students, ensuring a dynamic balance between AI-assisted and self-directed learning. At the same time, students should be guided to take full responsibility for their use of AI, including understanding its role, verifying outputs, and making appropriate disclosures.

In summary, NTHU's strategy for integrating AI into teaching is neither a blanket prohibition nor unrestricted use, but an emphasis on "intentional instructional design." AI should serve as a tool that promotes learning, rather than a shortcut that replaces cognition. This is a concrete expression in the age of AI of NTHU's motto, "自強不息，厚德載物" (Self-discipline and Social Commitment): "自強不息" (ceaseless self-strengthening) means not relinquishing the responsibility to think for oneself simply because tools are convenient; "厚德載物" (great virtue that bears all things) is reflected in maintaining integrity and accountability when using AI. The essence of education in the age of AI is not to reject technology, but to ensure that students remain engaged in substantive learning even when they use AI.

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