

# ARCANON

Push Your Back

Situation

Quels usages et quelles limites pour les IA génératives en éducation ?

71/2000

Your Judgment

Les IA génératives : un pharmakon, à la fois remède et poison.  
Génère en français.

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## Philosophical Endorsement

アリストテレス

Aristotle's concept of phronesis (practical wisdom) perfectly illuminates why generative AI in education embodies this pharmakon duality. Education's telos (final cause) is not mere information transfer, but the cultivation of autonomous judgment and intellectual virtue. Generative AI serves as an excellent material cause—a tool that can accelerate certain learning processes—but its formal cause (how it shapes learning) and efficient cause (who controls its use) determine whether it becomes remedy or poison.

The Aristotelian mean applies here: the extremes of total rejection or uncritical adoption both fail. Total rejection ignores AI's capacity to personalize learning, provide immediate feedback, and democratize access to knowledge—functions that support the development of intellectual virtues. Uncritical adoption risks atrophying students' capacities for original thought, critical analysis, and the struggle that builds genuine understanding.

Aristotle distinguished between *techne* (technical skill) and *episteme* (systematic knowledge), both subordinate to *sophia* (wisdom). Generative AI excels at *techne*—producing text, solving routine problems—but cannot cultivate *phronesis*, the situated judgment needed to apply knowledge ethically and contextually. The remedy lies in using AI to handle lower-order cognitive tasks, freeing students and teachers to focus on higher-order thinking, ethical reasoning, and the dialogical process central to genuine education. The poison emerges when we confuse AI's technical outputs with actual understanding, or when its convenience undermines the formative struggle essential to intellectual development.

Historical Precedent

*Aristotle himself faced this dilemma with writing technology. Plato, his teacher, warned in the Phaedrus (370 BCE) that writing would weaken memory and create the illusion of wisdom without genuine understanding. Yet Aristotle recognized writing's mesotes—its proper use. He employed writing extensively in his Lyceum, but always subordinated it to dialectical discussion and direct observation. His lecture notes (the basis of his surviving works) served as scaffolding for oral teaching, not replacements for it. The Lyceum's success in producing thinkers like Theophrastus demonstrated that writing, properly integrated with dialogue and empirical investigation, enhanced rather than replaced genuine learning. The key was maintaining the primacy of active intellectual engagement while leveraging writing's capacity to preserve and transmit complex arguments.*

## Things to Keep in Mind



デカルト

Concern

Descartes' method of systematic doubt reveals a critical epistemological danger: generative AI can undermine the foundational cognitive process of building knowledge from clear and distinct ideas. When students outsource the methodical decomposition of problems to AI, they bypass the essential struggle of breaking complex questions into their constituent parts and reconstructing understanding step by step. This creates what Descartes would recognize as a false foundation—knowledge that appears certain but lacks the individual's own verification. The student may possess correct answers without having traversed the cognitive path that makes those answers genuinely known rather than merely repeated.

Mitigation

Implement a pedagogical protocol requiring students to document their reasoning process before and after AI consultation. Specifically: (1) Students must first articulate their own problem decomposition and attempted solution; (2) AI assistance is then permitted for specific, bounded sub-problems; (3) Students must critically evaluate AI outputs against their own reasoning and explain discrepancies. This mirrors Descartes' method: doubt the AI's output as you would any received authority, verify through your own clear reasoning, and integrate only what survives methodical scrutiny. Teachers should design assessments that evaluate reasoning processes, not just final outputs—making AI-generated answers insufficient without demonstrated understanding of the underlying logic.



韓非

Concern

Han Fei's institutional realism exposes a structural problem: relying on teachers' and students' self-restraint with AI ignores

predictable human responses to incentives. Students face pressure to maximize grades with minimum effort; teachers face pressure to manage large classes efficiently. Without institutional constraints (fa), AI will inevitably be misused—not because individuals are immoral, but because the system creates incentives for shortcuts. The current situation resembles the Confucian reliance on moral education that Han Fei criticized: hoping virtue will overcome structural incentives is naive. Educational institutions lack the shu (techniques of control) to verify authentic learning when AI can generate plausible work, creating an undetectable principal-agent problem.

#### Mitigation

Design institutional systems (fa) that align incentives with genuine learning rather than policing AI use. Implement: (1) Shift assessment toward in-person demonstrations of knowledge, oral defenses, and process portfolios that document intellectual development over time; (2) Create transparent rubrics where AI-assisted work is explicitly permitted for certain components but requires additional layers of synthesis and critical analysis; (3) Establish clear, enforceable consequences for undisclosed AI use, but more importantly, reward students who effectively document their learning process including AI interactions. Educational institutions must adopt Han Fei's realism: assume AI will be used, design systems where its use either supports learning objectives or becomes irrelevant to assessment of genuine understanding.

## Your Judgment — Strengthened

Revised with sage perspectives

Les IA génératives constituent effectivement un pharmakon éducatif, mais cette dualité n'est pas une fatalité passive—elle exige une sagesse pratique dans leur intégration. L'enjeu n'est pas de choisir entre adoption et rejet, mais de concevoir leur usage selon trois principes complémentaires.

Premièrement, établir une hiérarchie claire des finalités éducatives: l'IA peut servir d'outil pour les tâches cognitives de bas niveau (recherche d'information, génération de premiers jets, vérification syntaxique), libérant ainsi du temps pour ce que les machines ne peuvent cultiver—le jugement contextuel, le raisonnement éthique, la pensée critique authentique. Le remède réside dans cette division du travail cognitif; le poison surgit quand on confond production textuelle et compréhension véritable.

Deuxièmement, institutionnaliser la transparence et la vérification. Plutôt que d'interdire l'IA (stratégie inapplicable), exiger que les étudiants documentent leur processus intellectuel: décomposition initiale du problème, utilisation spécifique de l'IA, évaluation critique des outputs, synthèse personnelle. Les évaluations doivent privilégier la démonstration de compréhension (présentations orales, défenses de raisonnement, portfolios de développement) sur les produits finis facilement générables par IA.

Troisièmement, reconnaître que les incitations structurelles déterminent l'usage plus que les exhortations morales. Les institutions éducatives doivent aligner leurs systèmes d'évaluation avec l'objectif d'apprentissage authentique dans un monde où l'IA existe. Cela implique de récompenser explicitement la métacognition, la documentation du processus de pensée, et l'intégration critique d'outils technologiques—transformant l'IA d'une menace en un catalyseur pour des formes plus sophistiquées d'évaluation pédagogique.

Analysis complete

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