Reclaiming Phronesis in the Age of Artificial Intelligence: A Pedagogical Framework for Human-Centric AI Education

Foundational basis for the 2026 edition of the Student Guide to Artificial Intelligence:
Human Wisdom for the Age of AI:
A Field Guide to Cultivating Essential Skills

Imagining the Digital Future Center, Elon University[1]

Abstract

As artificial intelligence (AI) evolves from a tool of automation to an agent of cognition, higher education faces an imperative to redefine the locus of learning. Previous educational interventions focused on "technological literacy"—the functional mechanics of operation. This white paper outlines the theoretical basis for an evolution toward human capacities—a pedagogical approach codified in *Human Wisdom for the Age of AI: A Field Guide to Cultivating Essential Skills* (2026). This project posits that the durability of undergraduate education relies not on competing with computational speed (technē), but on cultivating the uniquely human domain of practical wisdom (phronesis), grounded in a framework of enduring intellectual history and activated through heuristic, engaged learning practices.

1. Introduction: The Threat of Cognitive Atrophy

The genesis of this project lies in a critical observation of the current trajectory of AI adoption in higher education. While the 2025 *Student Guide to Artificial Intelligence* successfully addressed the immediate "triage" needs of the academy—explaining AI tools and skills, outlining ethical issues and establishing basic protocols—it did not address the deepening second-order effects of widespread AI usage.

The importance of this pedagogical shift was established in the release of the 2023 statement of principles, "Higher education's essential role in preparing humanity for the artificial intelligence revolution," produced by an Elon University-led effort of global scholars. This mandate called upon higher education to "engender an understanding of responsible AI development designed to augment and enhance human capabilities rather than replace them and risk undermining basic human autonomy, agency and dignity."

However, recent data suggests that "replacement"—and the resulting degradation of human skills—is rapidly becoming a major concern.

[1] ***Inquiries:*** *Daniel J. Anderson, special assistant to the president and lead author, Student Guide to Artificial Intelligence, Elon University, andersd@elon.edu*

Empirical Signals and Pedagogical Risk Indicators

The concern that widespread AI use may undermine the development of essential human capacities is not merely speculative. While the long-term cognitive effects of generative AI are still emerging, multiple empirical signals—both perceptual and experimental—indicate a growing pedagogical risk that warrants proactive intervention.

Faculty Perceptions as Institutional Risk Indicators

One of the clearest early warning signs comes from faculty themselves. The *AI Challenge National Survey* (Elon University & AAC&U, January 2026), which gathered responses from more than 1,000 U.S. college faculty members across disciplines, documents a striking convergence of concern.

Faculty responding to the survey described observable shifts in student behavior and learning practices that they believe threaten the development of core intellectual skills:

- Overreliance on tools: 95% of respondents report that generative AI is increasing students' dependence on algorithmic assistance rather than their own reasoning.
- Anticipated erosion of critical thinking: 90% predict diminished capacity for independent analysis if current usage patterns persist.
- Loss of sustained attention: 83% believe generative AI will further weaken students' ability to engage in deep, focused work.

These findings should be understood as perceptual and anticipatory, not diagnostic. However, in the context of educational systems, such widespread faculty consensus functions as a powerful institutional risk signal—indicating that current pedagogical models may be misaligned with the cognitive demands of an AI-saturated learning environment.

Experimental Evidence from Learning Sciences

Emerging experimental research suggests that while generative AI can significantly improve short-term task performance, it may also undermine learning durability under certain conditions.

A study conducted by Bastani et al. (2024) at the University of Pennsylvania (Wharton) found that students with access to generative AI tools performed better on immediate problem-solving tasks, but in some cases performed worse on subsequent unassisted assessments. The findings suggest that when AI removes productive cognitive struggle, learners may bypass the processes necessary for long-term knowledge retention.

Similarly, Fan et al. (2024), published in the *British Journal of Educational Technology*, observed that AI-supported learners may exhibit increased technological dependence and reduced metacognitive engagement. While the tools improved short-term efficiency, they did not reliably enhance intrinsic motivation, self-regulation, or transfer of learning.

Importantly, these studies do not suggest that AI use is inherently harmful. Rather, they indicate that learning outcomes are highly contingent on how AI is integrated into instructional design. When AI substitutes for thinking rather than scaffolding it, essential human capacities may fail to develop.

Interpreting the Evidence: A Pedagogical Imperative

Taken together, faculty perceptions and experimental findings converge on a critical insight: without intentional pedagogical structures, generative AI can unintentionally displace the very cognitive work higher education is designed to cultivate.

We describe this risk as *cognitive enfeeblement via offloading*—a pattern in which learners increasingly rely on algorithmic outputs without engaging in the reflection, verification and judgment necessary for developing practical wisdom (phronesis).

The purpose of *Human Wisdom for the Age of AI* is not to reject AI tools, but to respond to this risk by re-centering learning on human agency, metacognition and judgment. The guide aims to preserve the benefits of AI while protecting the developmental processes essential to human development.

The Pedagogical Pivot

The convergence of national faculty sentiment and controlled experimental data points to a shared pedagogical concern: If the "struggle" of learning is outsourced, the cognitive muscles required for judgment, synthesis and ethical reasoning may fail to develop. In this framework, “human capacities” are understood as developmental dispositions that integrate skills, habits of mind, and ethical judgment, rather than discrete technical competencies.

Therefore, *Human Wisdom for the Age of AI* (2026) represents a strategic pedagogical response to these emerging risks—reasserting the central role of human judgment, ethical reasoning and agency in an era of increasingly powerful cognitive technologies. It is a direct response to the demand for an educational intervention that centers the development of durable human capacities.

2. Theoretical Framework: Essential Human Capacities

The curricular architecture of the guide is built upon fundamental human capacities identified by the Imagining the Digital Future Center. Drawn from the Center’s report *“Being Human in*

2035," which synthesized the foresight of more than 300 technology experts, these capacities represent traits that will hold value in an automated economy:

- curiosity and capacity to learn
- decision-making and problem-solving
- innovative thinking and creativity
- social and emotional intelligence
- capacity and willingness to think deeply about complex concepts
- trust in widely shared norms and values
- confidence in humans' native abilities
- empathy and application of moral judgment
- mental well-being
- sense of agency
- sense of identity and purpose
- metacognition

3. Intellectual Foundations: Leveraging Enduring Wisdom

A core pedagogical decision was to ground these capacities in a framework of enduring wisdom**.** We have selected a diverse canon of thinkers—including René Descartes, Bertrand Russell, Seneca, Phyllis Wheatley, Mary Parker Follett, Okakura Kakuzō, Mencius, Aristotle, Cicero and Ptahhotep. They were selected based on the relevance of their writings and the strengths and clarity of their quotes related to the human capacities that are the focus of this guide. The selected thinkers represent multiple intellectual traditions and historical contexts, reflecting the cross-cultural persistence of questions about judgment, agency, ethics, and human flourishing.

The Rationale for a Wisdom Framework:
As articulated in the guide's "About" section, we posit that while technology evolves exponentially, human nature does not. The risks posed by AI—the erosion of truth, the outsourcing of judgment, the loss of agency—are modern iterations of ancient human challenges.

- Epistemological Justification: By anchoring AI skills in durable intellectual traditions, we provide students with a "time-tested" foundation. Algorithms are constantly changing; the principles of phronesis (practical wisdom) persist. This approach protects the curriculum from obsolescence and validates the humanities as a vital companion to technological training.

4. Pedagogical Methodology: Engaged Learning & Heuristics

The guide avoids abstract theory in favor of constructivist and experiential learning theory. We assume that students construct understanding and agency best through active engagement—"learning by doing."

A. High-Impact Practices (HIPs)
The guide's design is validated by the extensive literature on High-Impact Practices (HIPs) (Kuh, 2008), which demonstrates that deep learning requires active application, reflection and real-world relevance. Each chapter functions as a micro-HIP, inviting the student to step out of the passive "user" mode and into an active "creator/critic" mode via hands-on exercises.

B. The "Mini-Tool" as Cognitive Scaffold
Each chapter introduces a visual mental model. In educational terms, these are active interventions—scaffolds designed to interrupt the habit of passively accepting AI output.

- Function: These tools are designed to break the "autopilot" workflow of using generative AI. By requiring a specific, manual check before or during the process, the guide forces the student to pause, evaluate and apply critical judgment rather than simply transacting with the machine.

5. Institutional Alignment: The AAC&U Partnership

This publication represents the continuation of a strategic publishing partnership between Elon University and the American Association of Colleges and Universities (AAC&U). Building on the wide adoption of the previous two *Student Guide to AI* projects, this collaboration leverages the AAC&U's standing as a leading voice for the value of liberal education in the United States.

The guide is explicitly aligned with the AAC&U's definitive framework, "What Liberal Education Looks Like." It demonstrates that the "soft skills" of the liberal arts—critical inquiry, ethical reasoning, integrative thinking—are, in fact, the "durable skills" of the AI era. By mapping the human capacities to the AAC&U's Essential Learning Outcomes, the guide bridges the gap between traditional academic mission and future workforce readiness.

6. Assessment Strategy

To measure student learning in an AI environment, traditional grading models are insufficient. Because algorithmic tools can generate high-quality final outputs (essays, code, summaries) without human effort, the "final product" is no longer reliable proof of student competency.

Therefore, we propose a portfolio-based assessment strategy that shifts the focus from grading the *product* to assessing the *process*.

The Rationale:
In completing the guide, students should submit the "artifacts of thought"—the intermediate documents generated by using the Field Guide's mini-tools. These artifacts serve as tangible evidence that they engaged in critical thinking, not just prompt engineering.

Success Metrics:

- **Evidence of Inquiry:** Can the student produce a completed worksheet, for example, an "Idea Compass" outline (from the Drive to Discover chapter) showing they explored historical and theoretical contexts that the initial AI output missed?
- **Evidence of Verification:** Can the student submit a "Forensic Log" (from the Human Validator chapter) documenting the specific errors they caught and corrected in the AI draft?
- **Evidence of Agency:** Can the student demonstrate the "before and after," clearly identifying where they injected their own voice, ethics and judgment into the machine-generated baseline?

By assessing these artifacts, educators can verify that the student is cultivating the essential human capacities, regardless of the quality of the AI assistance.

7. Conclusion

The *Human Wisdom Field Guide* is not a rejection of technology, but a reassertion of humanity. By synthesizing the foresight of the Elon-led global scholars group, the rigor of AAC&U's liberal education framework, and the pedagogical power of experiential learning, this guide offers a roadmap for producing graduates who are not merely "users" of technology, but sovereign agents capable of directing powerful tools toward human ends. This framework offers a replicable model for institutions seeking to move beyond AI literacy toward a holistic pedagogy of human formation.

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