

Towards Ethical & Effective AI-Augmented Learning: A Multiplex Framework

JUNAID QADIR

Professor of Computer Engineering,
CSE Department, CENG,
Qatar University



The Parable of the Optimized Donkey



Mulla Nasruddin bought a donkey but found its food too expensive. "I will train it to eat less," he decided.

Each day, he reduced the ration. The donkey continued to work, appearing fine.

With Mulla giving it almost no food, the donkey eventually died.

"What a pity," said Nasruddin. "If I had just a little more time, I had almost taught it to live without any food at all."

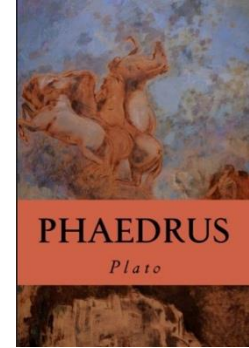
The Provocation:

In education and learning, with our technological optimizations, are we the analogue of this?

Rekindling an Old (Polarized) Debate



More than 2,000 years ago, Plato dramatized the tension between technology proponents and antagonists in his dialogue Phaedrus, through the myth of **Theuth — the inventor of writing — and Thamus, the skeptical king.**



It is incorrect to think that technology only works only in a single way (either-or approach) or even that it is neutral



"Every technology is both a burden and a blessing; not either-or, but this-and-that."

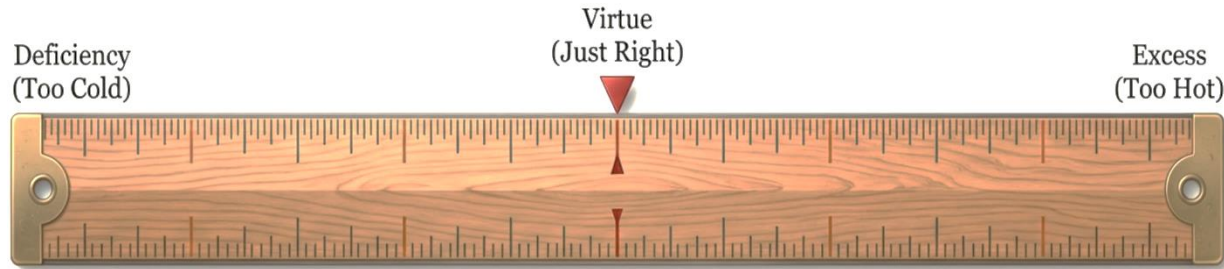
simultaneously



Wholistic Growth Requires Balancing Values through a both-and approach

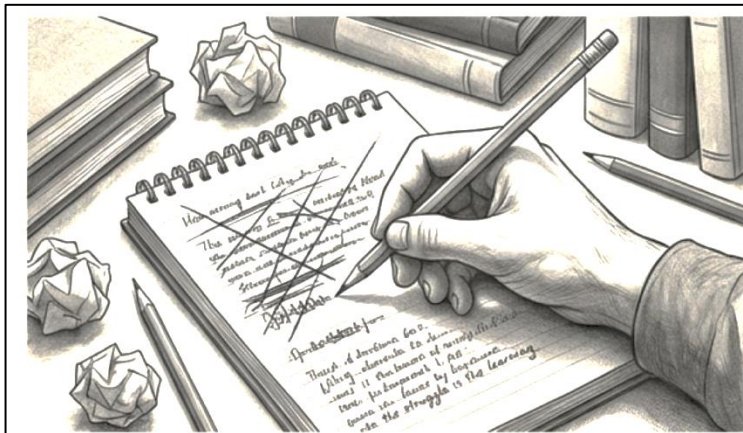
Dynamic Reframing of Balance/ Harmony/ Virtue

**Static
(Either/Or)
Approaches**



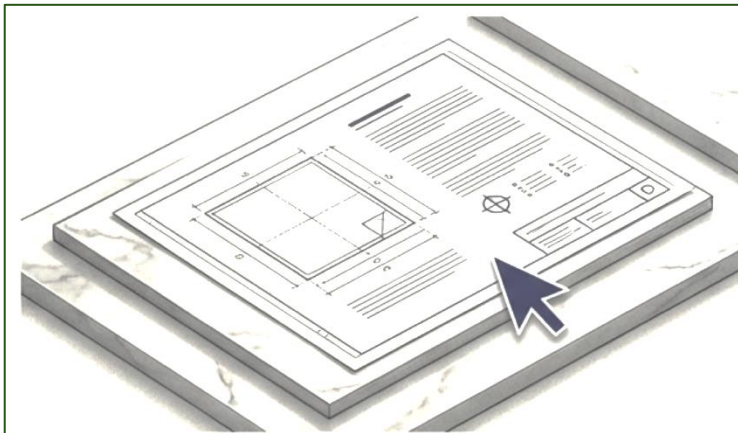
The result of a static middle path can be a grey slurry of mediocrity and slop

A Dynamic Both/And Approach is needed



1. Human Struggle (Formation)

The biological necessity of 'doing it the hard way.' This is internal capability building. It is inefficient by design because the struggle is the learning.



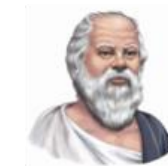
2. AI Efficiency (Communication)

The economic necessity of producing high-quality work quickly. This is external artifact creation. It seeks to remove friction and maximise output.



SOPHISTRY & PRETENTION

Appearances become more important than truth/ knowledge.



HOMOGENIZATION

Making the thoughts/ outputs of every student formulaic and cliched



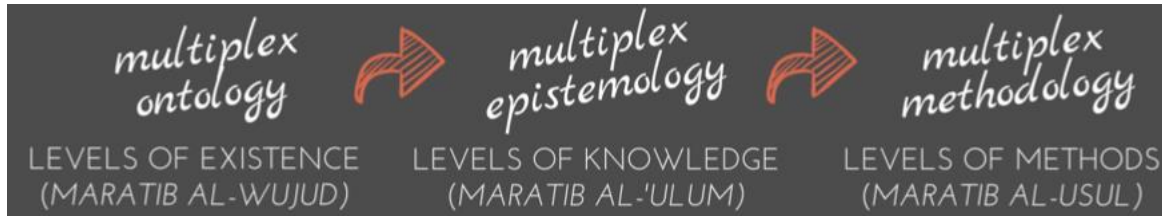
Static Balance vs. Dynamic Flow

Feature	The Middle Path (Golden Mean)	Multiplexity (Both-And)
Nature of Poles	Bad (Excess vs. Deficiency)	Good (Value A vs. Value B)
Relationship	Adversarial (Mutually Exclusive)	Interdependent (Need each other)
Strategy	Static Balance (Find a spot and stay there)	Dynamic Flow (Move between them)
Failure Mode	Extremism (Going too far in one direction)	Imbalance (Overfocusing on one triggers downside)

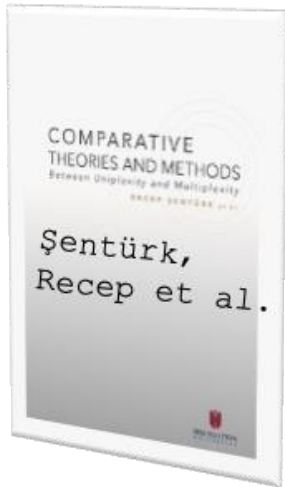
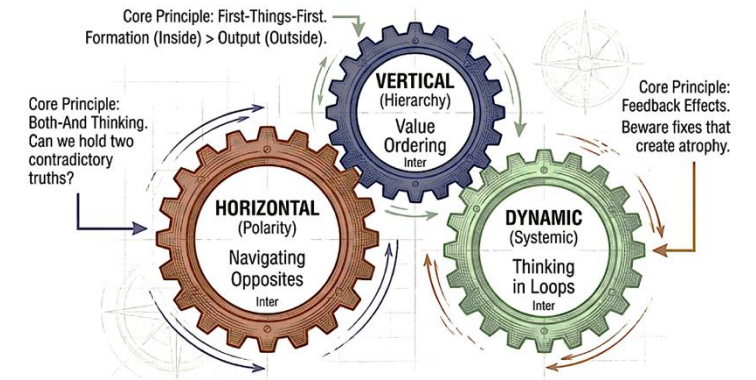
Argument for Multiplex (Both-And) Thinking



Latin meaning of the word "complexus", "That which is woven together"



THREE DIMENSIONS OF MULTIPLEXITY



Multiplexity is a translation of the Arabic term "marātib", which literally means hierarchy or levels.

Multiplexity provides a multi-layered understanding of reality, knowledge, and truth, and language.

Supports Both-And Thinking instead of Either-or Thinking.

Dimension I (Horizontal Multiplexity): (Both/And Thinking)

BOTH-AND



Co-presence, both-and perception

(Polarity Management)

Holding valuable opposites
in productive tension
through both-and thinking.

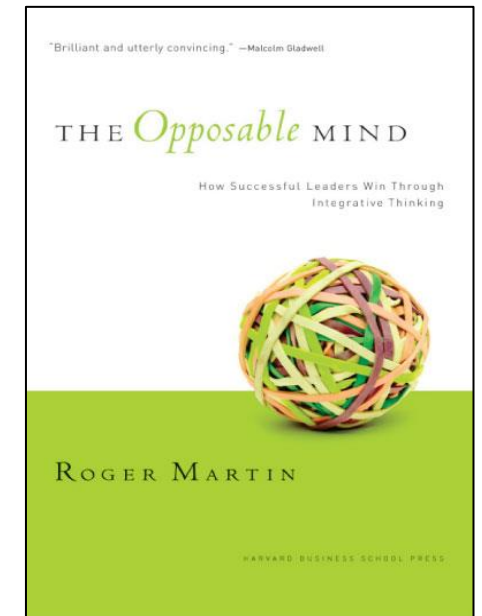
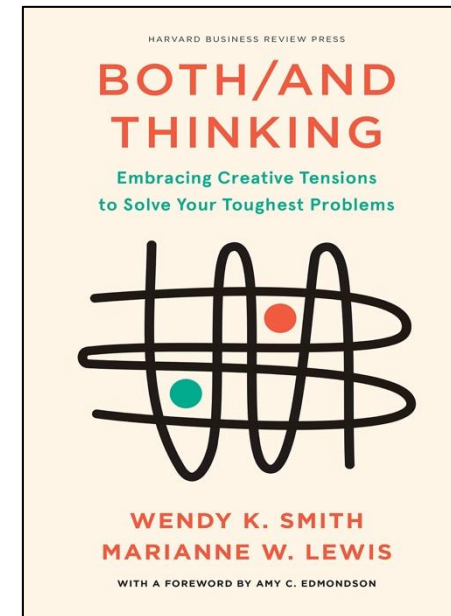
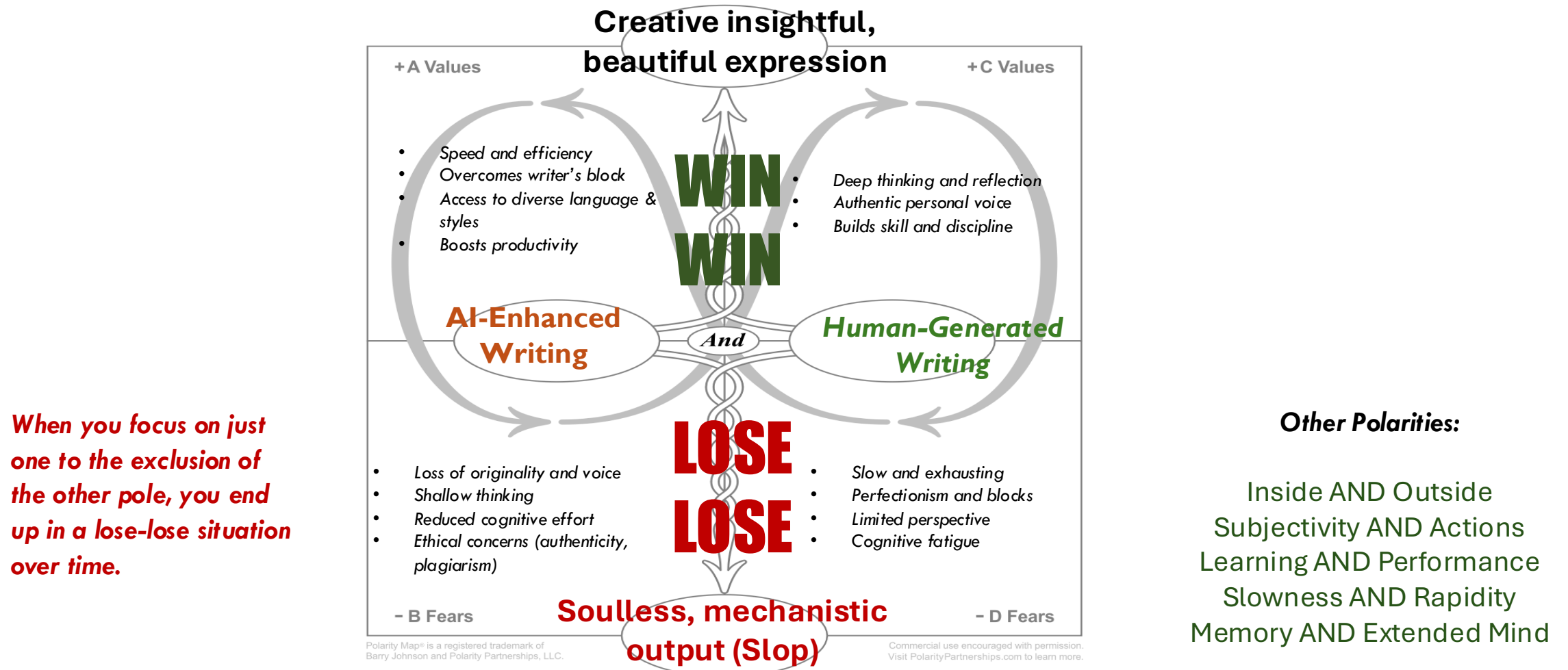


Illustration of Dimension I: Horizontal Multiplexity (AI-Augmented Writing Polarity Map)



Dimension 2 (Vertical Multiplexity): (Value Ordering)

VALUE-ORDERED

Primacy without rigidity



Value Ordering

Ordering values so higher purposes guide, constrain, and give meaning to lower ones.

Inside-Outside Paradox

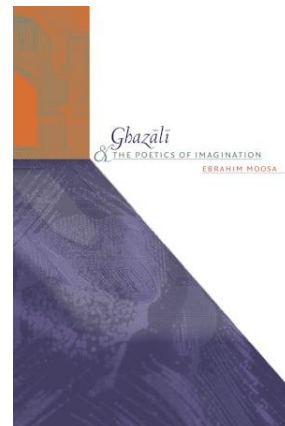


The Robber to Ghazali: "How can you claim to knowledge if it can be stolen from you so easily?"

A Purpose of Multiplex Education:

Metanoia

انقلاب



WRITING TO
REMEMBER



WRITING TO
INFORM



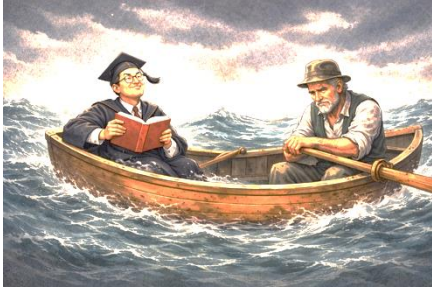
WRITING ON
HEART



Using technology (AI) as a ladder not as a crutch

Illustration: Dimension 2 (Vertical Multiplexity)

(the grammarian and the boatman)



The Grammarian (obsessed with form):
"Have you studied grammar?"

The Boatman: "No."

The Grammarian: "Then half your life
has been wasted."



The Boatman (as the boat sinks):
"Have you learned to swim?"

The Grammarian: "No."

The Boatman: "Then ALL your life is lost."

INSIDE-OUTSIDE PARADOX:

Without the INSIDE (Internal Formation), the OUTSIDE (External Output) is nothing.

AI can help you get far, but without ethical judgement, you eventually will drown.

You need to have skin in the game and real-world wisdom acquired through experience

Dimension 3 (Dynamic Multiplexity): (Dynamics/ Systemics)

DYNAMIC/ SYSTEMIC

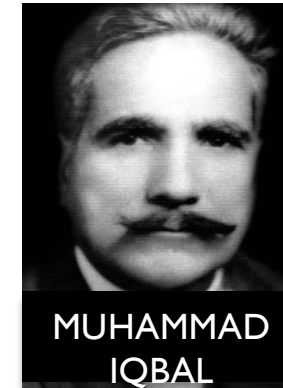


Development, formation, atrophy

Systemics:

Feedback, emergence, & interdependence in complex adaptive systems, producing counterintuitive dynamic behavior. Self-making through wholeness.

Wholeness or Self-Making (Kamāl),
often also involves higher values in
unifying diverse lower-level multiplicities
under the pursuit of ideals.

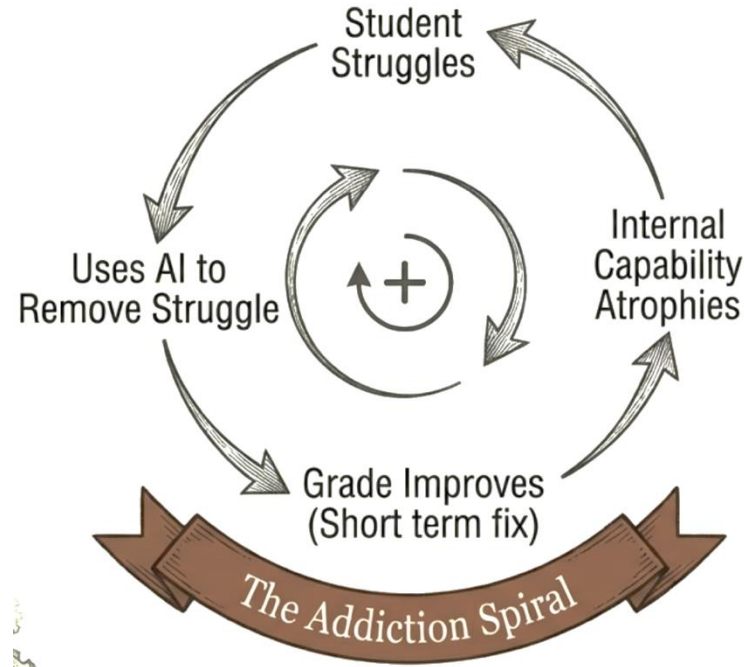


"Systems are perfectly designed to achieve the results they are currently achieving." —Edward Deming

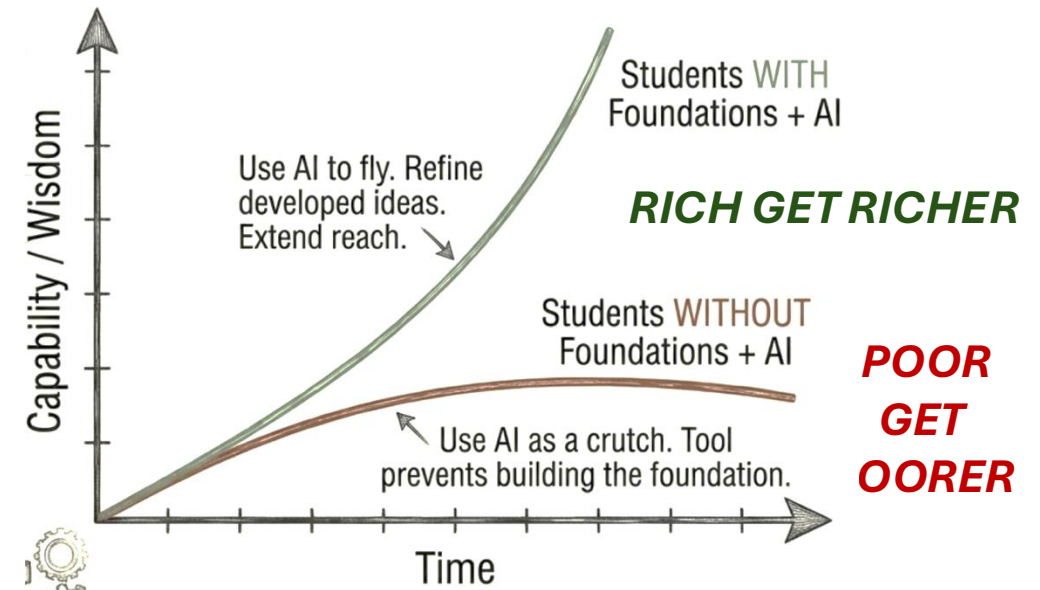
Dimension 3 (Dynamic/ Systemics Multiplexity)

IATROGENICS

*The Wounds that
the Healer Gave*



MATTHEW EFFECT: REINFORCING LOOPS



“Because of feedback delays within complex systems, by the time a problem becomes apparent it may be unnecessarily difficult to solve.” — Donella H. Meadows, *Thinking in Systems: A Primer*

**The Parable of
the Boiled Frog**

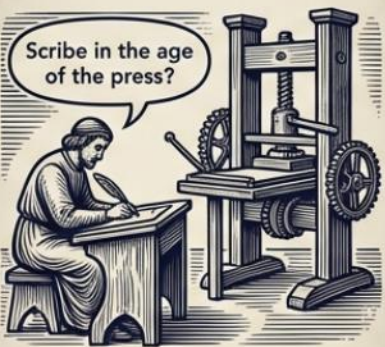


Laws of intelligence augmentation for the GenAI Era

Qadir, J. (2024). Learning 101 reloaded: Revisiting the basics for the GenAI era. *IEEE Potentials*, 43(6), 6-12.

LAW 1

Work should be no worse than AI alone.



When AI is readily accessible, **do not** be the scribe in the age of the press. Leverage the tool to set a new baseline.

LAW 2

Maintain the Human Edge.



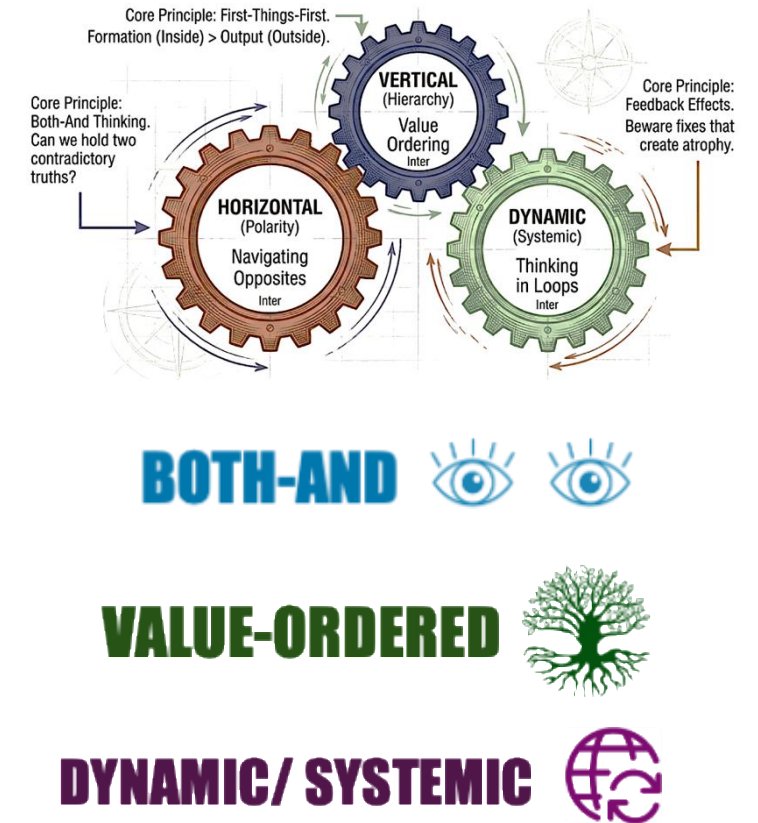
Focus on what AI **cannot** do: moral judgment, complex **synthesis**, and **context**. Maintain competitive advantage.

LAW 3

Do Not Let Capability Atrophy.



Do no harm to your own mind. Ensure you can still "swim" without the boat. Use it or lose it.



How can we operationalize these dimensions?

Excellence in the AI era requires **BOTH BECOMING**—the cultivation of authentic human capability—**AND PRODUCING**—the creation of valuable outputs. Even in the AI Era, authentic craft still matters.

Horizontal Multiplexity



- Aim for proficiency in **BOTH** formation **AND** communication.
- Separate times for **NO AI** (development) & **Ethical AI** (polish/ critique/enhance) [develop judgement when to use which]

Vertical Multiplexity



- **Prioritize the higher values** (inside-focus/ quality/ core/ holistic/ intrinsic).
- **The Ghazali Test:** Can you explain it without the notes?

Dynamic Multiplexity



- Watch for **fixes that fail**; atrophy of skills/ capacities diminishing.
- **Ensure that over time, your skills/ capabilities are developing.**

YOUR PERSPECTIVES: Happy to engage in a dialogue on operationalization strategies

Multiplexity is multi-disciplinary; can it be applied in your area?

EDUCATION/ AI ETHICS

1. Qadir, J., & Senturk, R. (2026). *An Islamically-inspired critical pedagogy in the AI era: A multiplex framework for fostering wisdom*. In W. Holmes (Ed.), Handbook of Critical Studies of Artificial Intelligence and Education (Elgar Handbooks in Education). Edward Elgar Publishing. ISBN: 9781035335862. (Forthcoming).
2. Qadir, J., & Senturk, R. (2026). *Multiplex systemics for wholeness-making: Toward a more holistic philosophy of educational technology*. In S. Al-Maadeed, M. Saleh, & R. Kumar M. (Eds.), AI for Inclusive Education: Advancements in Assessment, Diagnosis, and Intervention. Elsevier. (Forthcoming).
3. Qadir, J., & Senturk, R. (2026). *Educating for the AI era: Harnessing the wild GenAI horse through multiplex AI humanities and critical AI literacy*. In A. F. Aysan, H. M. U. Qadri, & H. Ali (Eds.), Artificial Intelligence and the Future of Islamic Finance. Taylor & Francis. (Forthcoming).
4. Qadir, J., & Arshad, M. R. (2026). *The Ghazalian project for the AI era: A critical Islamic framework for guiding AI development*. In R. Senturk (Ed.), Ghazali on Education (Islamic Education Book Series). Brill. (Forthcoming).

HEALTHCARE/PSYCHOLOGY

Qadir, J., Maddah, D., Qoronfleh, M. W., & Senturk, R. (2025). *Toward multiplex health: Integrating complexity, normativity, and open science*. Frontiers in Psychology, Consciousness Research, Research Topic: Spirituality and Religion: Implications for Mental Health. <https://doi.org/10.3389/fpsyg.2025.1603474> (Accepted August 2025; Open Access; Impact Factor 2024: 2.9).

Thank You!

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