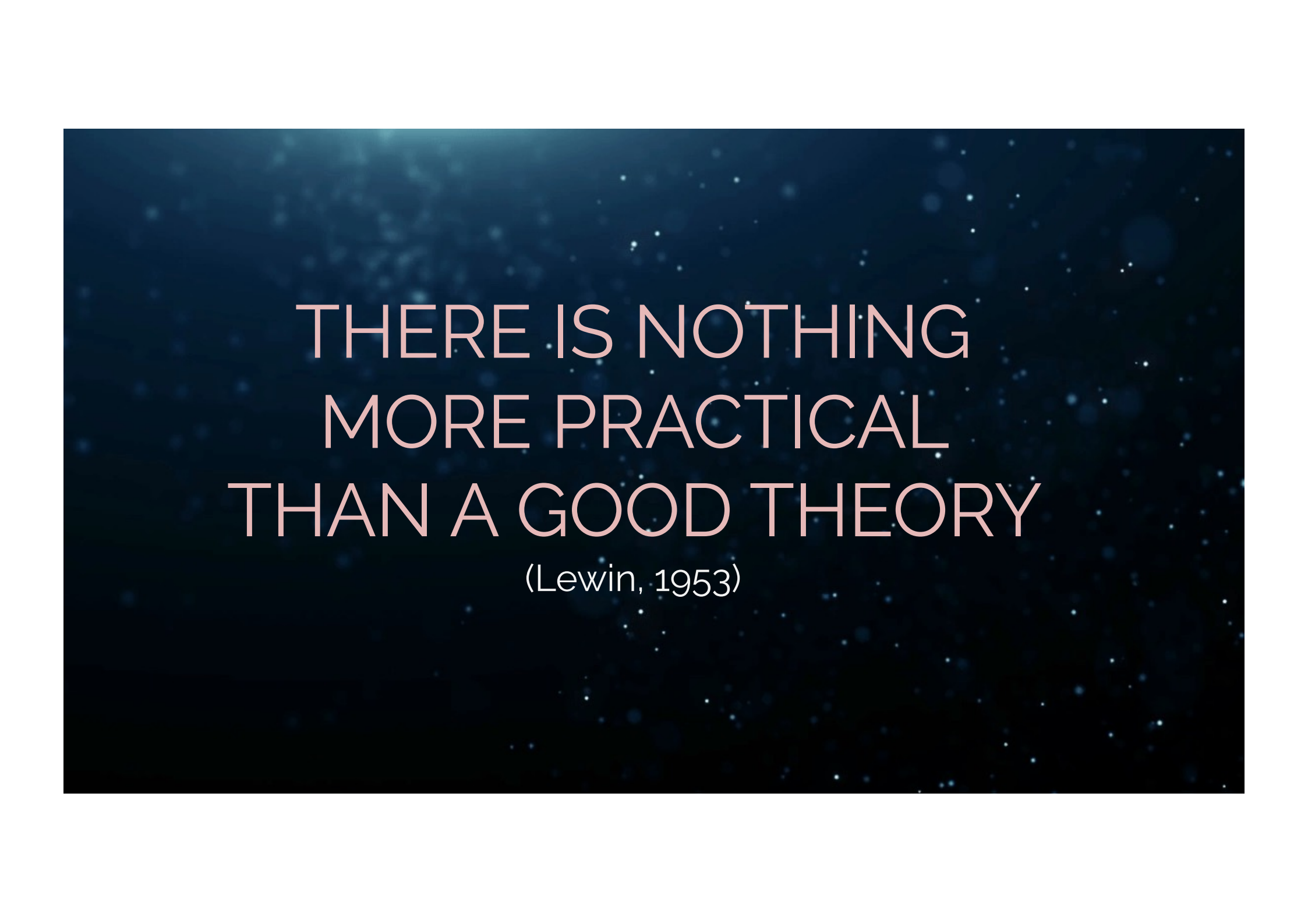






**Hybridity**  
**Heutagogy**  
**& Humanisation**  
**in language education**



THERE IS NOTHING  
MORE PRACTICAL  
THAN A GOOD THEORY

(Lewin, 1953)

A detailed illustration of a neural network. Numerous neurons with cell bodies and branching dendrites are shown in a dark, almost black, background. The neurons are rendered in a light, translucent grey or white. A single synapse, where two neurons meet, is highlighted with a bright, glowing blue light, creating a focal point in the center of the image. The overall composition suggests a complex, interconnected system, likely representing the human brain's neural pathways.

**What is knowledge?**



**Knowledge is  
Distributed**

About Pricing Use Cases ▾



Introducing  
Rewind Pendant

HUMANE PIN



Knowledge is  
Outsourced

bethany  
is calling.



# Ambient Computing:

The Future Where Technology  
Disappears Into the Environment

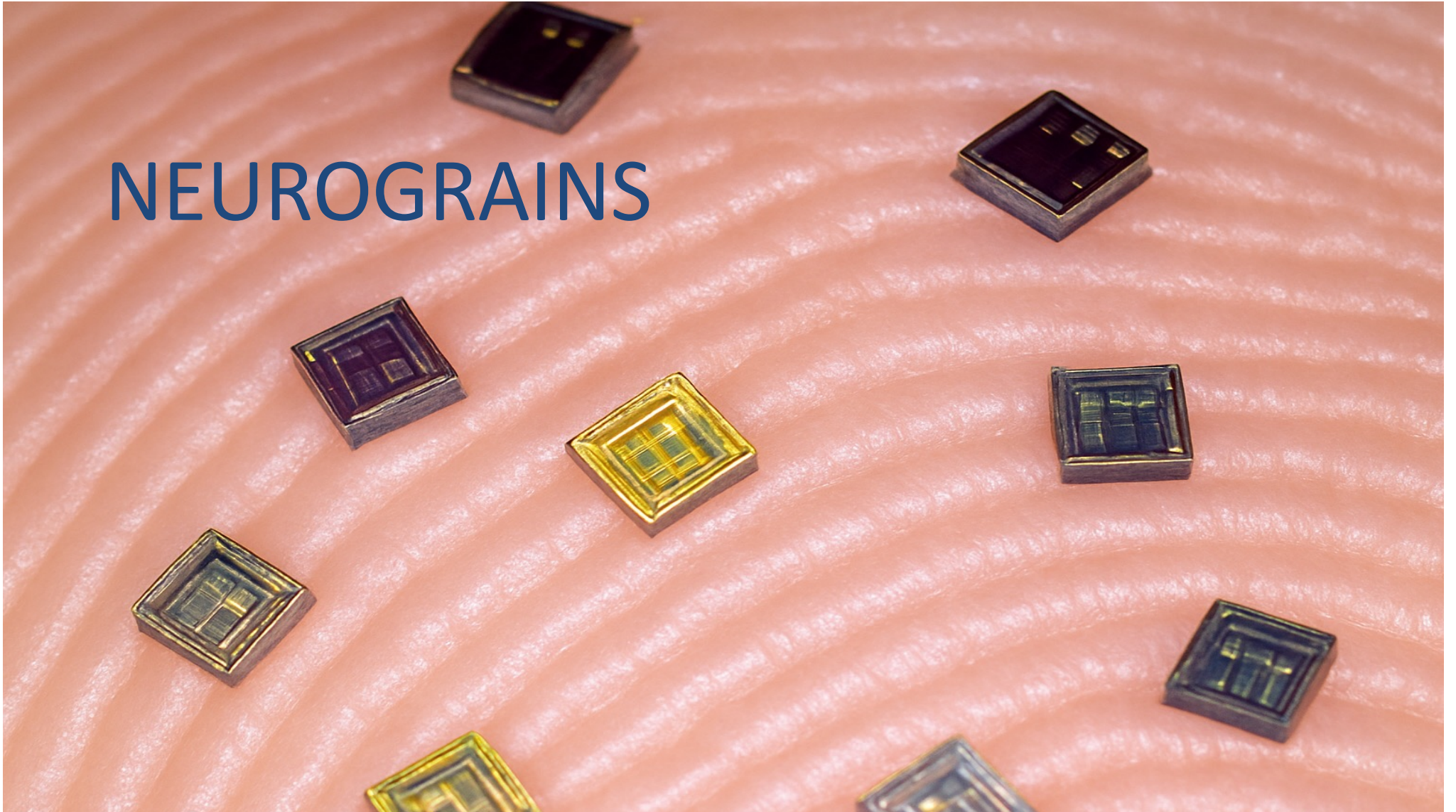


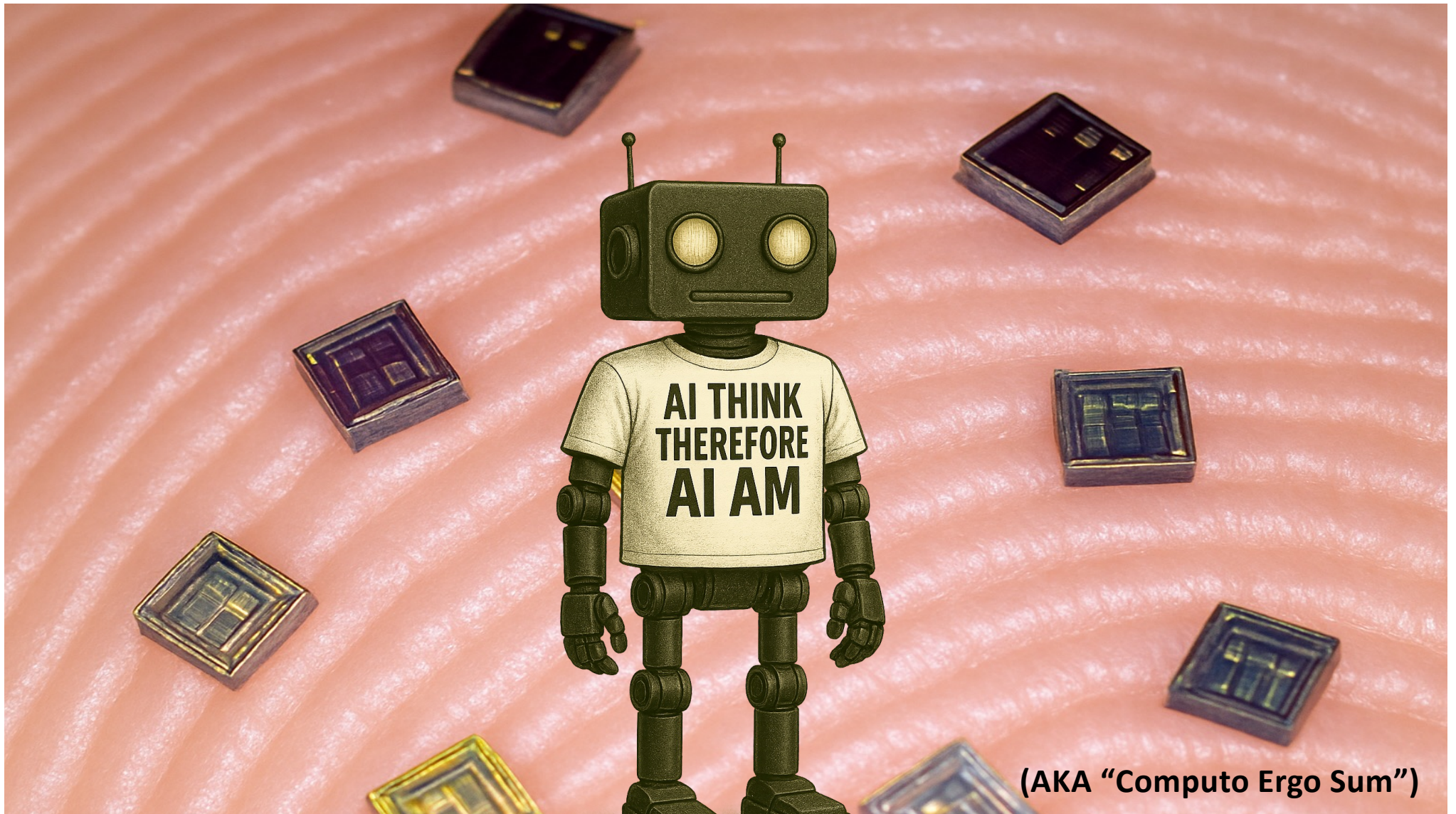


#### Our Mission

Create a generalized brain interface to restore autonomy to those with unmet medical needs today and unlock human potential tomorrow.

# NEUROGRAINS





(AKA "Computo Ergo Sum")



**What is learning?**

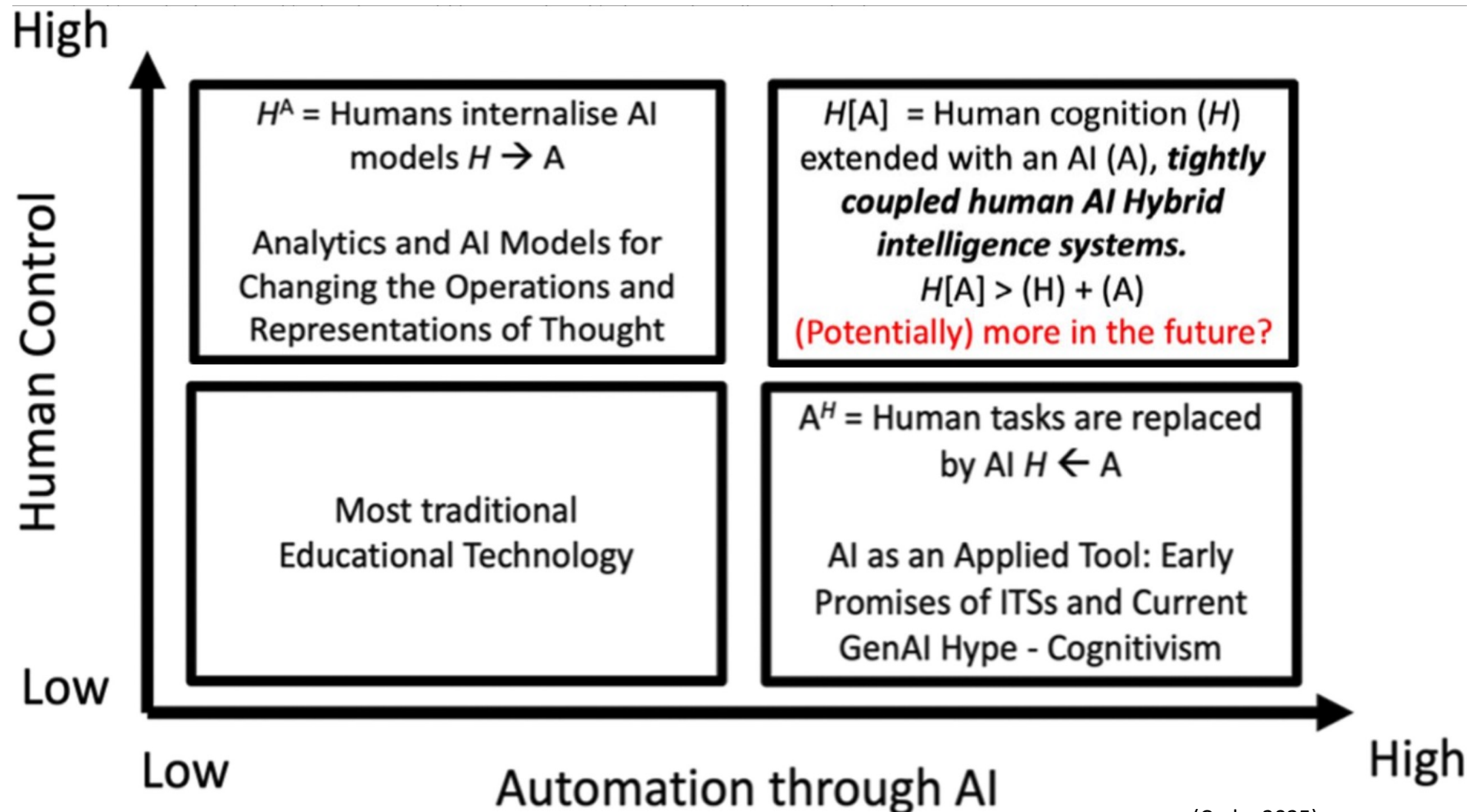
“

product-oriented task  
performance

versus

process-oriented task  
performance

”



(Code, 2025)

# Theoretical Foundations

## Distributed Cognition

Thinking spans individuals, artefacts, and environments. AI systems become integral components of the cognitive system.

## Extended Mind Theory

Tools become part of cognitive architecture when they reliably support human capacities, reorganizing activity structure.

## Hybrid Intelligence

Systems where humans and AI collaborate to achieve results neither could accomplish alone through complementary strengths.

## Epistemic Agency

Learners' capacity to take responsibility for advancing knowledge, evaluating information, and shaping inquiry direction.

# The Future is HYBRID



Designing Materials For:

# Shared Scenario

- Young adult learners
- B1–B2 proficiency
- Preparing for university study
- Regular access to generative AI tools

## **Task Objective:**

Learners prepare and deliver a persuasive presentation on a contemporary social issue.

# Where Should the Work Happen?

## Mapping Task Stages to Learning Support Models

### 1. Choosing a topic

Learner-led decision-making for topic selection.

### 2. Generating initial ideas

A hybrid approach combining learner input with AI assistance.

### 3. Researching supporting information

AI-supported research to gather relevant data.

### 4. Identifying useful vocabulary and phrases

AI assistance for language acquisition  
And refinement.

### 5. Structuring arguments

Hybrid model for organizing thoughts and evidence.

### 6. Anticipating counterarguments

Engaging in critical thinking with mixed learner and AI support.

### 7. Drafting presentation notes

AI-supported creation of presentation outlines and content.

### 8. Rehearsing pronunciation and fluency

AI tools for practicing speech and articulation.

### 9. Receiving feedback

Learner-led evaluation and peer review.

### 10. Revising the presentation

Iterative improvement through a hybrid approach.

### 11. Delivering the presentation

Learner-led performance and communication.

### 12. Reflecting on strengths and weaknesses afterwards

Learner-led self-assessment and analysis.

If AI is used, how can materials also help learners become more capable, independent, and critical users of AI?  
How do learners evaluate AI outputs? Where should struggle, interpretation, or interaction remain learner-driven?

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## EDUCATIONAL PARADIGM

# SELF-DETERMINED LEARNING

**Heutagogy** shifts full agency to the learner, moving beyond instruction toward autonomous self-determined capability, continuous discovery, and double-loop reflection.

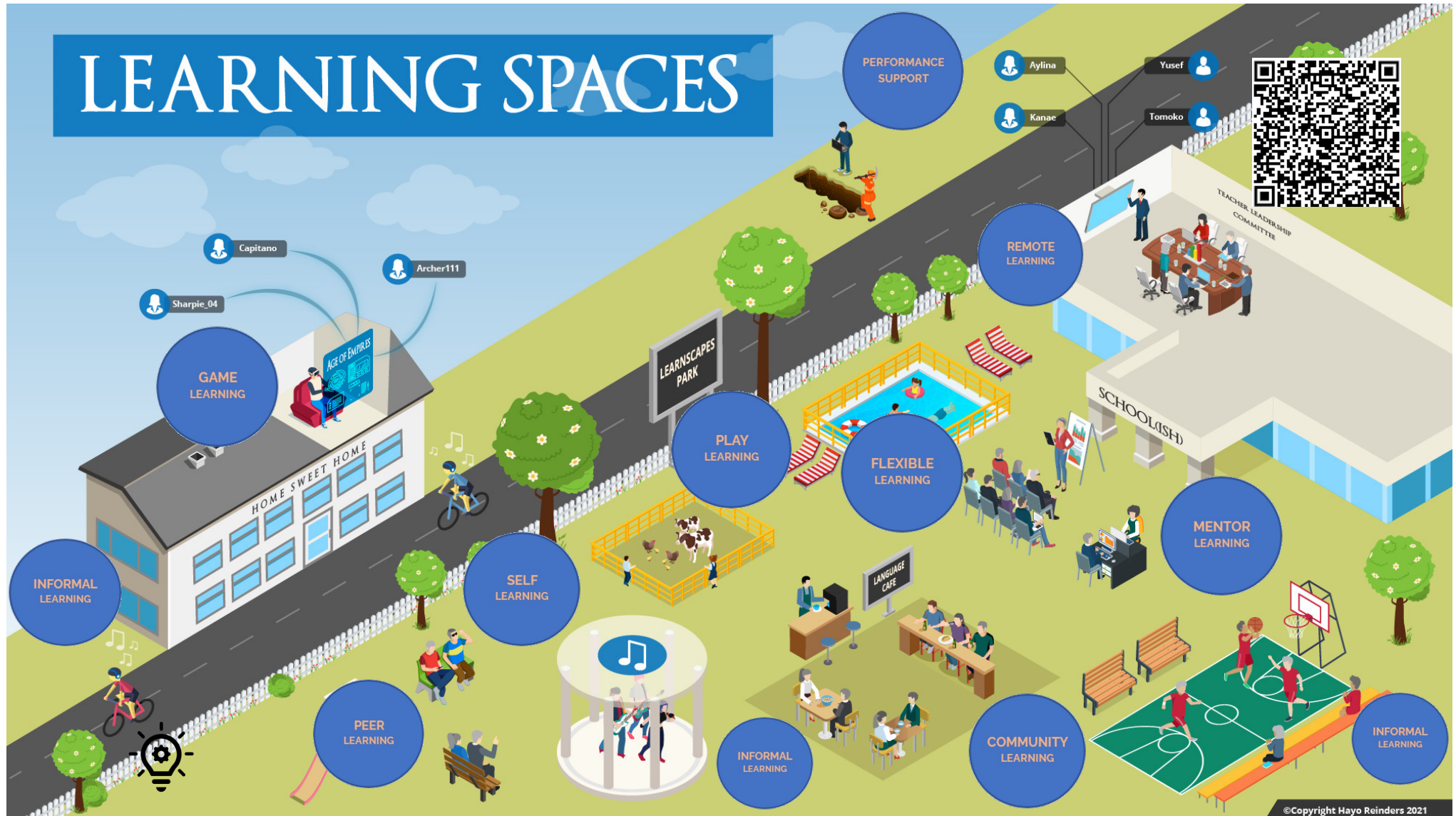
- LEARNER-DEFINED CURRICULA
- DOUBLE-LOOP META-COGNITION
- NON-LINEAR KNOWLEDGE PATHS
- CAPACITY & CAPABILITY FOCUS



**70%-80%**

**OF ADULT LEARNING  
TAKES PLACE OUTSIDE OF FORMAL  
EDUCATION (CROSS, 2001)**

# LEARNING SPACES



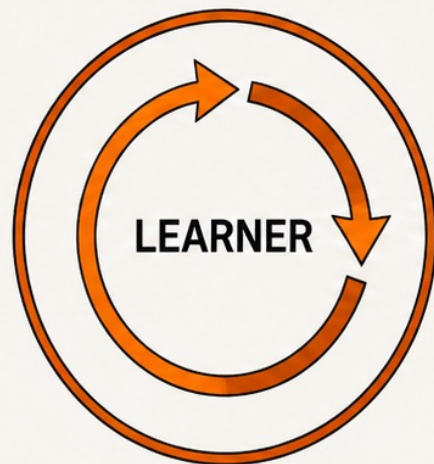


**LIFELONG  
+  
LIFEWIDE**

# THE NEED FOR A NEW MODEL

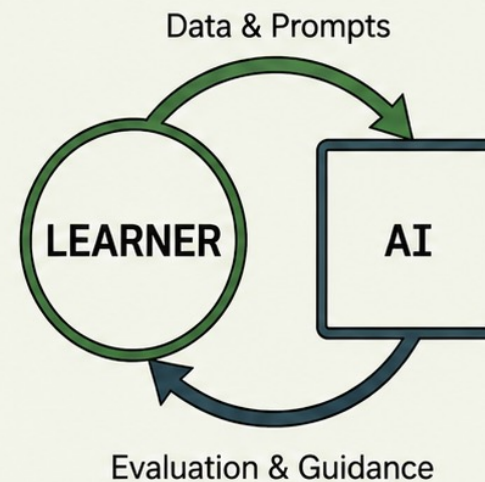
Self-Regulated Learning (SRL) vs. Hybrid-Regulated Learning (HRL)

## SRL (Traditional)



- **Locus of Control:**  
**Internal** / Learner-Centered
- **Role of Tech:**  
**Passive Aid**  
(Storage, Display)
- **Regulation:**  
Learner plans, monitors, evaluates alone

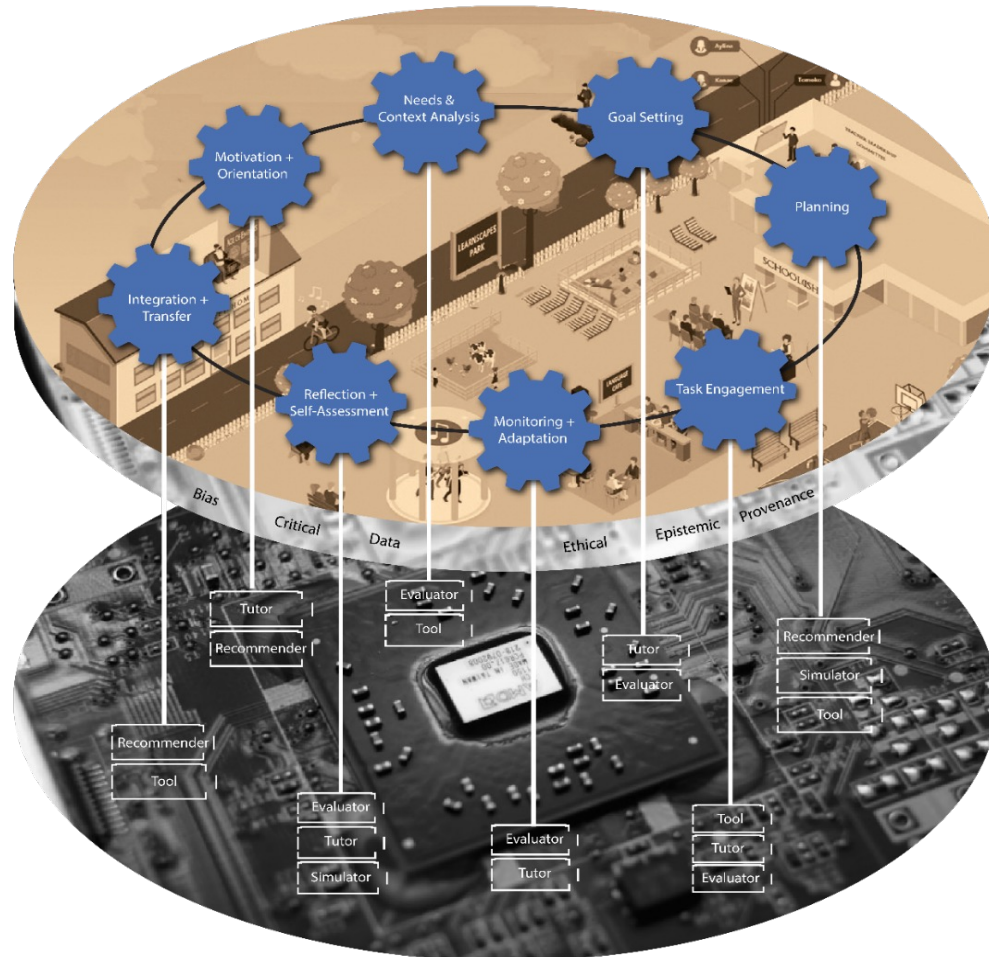
## HRL (Hybrid)



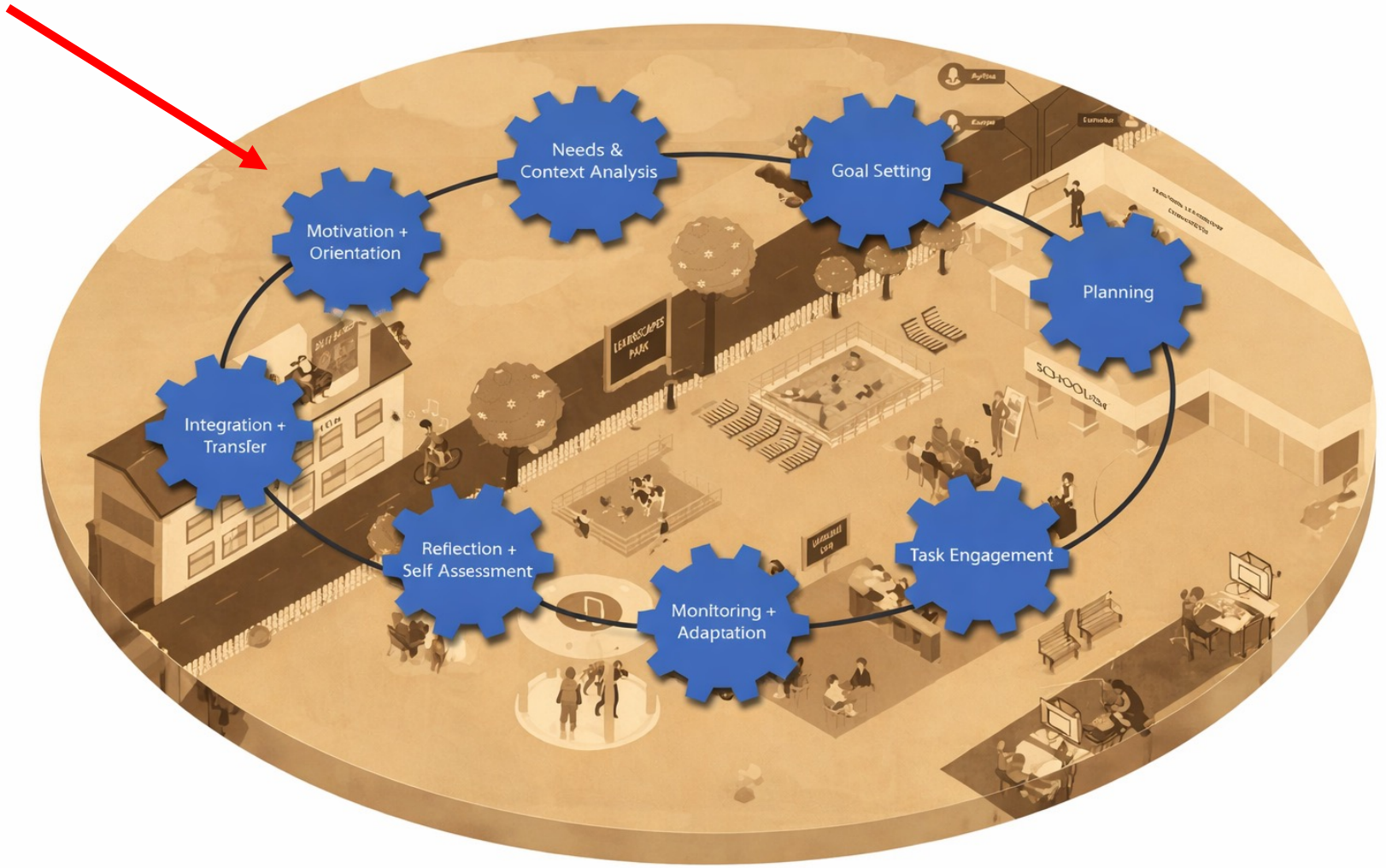
- **Locus of Control:**  
**Distributed** / Partnership-Centered
- **Role of Tech:**  
**Active Agent** (Tutor, Evaluator, Simulator)
- **Regulation:**  
Co-regulation. Algorithms influence attention and interpret success.

**Self-regulation**

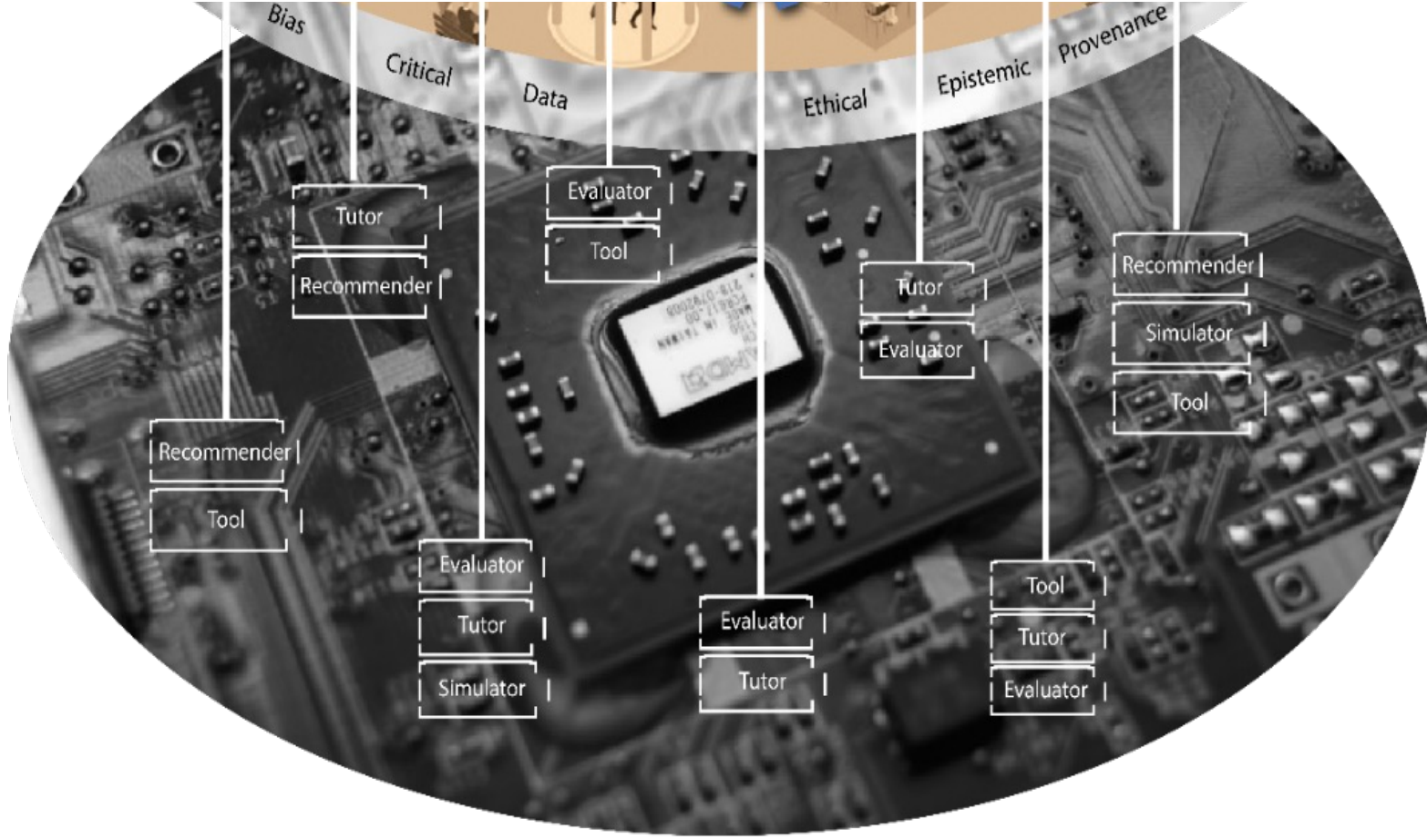
**hybrid regulation**

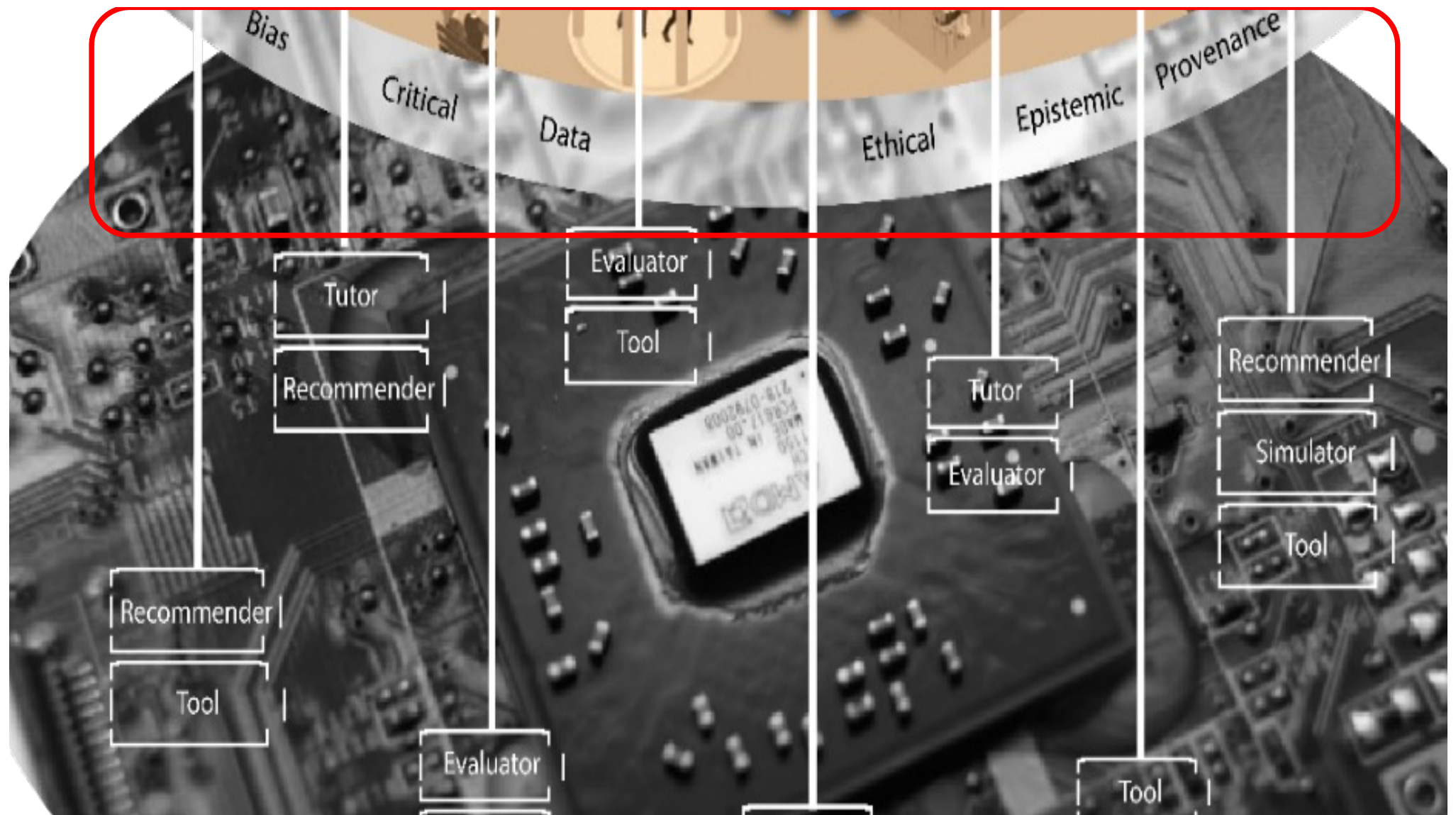


# HYBRID-REGULATED LEARNING



# HYBRID-REGULATED LEARNING





# Critical Literacies



## Provenance

Tracing information origins and judging credibility

## Bias

Recognizing embedded assumptions in algorithms

## Epistemic

Understanding knowledge generation in human-AI collaboration

## Ethical

Evaluating implications for privacy, authorship, and responsibility

Critical Literacies

# Epistemic Literacy

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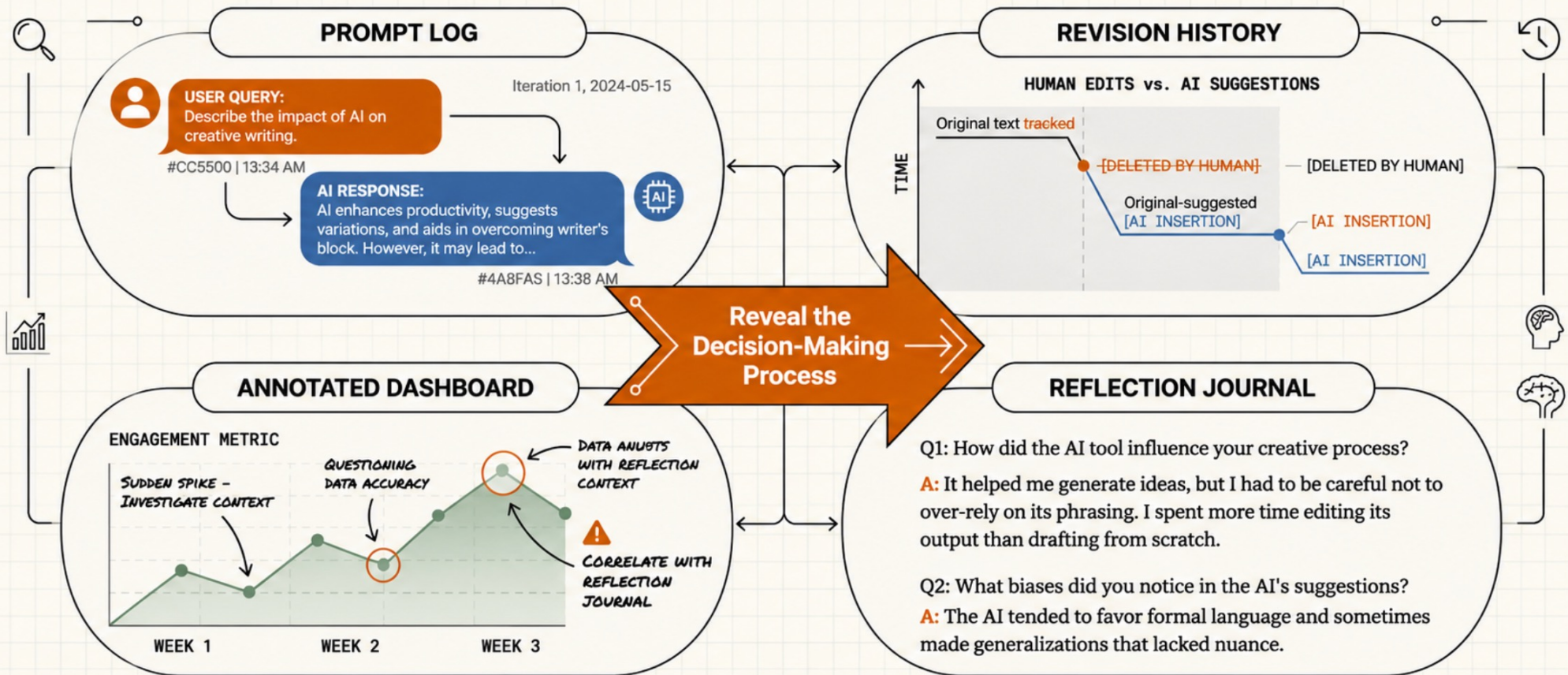
Understanding knowledge generation in human-AI collaboration

## Ethical

Evaluating implications for privacy, authorship, and responsibility

# Visibility: Making Hybrid Learning Observable

Assessment must shift from the final product to the artifacts of the process.



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**HUMANI  
ZATION**

**M**

# HUMANIZATION

- **Identity:** Our unique sense of self and personal narrative.
- **Interpretation:** The subjective understanding and meaning-making process.
- **Ambiguity:** The ability to navigate and embrace uncertainty and nuance.
- **Emotion:** The spectrum of feelings and their expression.
- **Interpersonal Communication:** The rich, multi-layered exchange between individuals.



How do we develop learning experiences that foreground learner wellbeing ?



#### Key Considerations

## Humanization: What Should Remain Complex, Interpretive, or Ambiguous?

- **Human-centered design** is about intentionally designing meaningful communicative experiences.
- **The Value of Complexity:** Ambiguity and interpretation foster critical thinking, problem-solving, and deeper engagement, moving beyond simple comprehension.
- **AI vs. Human Nuance:** While AI excels at efficiency, human communication thrives on nuance, context, emotional intelligence, and subjective experiences.
- **Pedagogical Imperative:** Intentionally designing for complexity helps learners develop robust communicative skills that AI cannot replicate, ensuring meaningful learning.

# Design Tensions in AI-era ELT

Balancing AI's potential with pedagogical goals



## Optimization vs. Exploration

Balancing AI's efficiency for targeted practice with the need for learners to explore language freely.



## Instant Clarification vs. Productive Ambiguity

Deciding whether AI should immediately resolve uncertainties or allow for ambiguity that fosters deeper processing.



## Individualized Support vs. Collaborative Meaning-Making

Weighing personalized AI feedback against the value of peer interaction and shared understanding.



## Polished Output vs. Emergent Communication

Navigating the desire for perfect output versus the authentic, organic nature of human communication.



## Prediction vs. Surprise

Determining if AI should predict learner needs or introduce novel language to challenge them.



## Fluency vs. Interpretation

Focusing on smooth language use versus the deeper cognitive process of understanding meaning and context.



## Efficiency vs. Reflection

Achieving rapid learning gains through AI versus creating space for learners to reflect on their process.

# Balancing AI's potential with



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Reduction of Cognitive Load



Enhancement of Learning Outcomes

# Principles for Thoughtful Transformation



## **Design for Orchestration, Not Replacement**

Integrate new tools and processes to enhance existing ones, rather than aiming for a complete overhaul.



## **Use AI to Expand Possibilities**

Leverage AI to open new avenues and enhance decision-making, not just to automate or eliminate human judgment.



## **Preserve Communicative Complexity, Interpretation, and Negotiation**

Maintain the richness of human interaction, including nuanced communication, interpretation, and collaborative problem-solving.



## **Preserve Learner Agency and Visible Thinking**

Ensure individuals have control over their learning and that their thought processes are observable and valued.



## **Build Reflection and Evaluation into AI-Supported Learning**

Integrate opportunities for critical thinking, self-assessment, and evaluation within AI-driven learning environments.



## **Design Learning Experiences, Not Just Efficient Task Completion**

Create holistic and engaging learning journeys that foster deep understanding and growth, rather than focusing solely on optimizing task execution.

# Beautiful Final Slide

([www.innovationinteaching.org](http://www.innovationinteaching.org))



innovationinteaching.org



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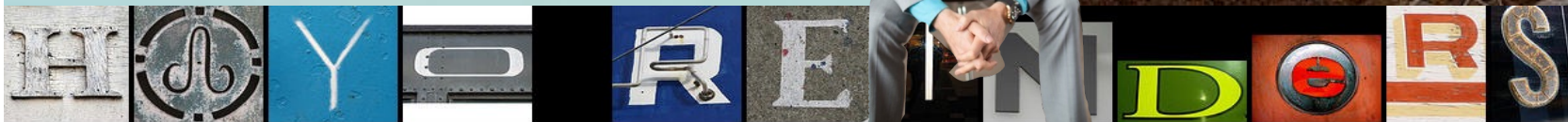
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Why do we need assessment when increasingly we know exactly what everyone is doing at any moment in time?

# A Research Agenda for Hybrid Autonomy

## Negotiating Control

When do learners accept vs. reject AI advice? (Log analysis).



## Long-term Cognition

Does reliance lead to atrophy or scaffolding? (Longitudinal studies).



## Affective Impact

How does partnership change anxiety and confidence?



## Measuring HRL

Developing metrics for “shared agency” beyond self-reports.

