



The Mindgle Cognitive Architecture

External Stimulus *A phenomenon, observation, experience, question, or problem is encountered.* ↓

Transduction *The sensory stimulus is converted into electrical signals that the brain can process.* ↓

Schema Activation *The brain attempts to interpret the new information through existing mental frameworks (Assimilation).* ↓

Does the New Information Fit Existing Schema?

YES → Existing understanding is strengthened. → Learning is reinforced.

NO ↓

Accommodation *A new mental framework must be constructed because the existing schema cannot explain the experience.* ↓

Wonder (The “Aha!” Moment)

A state of curiosity emerges because something feels incomplete, surprising, contradictory, or unexplained. ↓

Two Possible Pathways

Pathway A — Conventional AI Use

Immediate Search

- Type the question into AI or a search engine.
- Retrieve an answer.
- Thinking is largely outsourced.
- Curiosity ends.

Outcome: Information Retrieved



Pathway B — The Mindgleian Path

Activate Mentelix (Natural Intelligence) *The learner intentionally gives meaning and purpose to wonder before searching.* ↓

Phase 1

TOI — Theory of Inquiry

NI Prompt Orchestration (Metacognition)

The learner activates the mindful threads of Natural Intelligence by exploring:

- Curiosity
- Inquiry gaps
- Contradictions
- Tensions
- Stakeholders
- Perspectives
- Purpose
- Inquiry design

AI may be consulted only to clarify individual wonder questions when genuinely needed, but the inquiry remains learner-designed.

Output → **Refined Inquiry Question (RIQ)** ↓

Phase 2

AI Prompt Orchestration I

Epistemic Inquiry (Knowledge Construction)

AI is now activated as an **investigation partner**, not an inquiry generator.

The learner systematically investigates:

- Existing knowledge
- Concepts and theories
- Supporting evidence

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- Real-world examples
- Assumptions
- Contradictions
- Alternative explanations
- Multiple perspectives
- Strength of evidence

Output → **Initial Knowledge Claim (IKC)** ↓

Phase 3

TOK — Theory of Knowledge

AI Prompt Orchestration II

Epistemic Validation

The Initial Knowledge Claim is now stress-tested by asking:

- Is the evidence reliable?
- Are the sources credible?
- Could bias be influencing the claim?
- Which perspectives challenge it?
- How certain is this knowledge?
- Could it be falsified by future evidence?
- What ethical implications emerge?

Output → **Refined Knowledge Claim (RKC)** ↓

Final Outcome

Within a stipulated time period, the learner produces a **Refined Knowledge Claim** that is inquiry-driven, evidence-informed, critically validated, ethically considered, and ready to be communicated or applied.

The Mindgle Principle

Natural Intelligence initiates inquiry.

Artificial Intelligence accelerates investigation.

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Theory of Knowledge validates understanding.

The learner remains the architect of thinking throughout the entire journey.