SPECTRUM OF COGNITIVE IMPACT OF AI

ENGAGEMENT MODE

Independent, higher-order thinking that endures after AI use; the user continues to think better as a result of past interaction.

Enhanced Cognition

IMPACT ON COGNITION

Judgment, synthesis, and capability expand; cognition operates at a higher level without external aid.

Insight from AI use is internalized through reflection and application.

Learning

Deepened understanding and the ability to apply ideas flexibly; knowledge becomes personally owned.

Active partnership with AI that broadens perception and stimulates new connections.

Augmented Cognition

Reasoning and creative synthesis improve while working with AI; mental models grow in scope and complexity.

Structured conversation with Al that organizes thought and exposes assumptions.

Dialogic Reasoning Strengthens analytical clarity and reflective awareness; mental models begin to refine and solidify.

Human reviews and adjusts Al outputs for accuracy and efficiency.

Iterative Productivity

Maintains cognitive skill through light engagement but yields limited conceptual growth.

Routine or mechanical tasks are delegated to AI for convenience.

Passive Offloading

Saves effort and time yet leaves understanding unchanged; no improvement in knowledge or reasoning.

Over-delegation and lack of engagement cause users to rely on AI for thinking itself.

Cognitive Erosion

Cognitive faculties weaken through disuse; attention and reasoning capacity decline.

Misleading or sycophantic Al feedback reshapes perception and belief, detaching users from reality.

CognitiveCorruption

Mental models degrade or become distorted; judgment and critical reasoning collapse.

