THE COGNITIVE CRISIS IN AI-AUGMENTED WORK.

How Human Judgment Capacity Erodes
When Technology Assumes Cognitive Tasks

Zafar Alam

Second edition

Note on the Second Edition

This book began inside another one. While drafting chapters 14 and 15 of *What Are We Missing? How to Think More Clearly Before You Decide*, I realised this material was too significant to wait. I did not know then how long that book would take to publish, so I extracted what those chapters held and published it as a standalone. That was the first edition of this book.

Completing the main book helped immensely. It gave me the mental capacity and the foundation to improve this one, and it showed me where the two now overlap. This second edition steps back from what the main book covers fully, and sharpens everything that remains.

What follows returns to the difference between a finished answer and real understanding with AI research published in 2025 and 2026, set beside older work on learning and review – findings that carry benefits as well as risks, sharpening the questions without establishing lasting, general loss of judgment from ordinary AI use. The practical route begins with parents' own decisions, then turns to children's learning and older students' work. The workplace material is brought together in one chapter. The four exercises from the first edition remain, with examples, checks and next actions suited to these different readers. The evidence and its limits are stated more clearly throughout.

This edition is a start, not an end.

Preface

Keep the person in the work

A page of homework comes back complete. The equations balance, the sentences read well, and the evening can move on. Then the parent asks how one answer was reached, and the explanation stops. At work, a colleague asks where a figure came from. The finished page was there. The understanding still needs to be shown.

AI can produce that page. It can also teach a missing step or make difficult material accessible. I want that help kept. I want to know what the person can now understand, check or do.

I begin on the parent's side of the table. We cannot ask a child to question answers while our own pass unexamined. From there the book moves to homework, then to the student responsible for an argument and the worker responsible for a result. The task changes. Ownership follows it.

In revising this edition, I removed claims I could not support. Concern is not evidence; a finding from one task cannot carry a prediction of lasting harm. The studies must be read for what they measured, with their limits beside their results.

The subtitle states the first edition's thesis; this edition tests it against the evidence. The concern in the title is practical. A polished result can hide a missing ability or an unexamined assumption. The evidence needs to earn every claim about harm, benefit and what remains after assistance is removed.

The record does not move in one direction. A general chatbot and a safeguarded tutor can leave different results. An immediate test cannot show what remains months later. A survey cannot establish a cause. Chapter 2 keeps those distinctions in the argument.

Four exercises run through the book: independent analysis, examining alternatives, practice without the AI help under review, and reading beyond the first sources supplied. Each must reach a task, a check and a next action. Their combination is my teaching judgment, not a routine tested by the cited trials.

Keep useful help. Inspect the work for which you remain responsible.

How to use the book

Chapters 1–2 set out the evidence. Chapters 3–7 begin with the parent's own use and move to homework-age children, roughly seven to thirteen. That band describes the audience, not product eligibility. Chapter 4 checks access and permission before any session. Chapters 8–9 are for an older secondary or university learner to use directly; Chapter 10 turns to work.

For professional use, read Chapters 1–2 for the evidence, then go straight to Chapter 10; return to the family chapters only if they fit your responsibilities.

The exercise pages bring the actions together. Start with one task. Two lines can record the difficulty and help, then the result and next action. Use the five-field record for an important decision or first introduction.

The illustrations are invented and identified as such. Numbered sources are grouped by chapter at the end. The record and my proposed practice remain separate. The Closing Note states what the evidence supports and what would require the advice to change.

Check account rules, information boundaries and assignment permission before use. Product eligibility is not a biological readiness test. An adult demonstration is not permission to share an account with a child; Chapter 4 explains the difference.

An immediate check helps choose the next instruction. A later return asks what remains. If time is short tonight, settle Chapter 4's permission questions, then use Chapter 5's mathematics session and two-line record.

CHAPTER 1

A Finished Answer Is Not the Same as Learning

1. Two versions of the same afternoon

Consider an ordinary piece of homework. This is an invented scene, not a reported case. A student must explain why the same operation belongs on both sides of an equation. The assignment is meant to reveal an understanding of that relationship. A paragraph beneath the question is the product, not yet the proof.

In the first afternoon, the student asks a chatbot. The paragraph arrives with the right vocabulary and a clear sequence. A few words are changed; the work is submitted. The parent sees a finished page. A teacher reading the paragraph alone may see a sound explanation. The student's reasoning has not yet entered either judgment.

In the second version, the student makes an attempt and finds that one step is unclear. The student asks for an explanation of that step, compares it with the original attempt and returns to the question. Afterwards, the parent changes $3x = 12$ to $3x = 15$. The student explains that dividing both sides by three gives $x = 5$ rather than $x = 4$, and checks the result by substituting it into the equation. The parent can check this example; for an unfamiliar subject, a teacher or suitable source may be needed.

On the page, the two answers might look alike. In the room, different work has happened. The illustration gives us a distinction to inspect; it tells us nothing about how often either afternoon occurs.

The difference is not that a machine entered one of them. It entered both. Nor can we infer a permanent loss of ability from the first. We do not know whether this was an isolated shortcut, a task the student already understood or part of a pattern. What we can say is narrower: the first paragraph does not demonstrate the learning the assignment was intended to reveal. The second afternoon gives us more evidence of understanding.

This is where I begin. A better answer is a possible benefit of assistance. A more capable person is a different benefit. The first is visible on the page; the second needs evidence of its own.

The evidence supports distinguishing assisted output from demonstrated learning and paying attention to tool design. Combining an initial attempt, targeted help, a fresh check and a later return is this book's teaching judgment, informed by those distinctions. The trials described next do not test this sequence: Bastani examines performance when help is removed, Kestin tests a designed tutor, and retrieval and spacing research examine returning to learning.

The title's "crisis" names a practical risk of mistaking assisted performance for learning, rather than a diagnosis of damaged brains. The problem this book deals with is practical: a person's ability can go unchecked while assisted work looks fine, and a small check can show a gap before it matters.

For a parent, the distinction changes the conversation: what can the child now explain, rather than only whether the homework is finished? Students and workers face the same distinction when a task is meant to develop ability.

2. What exactly has been handed over?

People have always put some mental work outside their own heads. A shared calendar keeps a household's commitments visible. A recipe card preserves a method. A phone map helps someone choose a route. Each changes what the person must hold in mind during the task.

Evan Risko and Sam Gilbert call this *cognitive offloading*: changing the task through external action so that it requires less cognitive effort. Their review includes familiar forms such as using a note or list. It treats offloading as a