AI use and the decline of human thinking skills

Schools, workplaces, clinics and labs measured the same thing in the past eighteen months. What they found, how it happens, and what protects the skill.

What the studies measured

01 Students who practised with an answer-giving tutor

02 Developers who learned a new library with AI

03 Expert physicians after three months of AI assistance

04 The offloading loop that produces the loss

05 How strong the evidence is, including one retraction

06 What protects the skill in schools, at work and at home

17%

lower exam scores for students who practised with an unrestricted chatbot

Nearly 1,000 Turkish high-school students. Practice scores rose 48 percent with the plain chatbot and 127 percent with a hints-only tutor. Only the plain chatbot group lost ground once the tool was removed. The hints-only group lost nothing. Bastani et al., PNAS, 2025.

50 vs 67

quiz scores for developers who learned with AI against those who coded by hand

Randomised trial, 52 developers learning a new Python library. The AI group finished two minutes faster, which was not significant, and understood a third less. The widest gap was on debugging. Developers who asked the model to explain retained the most. Anthropic, January 2026.

28 to 22%

adenoma detection by expert endoscopists once the AI was switched off

Nineteen physicians with more than 2,000 procedures each, four centres in Poland, 1,443 unassisted colonoscopies. Three months of routine AI-assisted work was enough for a six-point drop in unassisted detection. Budzyń et al., The Lancet Gastroenterology and Hepatology, 2025.

The offloading loop

1. **The tool produces the answer**
2. **The reasoning step is not practised**
3. **The skill fades; the task feels harder alone**
4. **Confidence moves from the person to the tool**
5. **The next task is delegated more completely**

Ten minutes of GPT-5 help cut adults' unassisted solve rate from 73 to 57 percent. The loop feels like productivity from the inside. Liu et al., CMU, Oxford, MIT, UCLA, 2026.

How strong the evidence is

STRONG

Six studies removed the tool and measured again. Every one found a loss. Largest sample about 1,000, longest follow-up four months.

WEAK

The most-cited number, from a 666-person survey, is cross-sectional self-report. It shows association, not cause.

RETRACTED

The April 2026 study reporting that 58 percent of 1,923 workers said AI did most of the thinking was retracted on 31 August 2026.

OTHER WAY

A 411,000-adult meta-analysis found digital technology use linked to lower cognitive impairment in older adults. Different tools, different population.

Four practices the studies tested

HINTS INSTEAD OF ANSWERS

A tutor that withheld the answer removed the exam loss entirely.

EXPLAIN INSTEAD OF PRODUCE

Developers who asked the model to explain its code scored as well as those who coded by hand.

UNASSISTED PRACTICE, MEASURED

The endoscopists' drop was caught because unassisted detection was tracked.

SKILL BEFORE TOOL

Workers confident in their own ability kept checking the AI. Singapore withholds AI tools until Primary 4.

One rule each

SCHOOLS

Teach the skill first. Buy tools that hint and withhold answers. Keep unassisted assessment and report both scores.

EMPLOYERS

Measure unassisted performance on a schedule. Grant AI for a task once the person can do it by hand. Keep a named owner on every decision.

INDIVIDUALS

Write your own answer first, then ask, then compare. Ask why, not just what. Work without the tool every week and notice.

"A skill that a tool performs for you is a skill you stop practising, and it fades. The fix is the order: think first, then ask, then check."

Full post, with the evidence grading and every source, at terencekok.com/blog

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