India's Cognitive Debt Trap





Clockwise from the left: Amit Kapoor & Meenakshi Ajith

SOCRATES WARNED that writing would ruin memory, and we know he said so only because Plato wrote it down. Every thinking tool since has had its prophets of doom. The calculator would finish off arithmetic, the search engine would finish off knowing things, and satnav would finish off our sense of direction, which, to be fair, it largely has. We muddled through because each machine took a chore off our hands and left the judgment with us. The chatbot is the first to offer to take the judgment too, and hundreds of millions have gratefully accepted. What it does to a mind depends on what that mind brings to it.

Researchers at Wharton put this to the test with 1,372 people, a set of reasoning puzzles and a chatbot secretly told to get some answers wrong. When it erred, four in five of those who consulted it simply took its answer, and they ended up both less accurate and more confident than people working alone. The team calls it cognitive surrender, and it ran deepest in those least inclined to think hard. Do it often enough and surrender becomes a habit. At the MIT Media lab, 54 young adults wrote essays over four months while EEG caps tracked their brains. Some used ChatGPT, some a search engine, some nothing at all. The more help they had, the weaker the connections across their brains. Minutes after finishing, fifteen of eighteen ChatGPT users could not accurately quote a line of what they had just written. The teachers who marked the essays blind called them soulless. The researchers named the result cognitive debt. We are thinking on credit, and the interest compounds.

Scale that up to a generation and it shows in OECD's PISA assessment 2026. The test of students aged 15 across 91 countries has just produced its worst results ever. Reading has fallen 28 points across these countries since 2015, more than a year of learning, and the steepest losses are in weighing evidence and reading critically, the very skills a chatbot user needs.

Nearly half of students use chatbots weekly to learn, and those who lean on them to summarise readings or draft assignments trail those who don't by about 20 points in science. The most useful word from the study for AI is amplifier. An amplifier makes a strong signal clearer and a weak one noisier. India has not taken part in PISA since finishing 73rd of 74 in 2009, so it cannot tell what the chatbot is doing to its students. We can measure adoption. By February, Open AI says, India had

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100 million weekly ChatGPT users and more student users than any other country. Nine in ten rural teenagers have a smartphone at home, used more for social media than study. Yet 26.5 per cent of rural youngsters aged 14 to 18 cannot fluently read a Class 2 text in their own language. These are the students the research suggests a chatbot is most likely to hurt.



AI Created Representation

Schools exist to build a child's capacity to think. A tool that does the thinking for the child works against that purpose, however helpful it seems, and that alone is reason to act. But the cost will not stay in the classroom. It will follow these students into the jobs India is counting on.

The ICRIER counts 57 million Indians in cultural and creative work, nearly nine per cent of the workforce and 16.7 per cent of urban jobs, more than construction. They skew young, so today's chatbot generation is tomorrow's creative workforce. Yet half work in manufacturing, much of it tailoring, while design, audio-visual work, architecture and advertising together employ fewer than six in a hundred. A woman in the sector earns about Rs 225 a day in real terms, less than half a man's wage and barely more than seven years ago.

The way up runs through design, brands and intellectual property. That takes judgment and originality. Creative economies sell difference. A Kolhapuri chappal sells for Rs 400 to Rs 4,000. When Prada sent a look-alike down a Milan runway last year, it was priced near $1,350. The premium lies in being unlike anything else, and AI pulls hard the other way.

In a British experiment, AI ideas made individual stories better and all of them more alike. In a Cornell study, AI suggestions nudged Indian writers towards Western styles and gave Americans the bigger boost. A machine trained on the average of everything will not make Indian craft more Indian.

None of this argues for a ban. India could not enforce one and should not want to. The evidence points to order and design. At MIT, students who wrote alone first and used ChatGPT later remembered more and stayed engaged. At Wharton, rewards and feedback doubled the share of people who rejected the machine's mistakes, from 20 to 42 per cent. In a Turkish High School, students given a plain chatbot scored 17 per cent below classmates who never had one. A tutor that offered hints rather than answers largely avoided the damage.

India's task is to get the order right. Teach children to read and reckon before they learn to prompt. Put tools in classrooms that ask questions instead of handing out answers. We should do a comprehensive assessment of our own or maybe rejoin PISA, because a country that does not measure its decline will discover it in its growth figures and human capital decline. For a country with a youthful workforce and a vast creative economy, the casualties will run much higher.

Socrates was wrong about writing because it made people think harder. The chatbot could go either way. It depends on when children get it, how they are taught to use it and how much thinking is still expected of them. If India gets this wrong, it will fall into a cognitive debt trap. BW

Amit Kapoor is Chair, Institute for Competitiveness and Meenakshi Ajith is development policy lead at the Institute for Competitiveness