

2026 OCTOBER 20

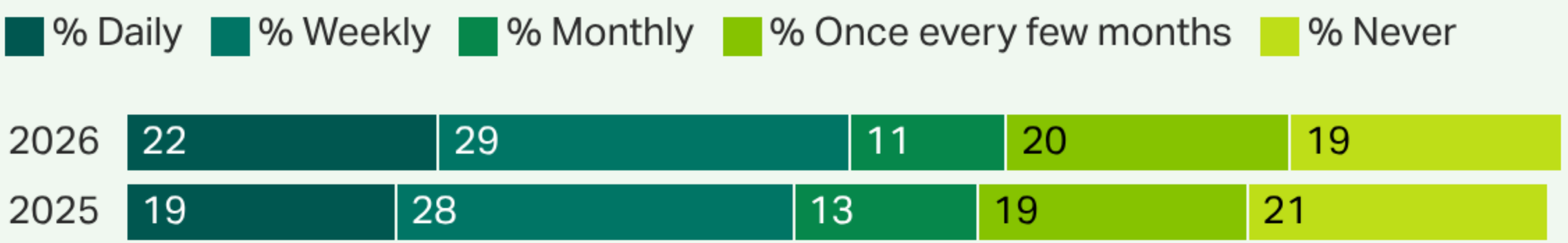
Five Generative Questions About Generative AI

Dan Meyer | dmeyer@amplify.com | danmeyer.substack.com

#1
What is AI doing for / to students?

Frequency of Gen Z's Artificial Intelligence Use

In your daily life, how often, if at all, do you use artificial intelligence?



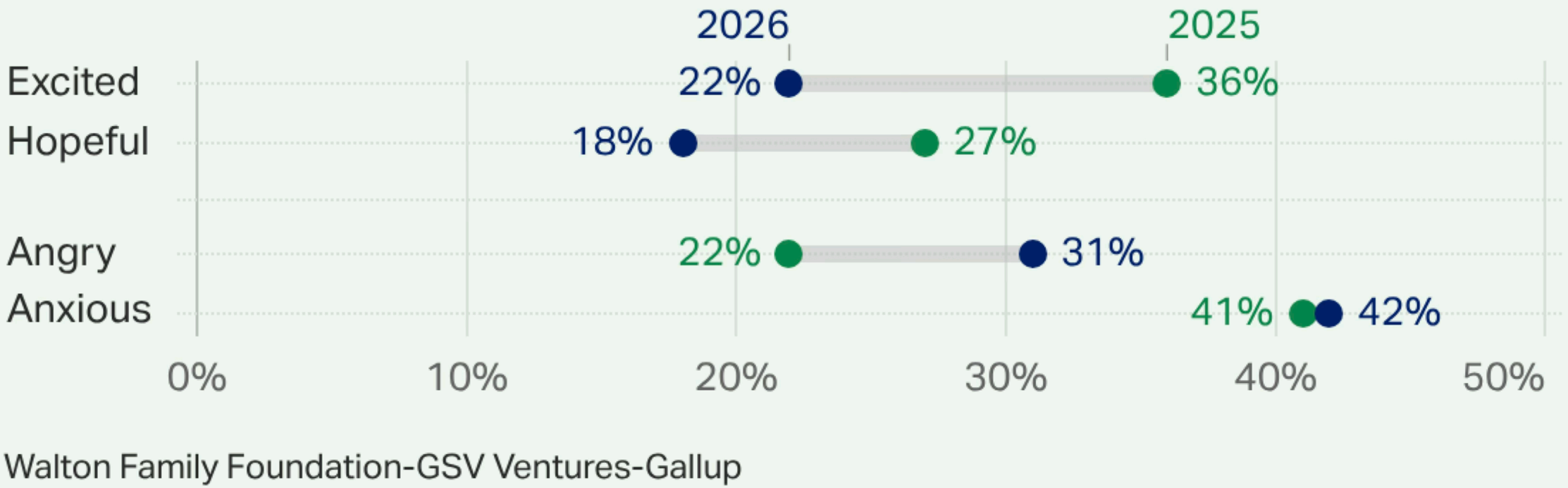
Percentages may not add to 100 due to rounding.
Walton Family Foundation-GSV Ventures-Gallup

GALLUP

Gallup, 2026

Gen Zers' Feelings About AI Have Worsened Over Past Year

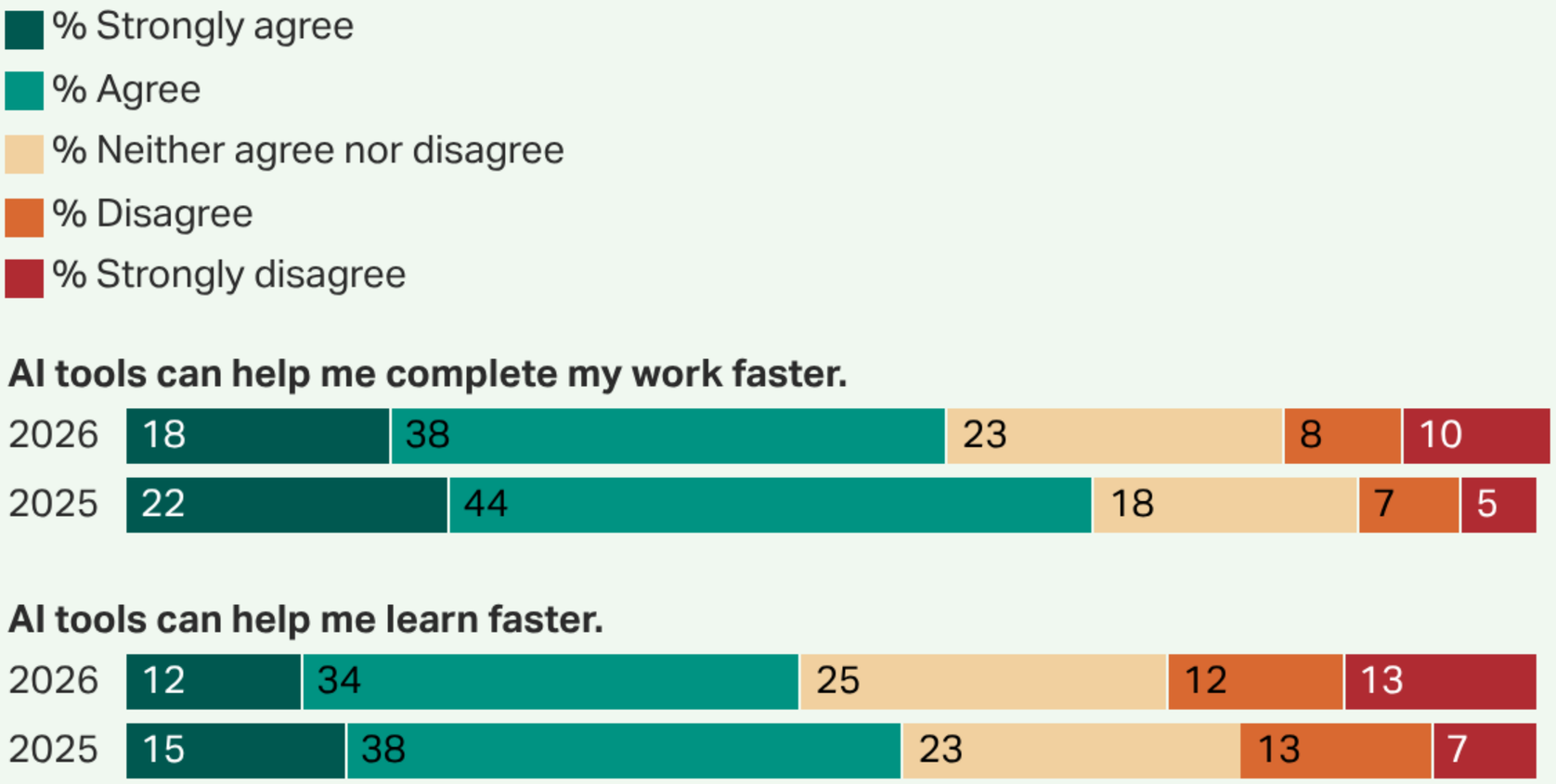
Artificial intelligence makes me ...



GALLUP

Gallup, 2026

Perceived Impact of AI on Efficiency Among Gen Z



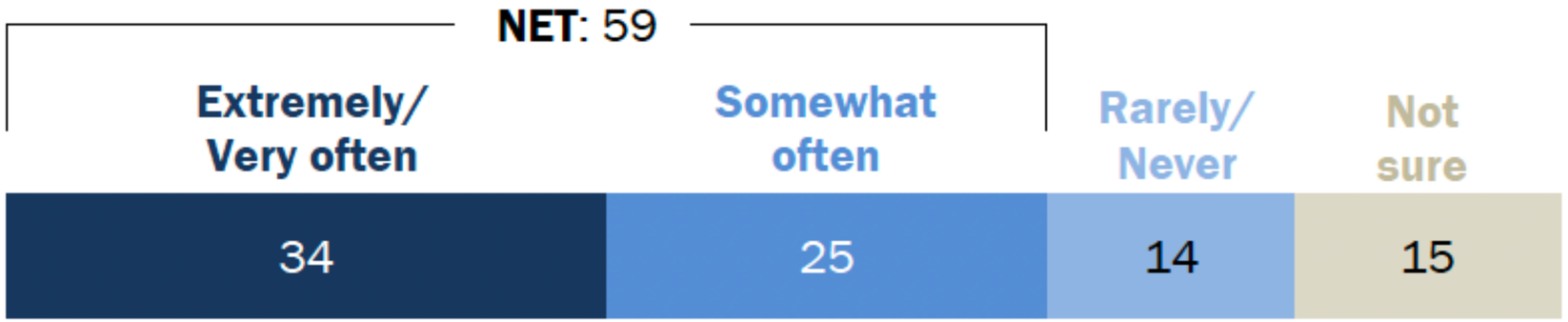
Those with no opinion are not shown.
Walton Family Foundation-GSV Ventures-Gallup

GALLUP

Gallup, 2026

About 6 in 10 teens say students at their school use AI chatbots to cheat at least sometimes

% of U.S. teens ages 13 to 17 who say that as far as they know, students at their school use AI chatbots to cheat on their schoolwork ...



Note: Those who are homeschooled or did not answer are not shown.
Source: Survey conducted Sept. 25-Oct. 9, 2025.
"How Teens Use and View AI"

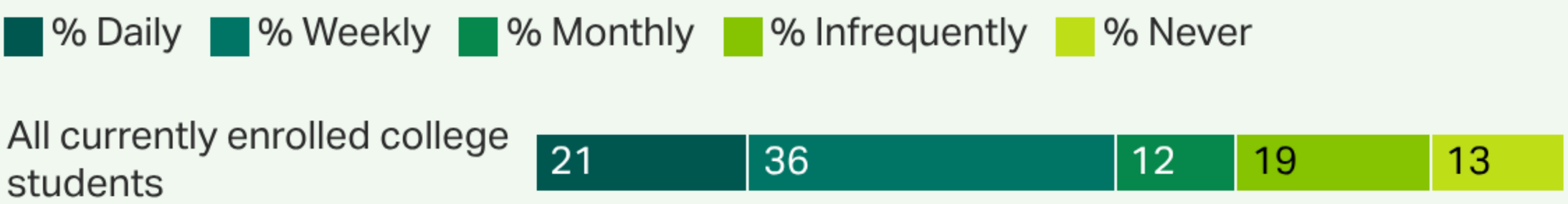
PEW RESEARCH CENTER

Pew Research, 2026

Majority of College Students Use AI in Coursework Weekly or Daily

How often do you use artificial intelligence (AI) in your coursework?

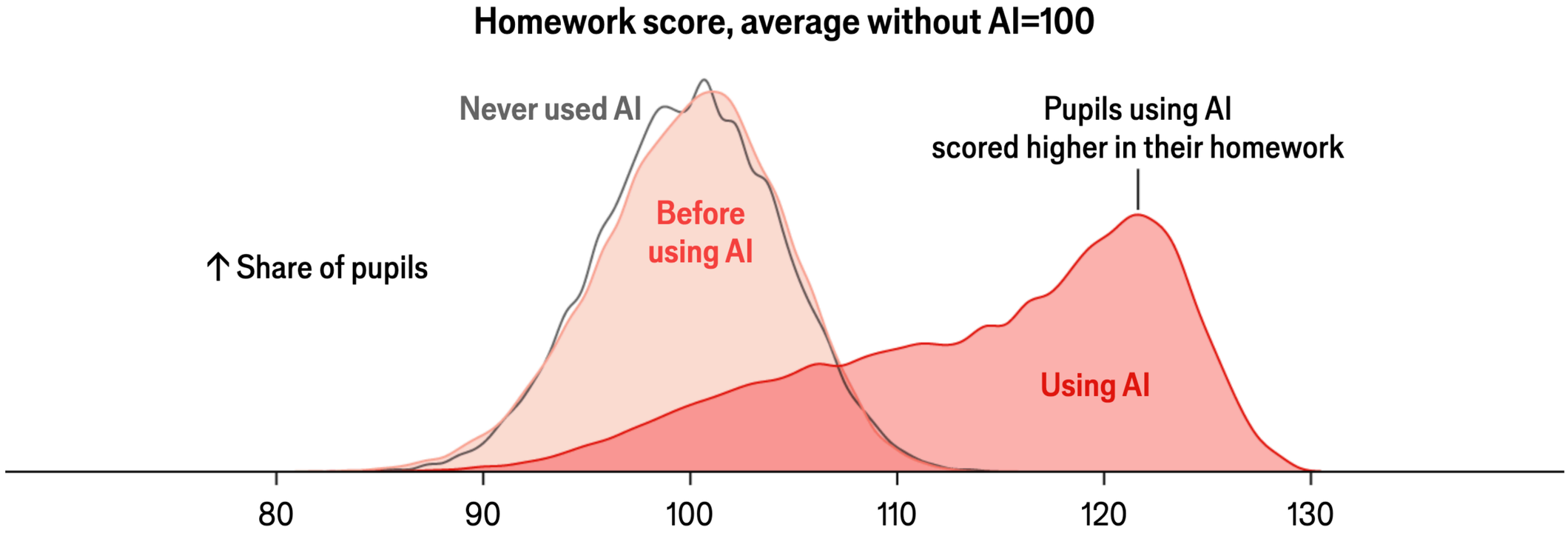
▶ *Click to see how artificial intelligence was defined to respondents.*



Gallup, 2026

AI ate my homework

China*, effect of using AI, January 2023-June 2025

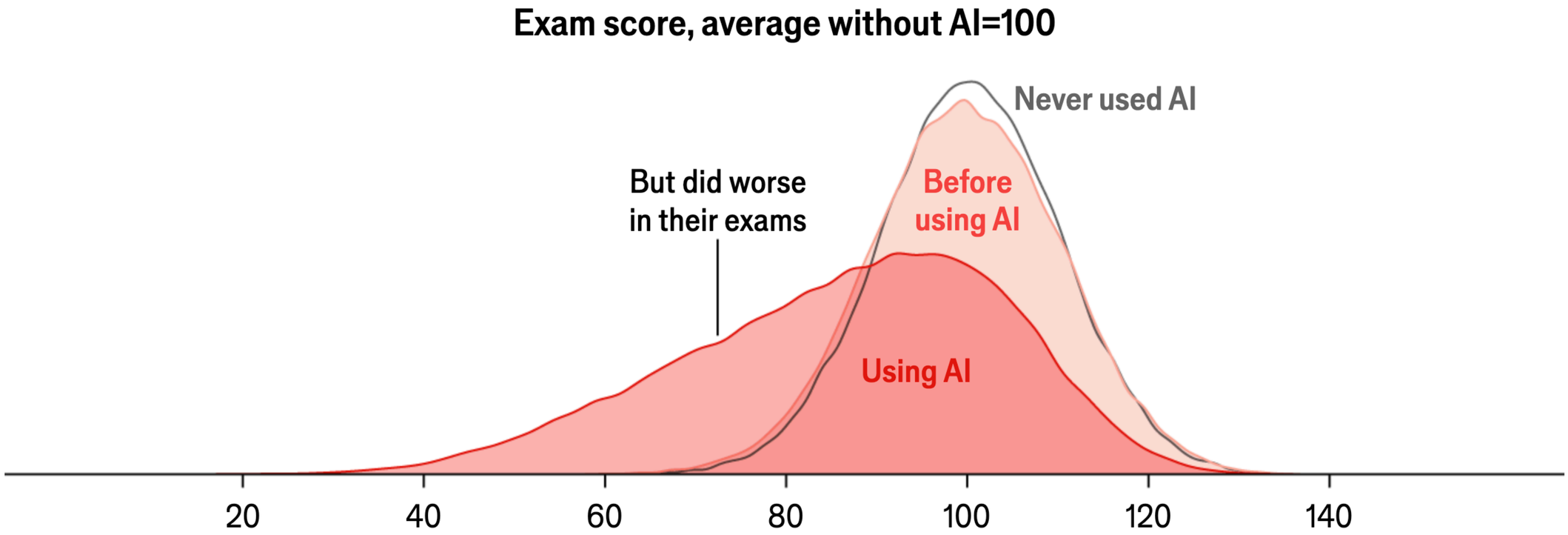


Source: "The generative AI learning penalty: evidence from Chinese secondary education", by D. Strömberg et al., preprint June 2026

*26,811 pupils aged 12-18

AI ate my homework

China*, effect of using AI, January 2023-June 2025



Source: "The generative AI learning penalty: evidence from Chinese secondary education", by D. Strömberg et al., preprint June 2026

*26,811 pupils aged 12-18

1 week streak | Level 1 0/1 skill

Factor polynomials: common factor

Microsoft Teams Share link

Factor the polynomial by its greatest common monomial factor.

$14x^2 + 28x^5 =$ [ ]

Related content



Taking common factor from binomial



Taking common factor: area model



Taking common factor from trinomial



Factoring polynomials by taking a common factor

3 of 4

Skip Check

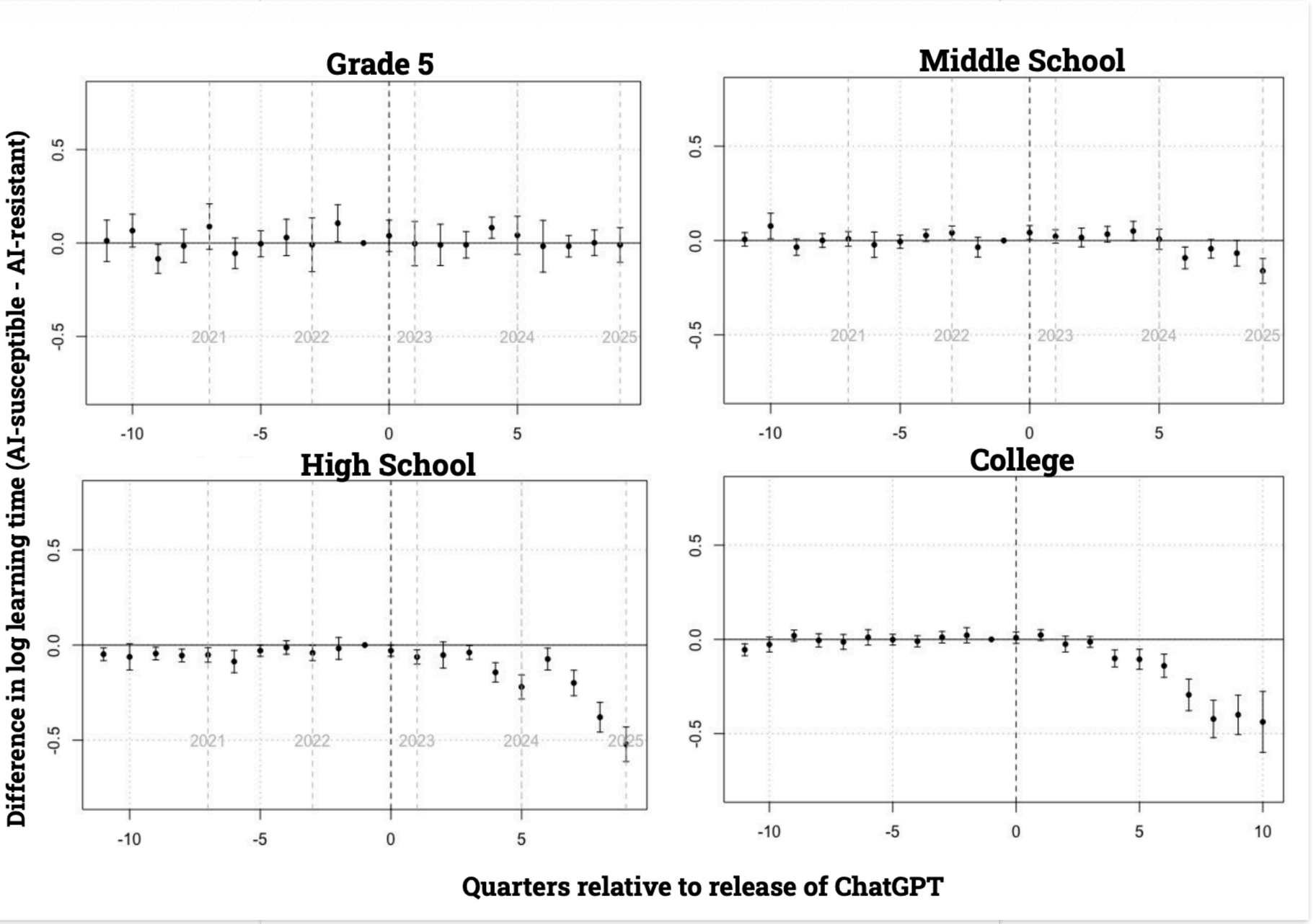
Khanmigo BETA

Khanmigo makes mistakes sometimes. Here's why.

Stuck on something? I'm here to help you work through it!

Ask away...

Do NOT share any personal data.
This chat is logged. You can view in your chat history.



Rismanchian, et al, 2026

NBER WORKING PAPER SERIES

ONE CLICK AWAY:
AI TUTORING WITH KHANMIGO IN A TWO-YEAR SCHOOL EXPERIMENT

Assignment [to Khanmigo] raises math achievement by 1.3 national percentile ranks per term, or about 0.06 to 0.08 standard deviations over a school year.

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Oreopoulos & Low, 2026



Despite dedicated session time, nearly half of students in the control group never used the platform, and those who did averaged only 2-5 minutes per week.

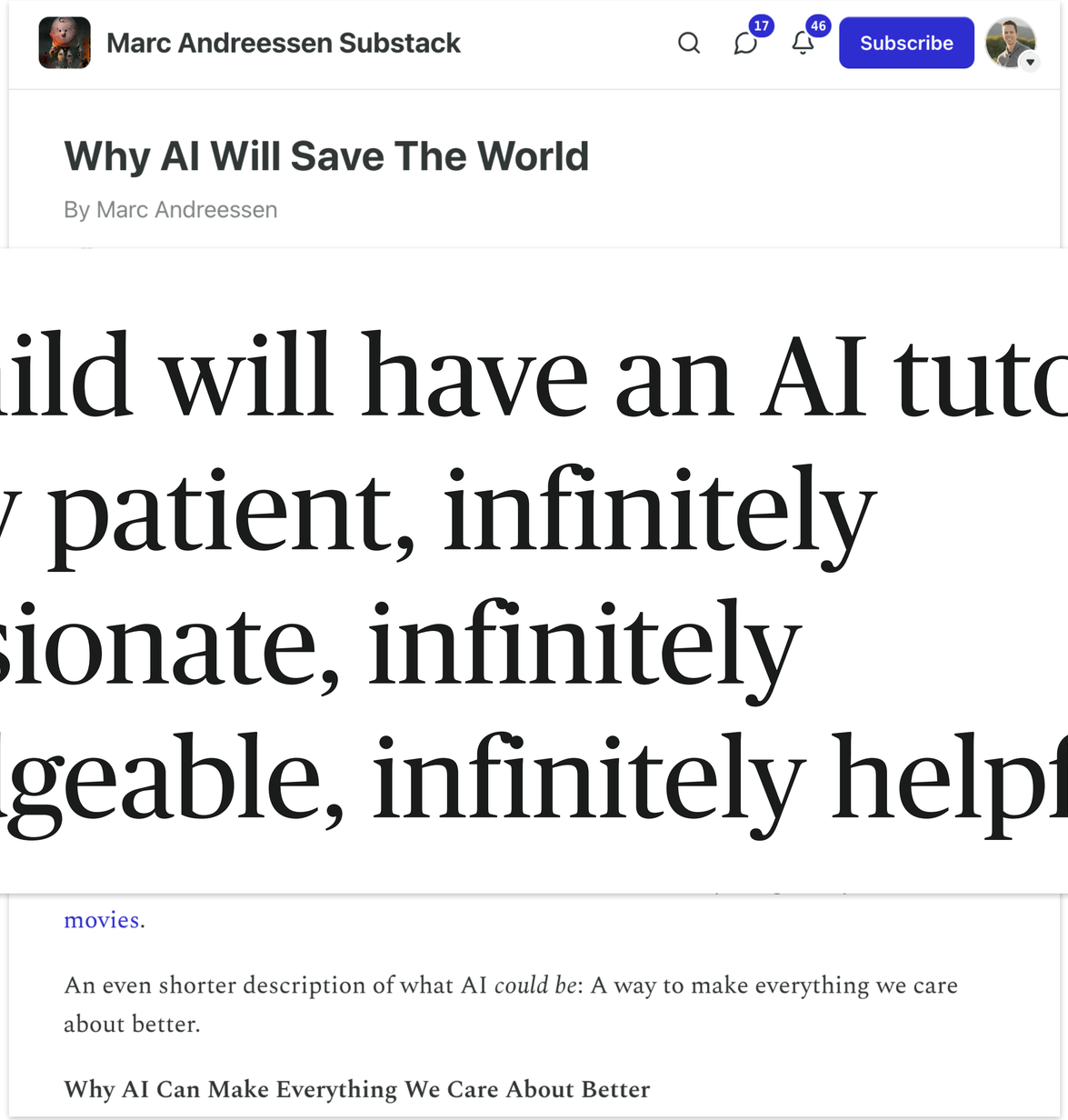
Robinson, et al, 2026



Working with human tutors increased average weekly platform usage by 1 to 4 minutes and engagement by 71-80%.

Robinson, et al, 2026

#2
Why aren’t chatbot tutors working?

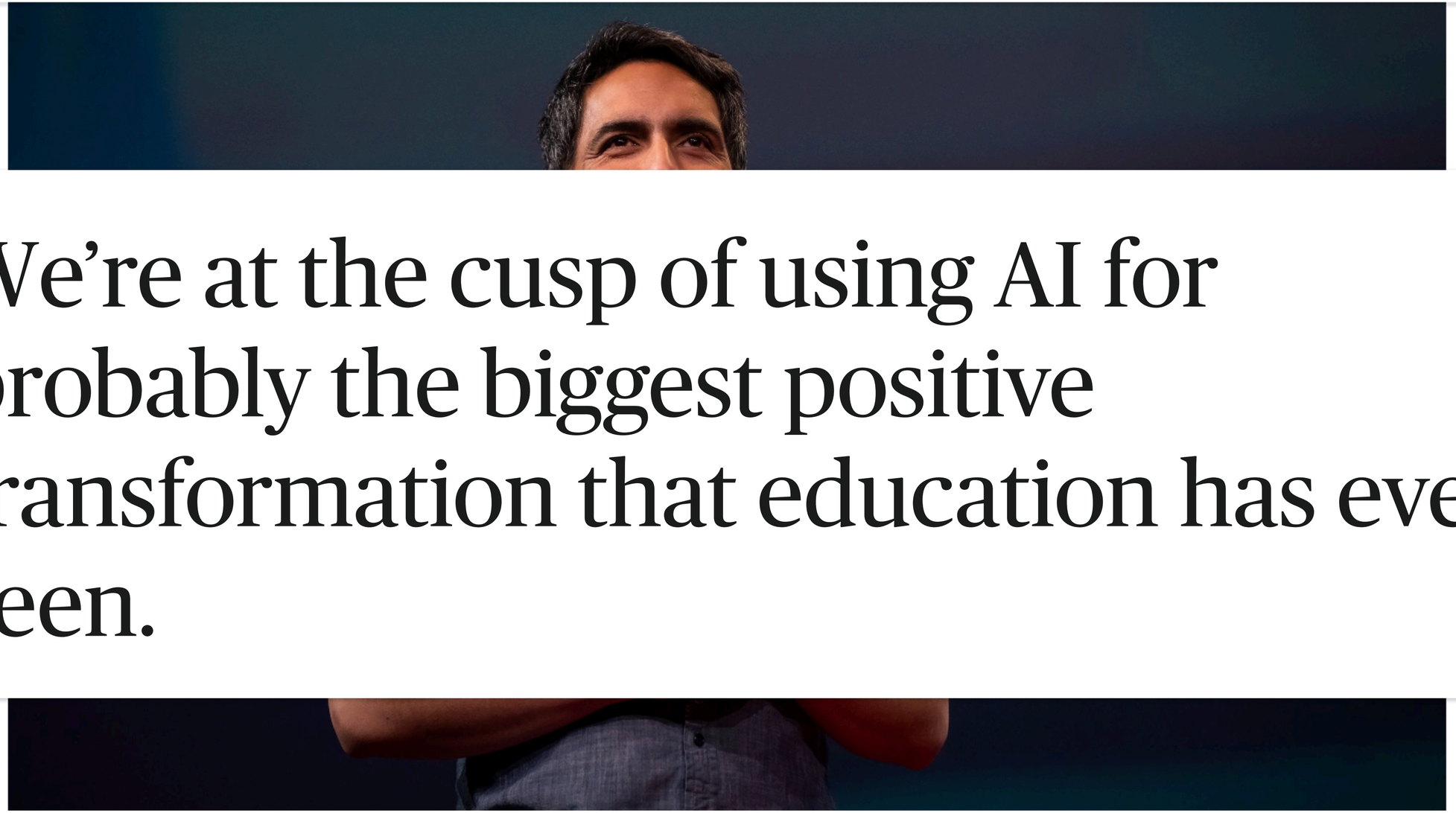


Every child will have an AI tutor that is infinitely patient, infinitely compassionate, infinitely knowledgeable, infinitely helpful.

Andreessen, 2023

TED

SIGN IN



We’re at the cusp of using AI for probably the biggest positive transformation that education has ever seen.

How AI could save (not destroy) education

Khan, 2023


CHALKBEAT
DONATE
Essential education reporting across America
“For a lot of students, it was a non-event. They just didn’t use it much.”
happened yet, according to Sal Khan

Barnum, 2026

🌊

Waterfall

1.

What is an important difference between human and chatbot tutors?

0:30


student is working through curricular
content,
ndrea Pasinetti



BEFORE



AFTER

NBER WORKING PAPER SERIES

ONE CLICK AWAY:
AI TUTORING WITH KHANMIGO IN A TWO-YEAR SCHOOL EXPERIMENT

Philip Oreopoulos
Nina Low

Working Paper 35620
http://www.nber.org/papers/w35620

Message-level records show no detectable change around this switch ...

Natural Sciences and Engineering Research Council of Canada (NSERC), and the Abdul Latif Jameel Poverty Action Lab (J-PAL). The study was registered with the AEA RCT Registry under trial number AEARCTR-0013519 and received research ethics approval from the University of Toronto Research Ethics Board. The views expressed herein are those of the authors and do not necessarily reflect the views of the funders or Charles River Associates. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

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How do I find the zeros of x^2-6x+5?

To find the **zeros** of $x^2 - 6x + 5$, we need to solve the equation when it equals zero. *What do you think is the first thing we should do with the equation* $x^2 - 6x + 5 = 0$*?* 🤔

idk

That's okay! Let's try to factor the equation. We're looking for

idk



No worries! 😊

idk



That's okay! 😊

idk



Let's break it down. 😊

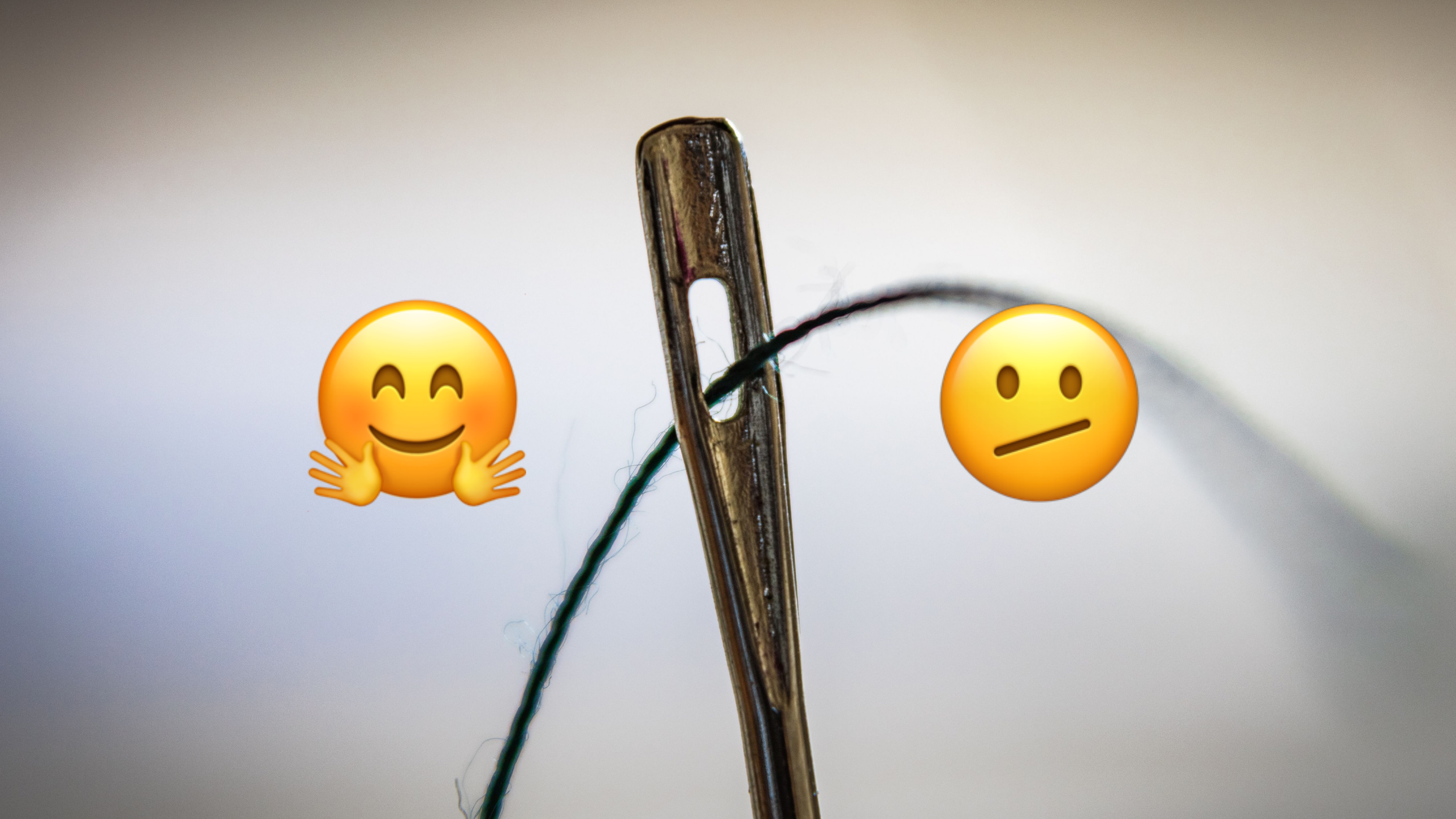
idk

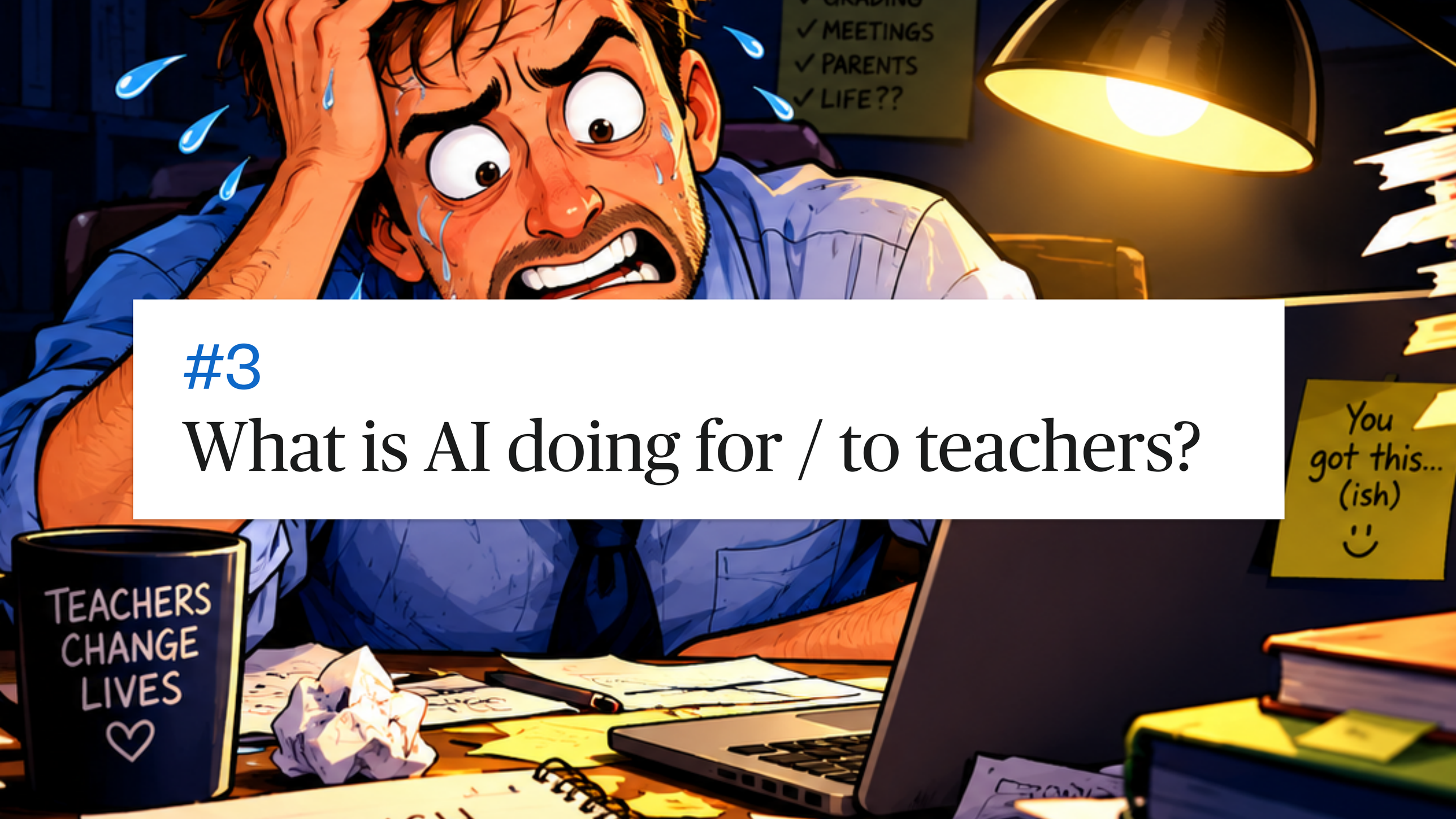


You can do better than this. 😐

[Warm demander teachers] expect a great deal of their students, convince them of their own brilliance, and help them to reach their potential in a disciplined and structured environment.

LISA DELPIT





#3

What is AI doing for / to teachers?

K-12 Educators' Use of Artificial Intelligence at School

During the 2025-26 school year, did you use any AI tools like chatbots, adaptive learning systems or other interactive AI platforms for your work or teaching (e.g., preparing to teach, making student learning materials or assessments, grading or providing feedback, administrative work)?

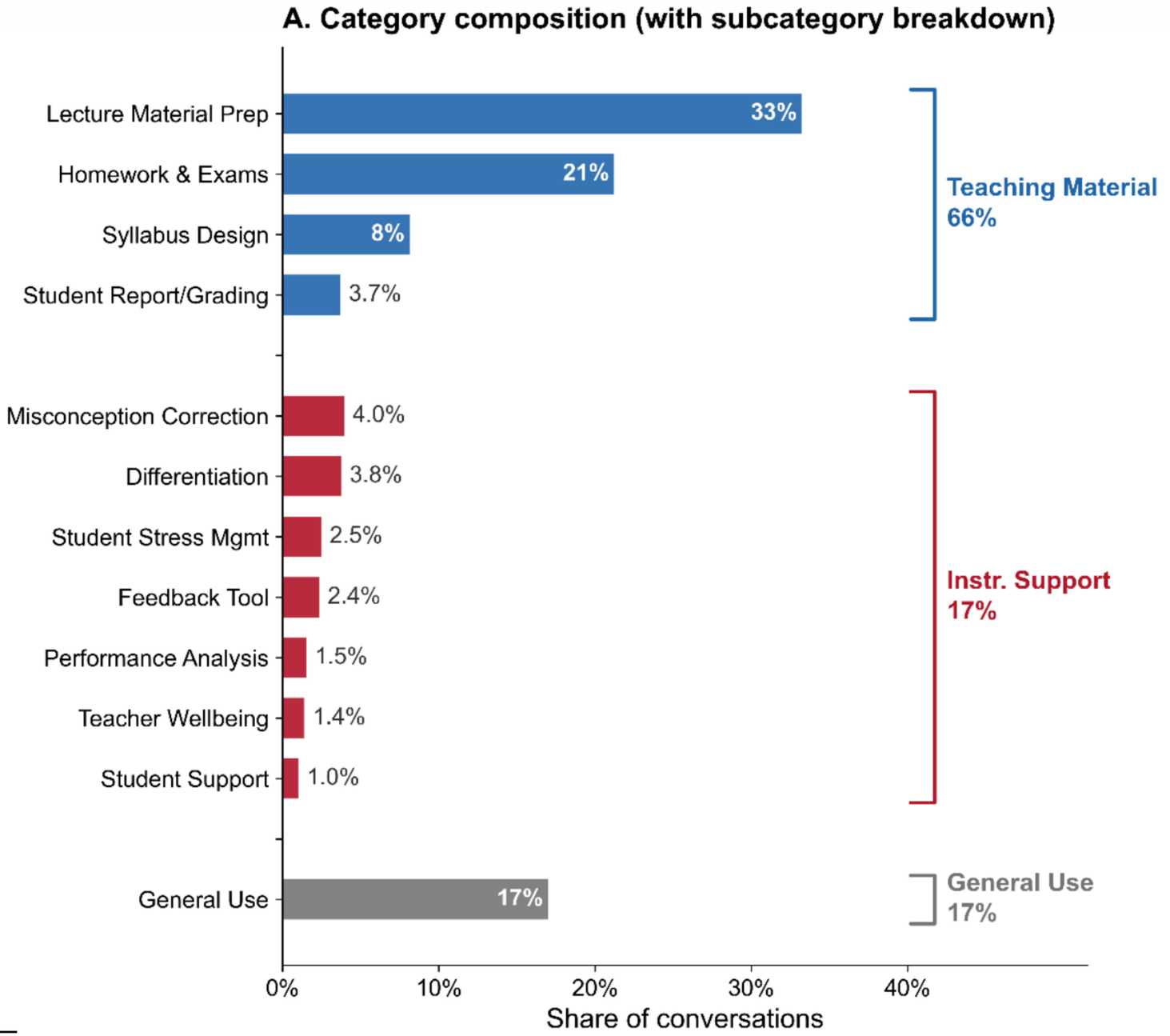
% Yes



July 28-Aug. 14, 2026

GALLUP

Gallup, 2026



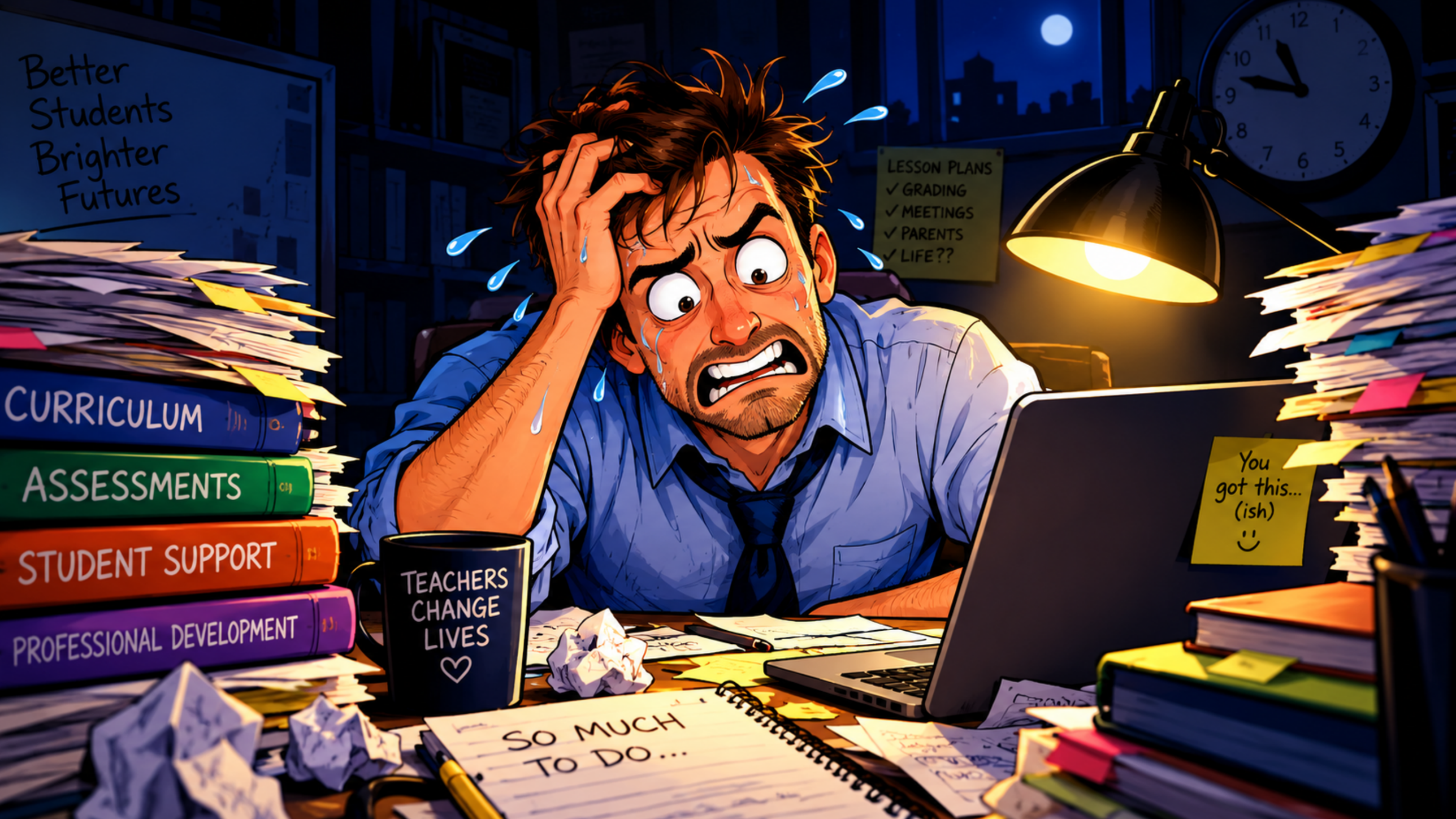
Sungu, et al, 2026

Subtract.

$8\frac{3}{4} - 3\frac{1}{3}$ $8 - 3 =$ $\left(\frac{3}{4} \times ___\right) - \left(\frac{1}{3} \times ___\right)$ $\frac{___}{12} - \frac{___}{12} = \frac{___}{12}$ Difference:	$7\frac{4}{5} - 1\frac{1}{2}$ $- \quad =$ $\left(\frac{4}{5} \times ___\right) - \left(\frac{1}{2} \times ___\right)$ $___ - ___ = ___$ Difference:

Providing teachers with AI reduced student intrinsic motivation by 0.11 standard deviations, with students rating AI-assisted courses as less enjoyable, less interesting, and less important.

Sungu, et al, 2026


Better Students Brighter Futures
LESSON PLANS
✓ GRADING
✓ MEETINGS
✓ PARENTS
✓ LIFE??
CURRICULUM
ASSESSMENTS
STUDENT SUPPORT
PROFESSIONAL DEVELOPMENT
TEACHERS CHANGE LIVES
♡
You got this... (ish)
SO MUCH TO DO...

#4
How do we inoculate ourselves?



🌊

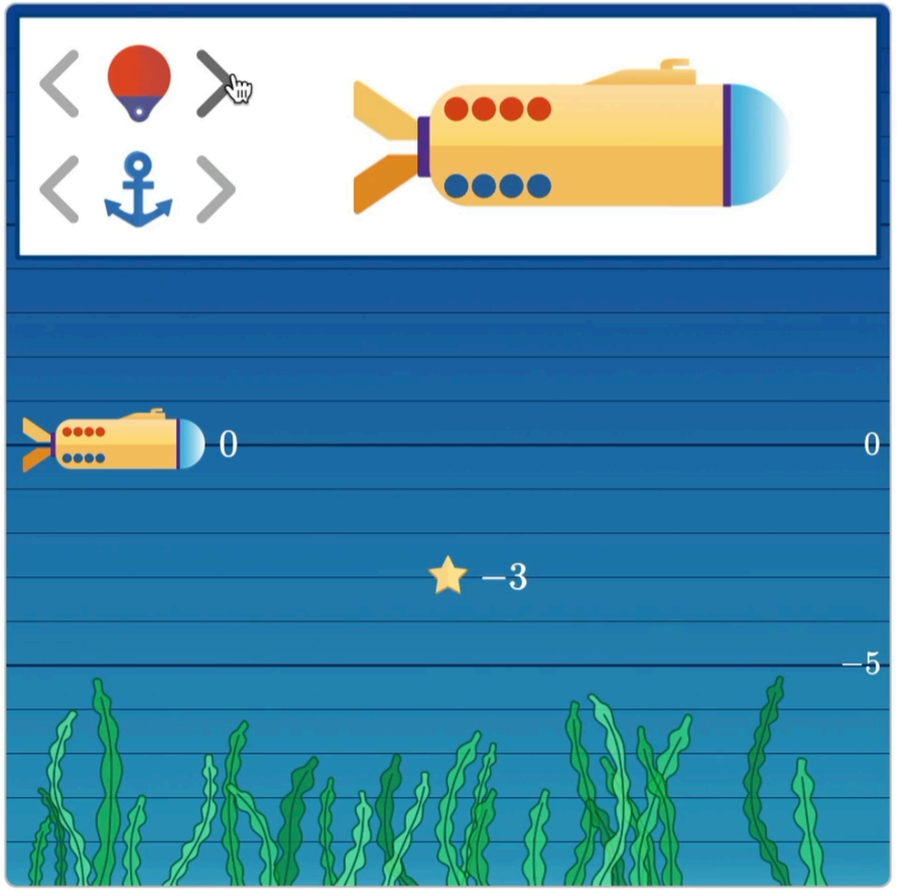
Waterfall

1. How have they misunderstood math, teaching, or both?

1:00

#3
What is AI doing for / to teachers?

Collect the Star



This submarine starts with 4 floats and 4 anchors.

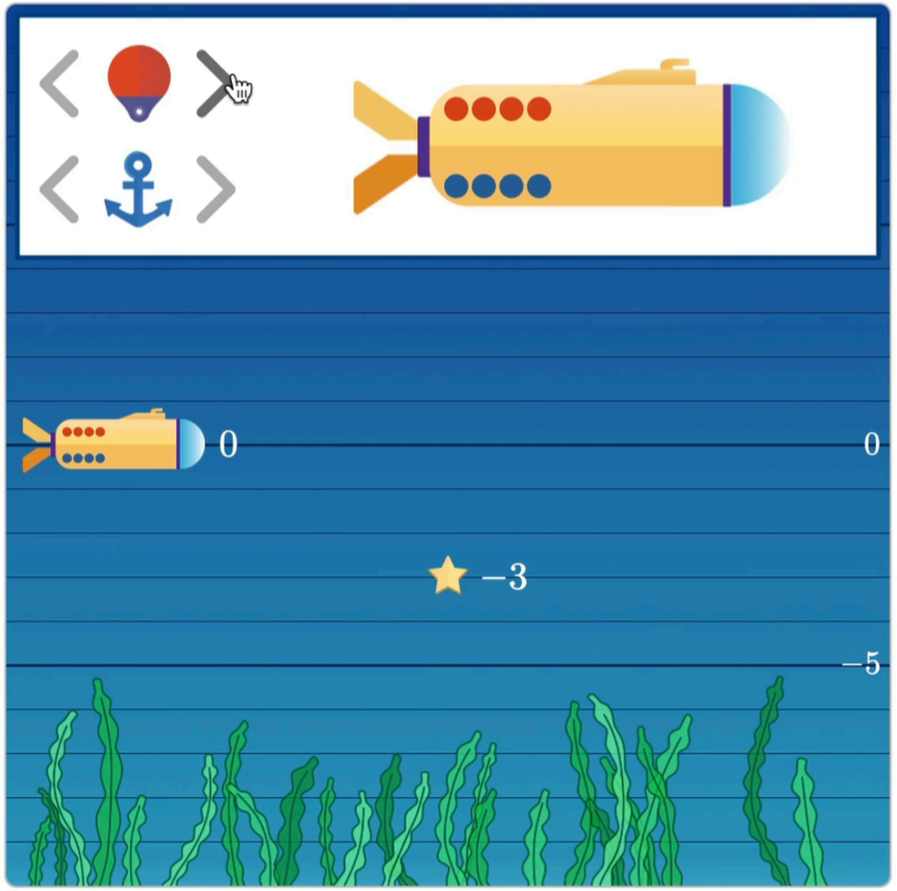
Adjust floats and anchors to collect the star at -3 units.

Start	Action	Final
0		

Check My Work

Amplify Desmos Math

Collect the Star



This submarine starts with 4 floats and 4 anchors.

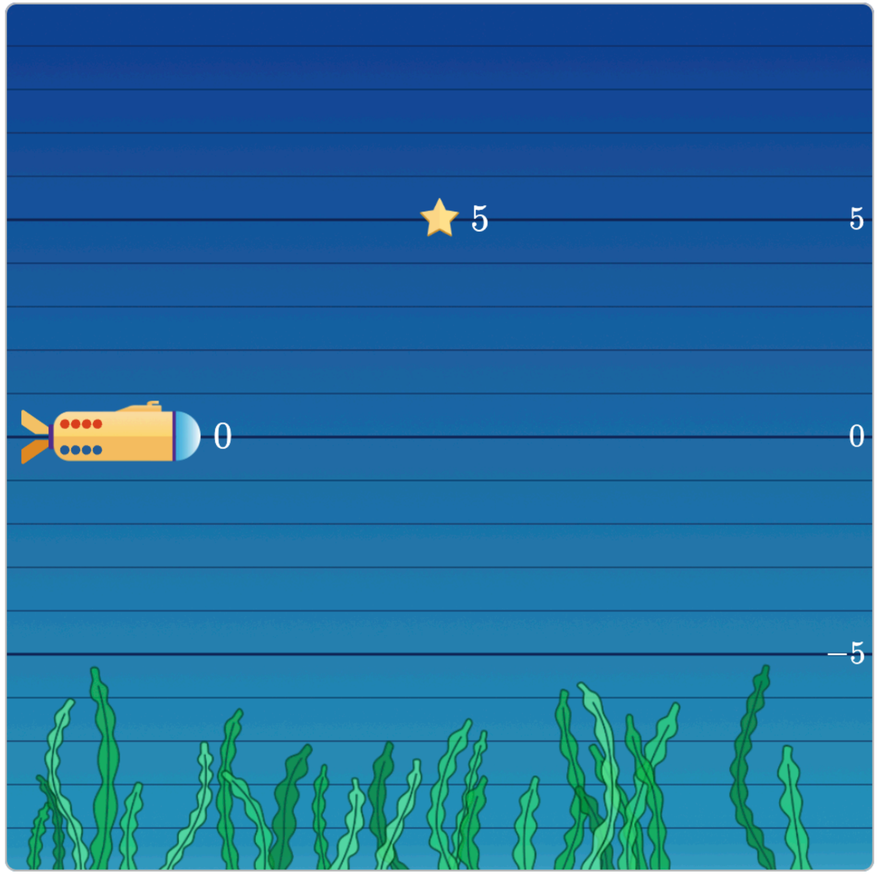
Adjust floats and anchors to collect the star at -3 units.

Start	Action	Final
0		

Check My Work

Amplify Desmos Math

Lesson Synthesis



Describe a set of actions that would allow this submarine to collect the star at 5 units.

Try to come up with something none of your classmates will.

Share With Class

Try to come up with something none of your classmates will.

Share With Class

Amplify Desmos Math

Winifred Edgerton Merrill

minus one anchor, add one float, then minus 2 anchors, minus 9 floats, then add 1 float, then minus 1 anchor, add 8 floats

Ji-li Jiang

remove 2 anchores and add 3 ballons

- [ ] Angela Dominguez

- 3 floats
- 5 anchors

- [ ] M.C. Escher

add 8 floats, add 3 anchors

Analyzing student responses



Amplify Desmos Math

#5

How do we restore our relationship with students, math, and teaching?



@iamjasongibson



@carterpcs

New Grading Policy

↳ Homework: 80%. Exams: 20%.
↳ Homework: complete / incomplete.
↳ All AI use allowed on homework.
↳ Tell me where you want feedback.
↳ Including on your prompts.

Generative Questions

1. What is AI doing for / to students?
2. Why aren’t chatbot tutors working?
3. What is AI doing for / to teachers?
4. How do we inoculate ourselves?
5. How do we restore our relationship with students, math, and teaching?



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