



Survey Instrument

RAND American Educator Panels:
2025 Survey on Teachers' Use of Generative
AI in Math and Science Instruction
(TAI0425T)

Welcome! This survey is part of a research study conducted by the AmplifyGAIN Research Center at the University of Washington to better understand how K-12 math and science teachers are using generative AI (GenAI) tools in their classrooms. Your responses will help us learn about current practices, challenges, and opportunities related to GenAI in STEM instruction. The survey will take approximately 10 minutes to complete. As a thank you for your time, you will receive a \$10 incentive upon completion.

Please note that you must click the green “OK” button on the final page for your survey to be considered complete and to receive the gift code. Tips for taking this survey:

- For best viewing questions and response options, we recommend completing this survey on a desktop or laptop and not on a mobile device.
- Please use only the on-screen “Next” and “Back” buttons to navigate the survey rather than using your browser’s back button or hitting Enter.
- You may find that the system slows down at times. We appreciate your patience in waiting for questions to load.

If you have any questions about the content of this survey, please contact the UW study team at amplifylearn@uw.edu.

- If you run into problems or have questions when completing the survey, please contact the American Teacher Panel helpdesk at ATPhelpdesk@rand.org or 1-833-634-1533.

Your Teaching Assignment

Questions in this section address your teaching assignment for the current 2024-25 school year.

grades_taught

UNIVERSE: ALL RESPONDENTS

This school year (2024-25), what grade(s) do you teach?

SELECT ALL THAT APPLY

- ☐ Pre-K (pk)
- ☐ Kindergarten (k)
- ☐ 1st (1)
- ☐ 2nd (2)
- ☐ 3rd (3)
- ☐ 4th (4)
- ☐ 5th (5)
- ☐ 6th (6)
- ☐ 7th (7)
- ☐ 8th (8)
- ☐ 9th (9)
- ☐ 10th (10)
- ☐ 11th (11)
- ☐ 12th (12)
- ☐ Ungraded (ug)
- ☐ Other (please specify): (91)_____ [Other]

main_subject

UNIVERSE: ALL RESPONDENTS

This school year (2024-25), in what subject is your MAIN teaching assignment, that is, the subject matter in which you teach the most classes?

- ☐ Elementary Education (including pre-K) (1)
- ☐ Special Education (2)
- ☐ Arts and Music (3)
- ☐ English and Language Arts (including English, language arts, reading, literature, writing, speech, etc.) (4)
- ☐ English as a Second Language (ESL) (5)
- ☐ Foreign Languages (6)
- ☐ Health Education (7)
- ☐ Mathematics (including general mathematics, algebra, geometry, calculus, etc.) (8)
- ☐ Computer Science (12)

- ☐ Natural Sciences (including general science, biology, chemistry, physics, etc.) (9)
- ☐ Social Sciences (including social studies, geography, history, government/civics, etc.) (10)
- ☐ Career or Technical Education (11)
- ☐ Other (please specify): (91)_____ [Other]

subject

UNIVERSE: ALL RESPONDENTS

Please indicate any other subject/s you teach as part of your regular teaching assignment this school year (2024-25):

SELECT ALL THAT APPLY

- ☐ N/A - I do not teach other subjects. (NA_99) [Exclusive]
- ☐ Special Education (specialeduc)
- ☐ Arts and Music (arts_music)
- ☐ English and Language Arts (including English, language arts, reading, literature, writing, speech, etc.) (ela)
- ☐ English as a Second Language (ESL) (esl)
- ☐ Foreign Languages (foreignlang)
- ☐ Health Education (health)
- ☐ Mathematics (including general mathematics, algebra, geometry, calculus, etc.) (math)
- ☐ Computer Science (computersci)
- ☐ Natural Sciences (including general science, biology, chemistry, physics, etc.) (naturalsci)
- ☐ Social Sciences (including social studies, geography, history, government/civics, etc.) (socialsci)
- ☐ Career or Technical Education (careertechnical)
- ☐ Other (please specify): (other)_____ [Other]

SCREENING CRITERIA: Mathematics and Science teachers (grades 1-12) only. All other responses are screened out ((main_subject =4 OR 8) OR (main_subject = 2 AND subjects_sped = ela OR math) OR (main_subject = 1 AND subjects_eme = ela OR math)) & (gtades_taught = 1,2,3,4,5,6,7,8,9,10,11 or 12)

IF SCREENED OUT, SHOW THE FOLLOWING MESSAGE:

Thank you for your response. This survey is for current Math and Science teachers only.

The survey uses the following definition of GenAI:

Generative Artificial Intelligence (GenAI) tools leverage data to detect patterns, generate data, automate tasks, and support decision making. There are many types of GenAI tools that are currently in use to support classroom instruction, including chatbots (e.g., ChatGPT, Google Gemini, Anthropic Claude), intelligent assistant systems (e.g., Colleague AI, MagicSchool, Khanmigo, Education Copilot).

Section 1: GenAI Tools Usage in Educational Practice

This section asks about your use of GenAI tools in your work as a teacher.

Q1a

UNIVERSE: ALL RESPONDENTS

Which best describes your current use of GenAI tools in teaching?

- 01** I have never heard of GenAI tools.
- 02** I have heard of GenAI tools but have not used them yet.
- 03** I have heard of GenAI tools but choose not to use them in my teaching.
- 04** I have tried using GenAI tools in my teaching but do not plan to use them more.
- 05** I have tried using GenAI tools in my teaching and plan to use them more often.
- 06** I regularly integrate GenAI into my teaching practice.
- 07** I am an advanced user who helps colleagues implement GenAI tools to improve their efficiency.
- 08** I am an advanced user who helps colleagues implement GenAI tools and explore new ways to enhance student learning experiences.

Q1b

UNIVERSE: RESPONDENTS WHO USE GEN AI TOOLS (Q1A = 4 or Q1A =5 or Q1A = 6 or Q1A = 7 or Q1A = 8)

Which GenAI tools have you used for instructional tasks (lesson planning, teaching, assessment, professional learning, and/or administrative tasks)?

SELECT ALL THAT APPLY

- 01** ChatGPT
- 02** Claude
- 03** Gemini
- 04** Microsoft Copilot
- 05** Colleague AI
- 06** Khanmigo
- 07** MagicSchool
- 08** SchoolAI
- 09** Brisk
- 10** Other (*Please specify*) _____

Q1c

UNIVERSE: RESPONDENTS WHO USE GEN AI TOOLS (Q1A = 4 or Q1A =5 or Q1A = 6 or Q1A = 7 or Q1A = 8)

On average, how frequently do you use GenAI tools for instructional tasks (lesson planning, teaching, assessment, professional learning, and/or administrative tasks)?

- 01** Daily
- 02** Weekly
- 03** Monthly
- 04** Rarely
- 05** Never

Q1d

UNIVERSE: RESPONDENTS WHO USE GEN AI TOOLS (Q1A = 4 or Q1A =5 or Q1A = 6 or Q1A = 7 or Q1A = 8)

How long have you been using GenAI tools?

- 01** I just started
- 02** Less than 6 months
- 03** 6 months to 1 year
- 04** 1 or more years
- 05** 2 or more years

Q1e

UNIVERSE: RESPONDENTS WHO USE GEN AI TOOLS (Q1A = 4 or Q1A =5 or Q1A = 6 or Q1A = 7 or Q1A = 8)

For which instructional tasks have you used GenAI tools?

SELECT ALL THAT APPLY

- 01** Instructional planning and preparation (e.g., creating lesson plans, designing learning activities, adjusting content to appropriate grade level, backwards planning units)
- 02** Supporting classroom instruction during class (e.g., generating problems or examples in the moment with students)
- 03** Providing academic support to students with learning differences (e.g., creating differentiated materials for highly capable students or students with learning disabilities)
- 04** Teaching students how to effectively use GenAI as a learning tool (e.g., guiding students on leveraging GenAI for research, problem-solving, brainstorming, or skill development while emphasizing critical thinking and responsible use)
- 05** Facilitating language accessibility (e.g., translating speech or written materials, building scaffolds for English Language Learners)
- 06** Creating student assignments and assessments (e.g., generating quizzes/tests, designing rubrics, creating worksheet materials)
- 07** Assessing student work (e.g., automating or assisting grading of tests and assignments, automating feedback, writing student comments)

- 08 Automating or assisting administrative tasks (e.g., scheduling, lesson documentation, professional goal articulation, communication with parents/guardians/coworkers)
- 09 Professional learning (e.g., activities to support your growth as a teacher beyond your regular classroom instructional tasks, researching instructional methods, identifying new teaching strategies, developing formative assessment strategies, learning STEM concepts)
- 10 Other (*Please specify*) _____

Q1f

UNIVERSE: RESPONDENTS WHO USE GEN AI TOOLS (Q1A = 4 or Q1A = 5 or Q1A = 6 or Q1A = 7 or Q1A = 8)

How has your use of GenAI tools changed since you first started using them?

- 01 I use GenAI tools more frequently and for a wider range of tasks than when I started
- 02 I use GenAI tools more frequently, but for the same types of tasks as before.
- 03 My use has remained about the same since I first started.
- 04 I use GenAI tools less frequently now than when I started.

Q1g

UNIVERSE: RESPONDENTS WHO USE GEN AI TOOLS (Q1A = 4 or Q1A = 5 or Q1A = 6 or Q1A = 7 or Q1A = 8)

How has your use of GenAI impacted your classroom teaching and approach to educational content specifically?

SELECT ALL THAT APPLY

- 01 GenAI helps me create more dynamic visual representations of concepts.
- 02 GenAI helps me create better materials for my students to learn with.
- 03 GenAI enables me to better explain concepts.
- 04 Gen AI helps me better facilitate student problem-solving.
- 05 GenAI helps me connect concepts to real-world applications.
- 06 GenAI helps me facilitates more hands-on learning experiences.
- 07 GenAI helps me make my curriculum more relevant to students.
- 08 GenAI provides me with better questions to ask my students.
- 09 GenAI helps me facilitate more student collaboration.
- 10 GenAI has a limited impact on content delivery.
- 11 Other (*Please specify*) _____

Q1h

UNIVERSE: RESPONDENTS WHO USE GEN AI TOOLS (Q1A = 4 or Q1A = 5 or Q1A = 6 or Q1A = 7 or Q1A = 8)

In your experience, to what extent have GenAI tools impacted your planning, teaching, assessment, professional learning, and/or administrative tasks?

Rate each statement: *Not at all/Somewhat/Moderately/To a great extent*

- 01** I can complete routine tasks more efficiently.
- 02** I have improved my assessment.
- 03** I have improved my feedback processes.
- 04** I can create instructional materials.
- 05** I can improve instructional materials.
- 06** I can design more cohesive curriculum progressions.
- 07** My instructional strategies are more effective.
- 08** I can better align content with curriculum standards.
- 09** My lesson planning process has become more systematic.
- 10** I can better document and track student progress.

Section 2: GenAI and Teacher-Student-Content Interactions

This section explores how GenAI tools have influenced your teaching and student learning experiences.

Q2a

To what extent has GenAI changed your interactions with students?

UNIVERSE: ALL RESPONDENTS

- 01 Not at all
- 02 Slightly
- 03 Moderately
- 04 To a great extent

Q2b

How has your use of GenAI changed your interactions with students?

UNIVERSE: RESPONDENTS WHOSE USE OF GEN AI HAS CHANGED THEIR INTERACTIONS WITH THEIR STUDENTS (Q2a = 02 or Q2a = 03 or Q2a = 04)

SELECT ALL THAT APPLY

- 01 I can offer more varied explanations for complex concepts.
- 02 I create more personalized learning experiences.
- 03 I have more time for one-on-one student support.
- 04 I can better accommodate different learning needs (i.e. for students with disabilities or English language learners).
- 05 Students engage in more self-directed learning activities.
- 06 Students engage in more collaborative learning activities.
- 07 Students have more opportunities to work at their own pace.
- 08 We can explore real-world applications more effectively.
- 09 There is more student discourse in class .
- 10 There is more student exploration of important concepts in class.
- 11 I encourage student GenAI use.
- 12 I facilitate student learning about GenAI tools.
- 13 Students have more agency to pose mathematical or scientific problems.
- 14 GenAI streamlines my workflow but doesn't fundamentally change how I interact with students.
- 15 Other (*please specify*) _____

Q2c

UNIVERSE: RESPONDENTS WHOSE USE OF GEN AI HAS CHANGED THEIR INTERACTIONS WITH THEIR STUDENTS (Q2a = 02 or Q2a = 03 or Q2a = 04)

Which groups of students most *benefit* from your GenAI use?

SELECT ALL THAT APPLY

- 01** All students benefit equally
- 02** Students with learning disabilities or attention challenges
- 03** Multilingual learners
- 04** Students performing below grade level
- 05** Students performing at grade level
- 06** Students performing above grade level
- 07** Other (*please specify*) -----

Q2d

UNIVERSE: RESPONDENTS WHOSE USE OF GEN AI HAS CHANGED THEIR INTERACTIONS WITH THEIR STUDENTS (Q2a = 02 or Q2a = 03 or Q2a = 04)

What other significant impacts (positive or negative) have you observed or experienced with GenAI in education?

[Open Text Box short paragraph response]

Section 3: Student Use

This section explores how you have observed students in your classroom engage with GenAI tools, including both positive and negative interactions.

Q3a

UNIVERSE: ALL RESPONDENTS

How negatively or positively do you think use of GenAI has impacted students' learning overall?

- 01 Very negatively
- 02 Somewhat negatively
- 03 Slightly negatively
- 04 Neither negatively nor positively
- 05 Slightly positively
- 06 Somewhat positively
- 07 Very positively

Q3b

UNIVERSE: ALL RESPONDENTS

How do students interact *positively* with GenAI tools in your classroom?

SELECT ALL THAT APPLY

- 01 GenAI supports their problem-solving process (e.g., breaking down complex problems, exploring different solution strategies).
- 02 GenAI enhances their understanding of concepts (e.g., asking for explanations, requesting examples).
- 03 Students use GenAI to conduct research for projects (e.g., gathering background information, refining ideas).
- 04 Students use GenAI to assess their own work (e.g., checking accuracy, receiving feedback, improving drafts).
- 05 Students use GenAI to get homework assistance (e.g., clarifying instructions, getting hints).
- 06 My students do not use GenAI directly.
- 07 Other (*please specify*) _____

Q3c

UNIVERSE: ALL RESPONDENTS

How do students interact *negatively* with GenAI tools in your classroom?

SELECT ALL THAT APPLY

- 01** Over-reliance for basic tasks (e.g., using GenAI instead of attempting problems independently, defaulting to GenAI without critical thinking)
- 02** Plagiarism/Academic dishonesty (e.g., copying answers, generating entire responses with minimal modification)
- 03** Bypassing learning processes (e.g., skipping steps in assignments, using GenAI to complete work without understanding)
- 04** Reduced peer collaboration (e.g., choosing GenAI over group discussion, avoiding peer feedback)
- 05** Inappropriate content generation (e.g., requesting or receiving offensive, misleading, or irrelevant content)
- 06** Do not use GenAI directly
- 07** Other (*please specify*) _____

Section 4: GenAI Policy and Professional Development

This section examines district policies regarding GenAI use and your professional learning experiences with these tools.

Q4a

UNIVERSE: ALL RESPONDENTS

What is your district's current approach to GenAI use in education?

- 01 No guidelines currently exist
- 02 Informal guidelines exist but no formal policy
- 03 Formal policy is under development
- 04 Has established formal guidelines
- 05 Other (Please specify): _____

Q4b

UNIVERSE: RESPONDENTS WHOSE DISTRICT HAS GUIDELINES TO APPROACHING GEN AI USE IN EDUCATION (Q4a = 02 or Q4a = 03 or Q4a = 04 or Q4a = 05)

Which of the following best describes your district's AI guidelines or policies?

- 01 Fully encourage GenAI integration into teaching and learning across subjects
- 02 Allow teacher and student GenAI use with specific restrictions
- 03 Permit teacher use and allow student use in specific subjects/grade levels only
- 04 Permit teacher use only (not student use)
- 05 Prohibit GenAI use entirely

Q4c

UNIVERSE: ALL RESPONDENTS

Have you received any training on using GenAI tools?

SELECT ALL THAT APPLY

- 01 No, formal training received
- 02 Yes, through district-provided professional development
- 03 Yes, from national or local associations' conferences or workshops
- 04 Yes, through school-based professional learning community
- 05 Yes, through informal learning from colleagues/mentors
- 06 Yes, through self-paced learning (webinars, online courses)
- 07 Yes, through social media (TikTok, Facebook, etc.)
- 08 Other (please specify): _____

Q4d

UNIVERSE: ALL RESPONDENTS

Select all of the types of professional training you would find helpful to support your GenAI adoption:

SELECT ALL THAT APPLY

Technical Skills:

- 01** GenAI tool basics and capabilities
- 02** Integration with existing technology
- 03** Data privacy and security

Instructional Applications:

- 04** Lesson planning and materials creation
- 05** Assessment and feedback strategies
- 06** Differentiation techniques

Implementation Support:

- 07** Ethical use guidelines
- 08** Student guidance and supervision
- 09** Best practices for STEM instruction

Section 5: GenAI Issues and Future Needs

This section asks about your challenges in GenAI adoption or implementation. Note: These challenges may represent either barriers to adoption or ongoing implementation issues you have encountered.

Q5a

UNIVERSE: ALL RESPONDENTS

What challenges do you face in adopting and implementing GenAI for instructional tasks (lesson planning, teaching, assessment, professional learning, and/or administrative tasks)?

SELECT ALL THAT APPLY

Institutional and Infrastructure Challenges:

- 01** Lack of district-approved GenAI tools
- 02** Restrictive district or school policies
- 03** Unclear district guidelines or policies
- 04** Limited administrative support and resources
- 05** Insufficient training opportunities
- 06** Lack of technology infrastructure and access
- 07** Limited professional development opportunities
- 08** Lack of subject-specific colleagues to collaborate with

Technical and Integration Challenges:

- 09** Technical difficulties with tools
- 10** Integration with existing curriculum
- 11** Time required to learn how to use it
- 12** GenAI output is too low quality

Q5b

UNIVERSE: ALL RESPONDENTS

To what extent do you find the following to be concerns when using or considering GenAI in your teaching?

Rate each statement: Not at all/Somewhat/Moderately/To a great extent

- 01** Student over-reliance on GenAI
- 02** Impact on teacher-student relationships
- 03** Questions about effectiveness in education
- 04** Balancing GenAI use with traditional teaching methods
- 05** Potential bias and fairness in GenAI outputs

- 06 Content accuracy and reliability
- 07 Assessment authenticity
- 08 Ethical use considerations
- 09 Data privacy and security concerns
- 10 Concerns about replacing human creativity with GenAI processes
- 11 Please describe any other significant concerns you have in adopting and implementing GenAI that were not covered above: _____

Q5c

UNIVERSE: ALL RESPONDENTS

How do you think GenAI can improve your experience as a math and/or science teacher?

[Open Text Box short paragraph response]

Q5d

UNIVERSE: ALL RESPONDENTS

How do you think GenAI can enhance math and/or science learning for students in your classroom?

[Open Text Box short paragraph response]
