Undergraduate Perspectives on AI at CU Boulder

Ameenah Razi, August Milliken, Ellen Kedzierski,
Educational Technology Research Assistants

Rebecca Lee, Student Initiatives Coordinator
ASSETT

Teaching & Learning
with AI Community of
Practice – 4/29

Agenda

1	2	3	4
Introduction	(Preliminary) Quantitative Analyses	(Preliminary) Qualitative Analyses	Closing Thoughts

Introduction

- Gap: faculty have venues to discuss how they feel about gen AI, but how can we take into account **student** experiences?
- ASSETT hired three undergraduates (Ellen, Ameenah, and August) to design and conduct a mixed-methods research study on undergrad perspectives on gen AI

Research Questions:

1. What are CU Boulder students' attitudes toward and knowledge of generative AI?

2. How and why do CU Boulder students use generative AI in an educational context?

3. What generative AI training and policies do CU Boulder students want to see going forward?

Recruitment

- Distributed by professors, physical flyers, and banner on Canvas

- Respondent incentives for taking survey: extra credit or entry into a gift card raffle

HOW DO YOU FEEL ABOUT AI?

Are you over the age of 18 & a CU Boulder undergraduate? Fill out this 15-minute survey on AI attitudes and usage for a chance to win one of 30 $25 Amazon gift cards

Click the link, *scan the QR code, or use the link below!*

http://bit.ly/4a V7pJZ

Questions? Email Rebecca Lee at rebecca.lee@colorado.edu

Excluding Survey Responses

Total Responses: 3907

Responses excluded for: preliminary round of testing survey, not submitting survey, leaving most questions blank, not qualifying to participate

Final sample size: 3084

Demographics: College

CU Breakdown

Arts and Sciences - 45.2%

Engineering - 21.8%

Business - 13.9%

CMCI - 8.2%

ENVD - 2.1%

EDU - 1.5%

Music - 1%

other (including - 8.2%

exploratory studies)

Survey Respondents

Arts and Sciences - 63.5%

Engineering - 17%

Business - 11%

CMCI - 6.9%

ENVD - 1.1%

EDU - 1.4%

Music - 0.7%

other (including - 3.8%

exploratory studies)

Note:
Percentages don't add up to 100 due to double majors

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Demographics: Class Level

CU Breakdown

First - 16.8%

Second - 26.5%

Third - 22.5%

Fourth - 25.6%

Fifth - 8.7%

Survey Respondents

First - 29.1%

Second - 25.5%

Third - 22.4%

Fourth - 19.2%

Fifth - 2.8%

Non-degree/Other - 1.1%

What is your class standing at CU?

○ First Year

○ Second year

○ Third year

○ Fourth year

○ Fifth year (or more)

○ Not listed here - Please specify below

Demographics: Gender

What label best describes your gender? Please choose all that apply.

☐ Man
☐ Woman
☐ Non-binary
☐ Genderqueer/Gender non-conforming
☐ Agender
☐ Not listed, please specify:
☐ I'm not sure or would rather not say

CU Breakdown

Women - 46.6%

Men - 53.4%

Survey Respondents

Women - 60.5%

Men - 36.2%

Non-binary, Genderqueer/Gender - 5.2%
non-conforming, Agender

I'd rather not say/not listed - 0.9%

Demographics: Race

How do you identify in terms of your race and ethnicity? Please choose all that apply.

☐ African American/ Black
☐ American Indian/ Alaska Native
☐ Arab
☐ East Asian
☐ South Asian
☐ Caucasian/ White
☐ Latino/a/x/e
☐ Pacific Islander (Including Native Hawaiian)
☐ Not listed - please specify
☐ I'm not sure or would rather not say

CU Breakdown

Caucasian/White - 66.6%

African American/Black - 3.1%

Latino/a/x/e - 13.8%

Asian - 10.7%

American Indian/ Alaska Native - 1.6%

Pacific Islander - 0.6%

None, not listed - 1.0%

International - 2.7%

Survey Respondents

Caucasian/White - 79%

African American/Black - 4.2%

Latino/a/x/e - 12.7%

East Asian - 6.2%

South Asian - 5.3%

American Indian/ Alaska Native - 1.1%

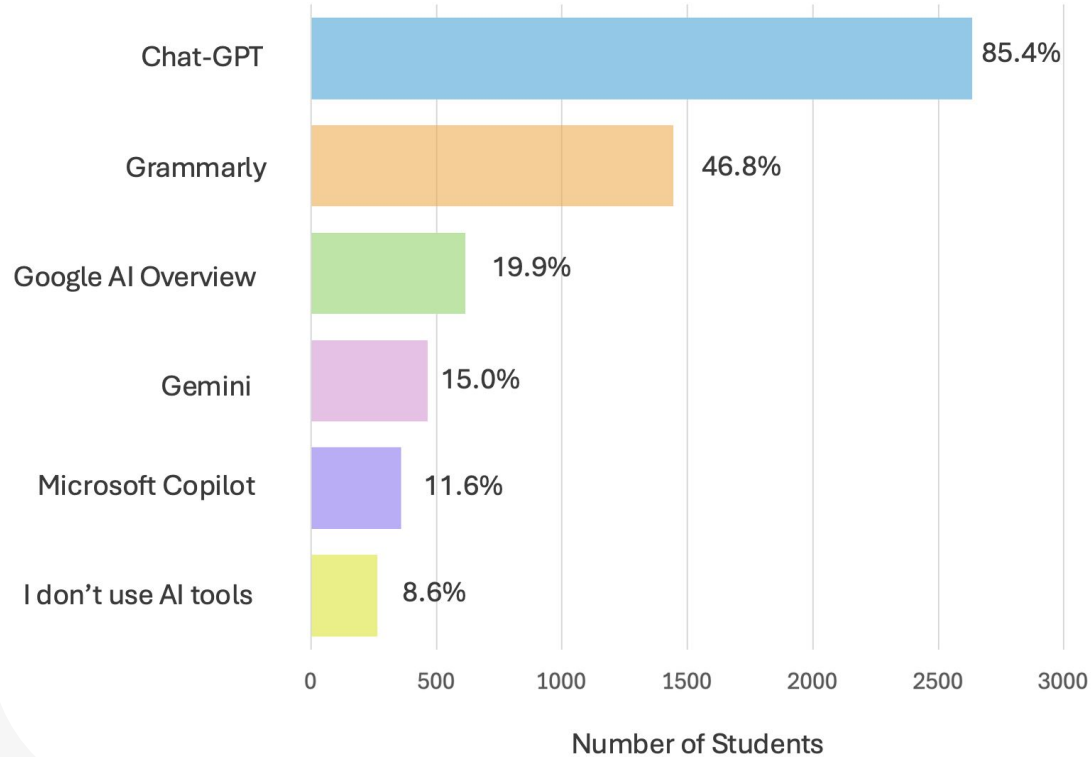Pacific Islander - 0.8%

Arab - 1.3%

None, not listed - 1.9%

Not sure/ would rather not say - 1.4%

General AI Use & Attitudes

Which AI-powered tools do you use?*

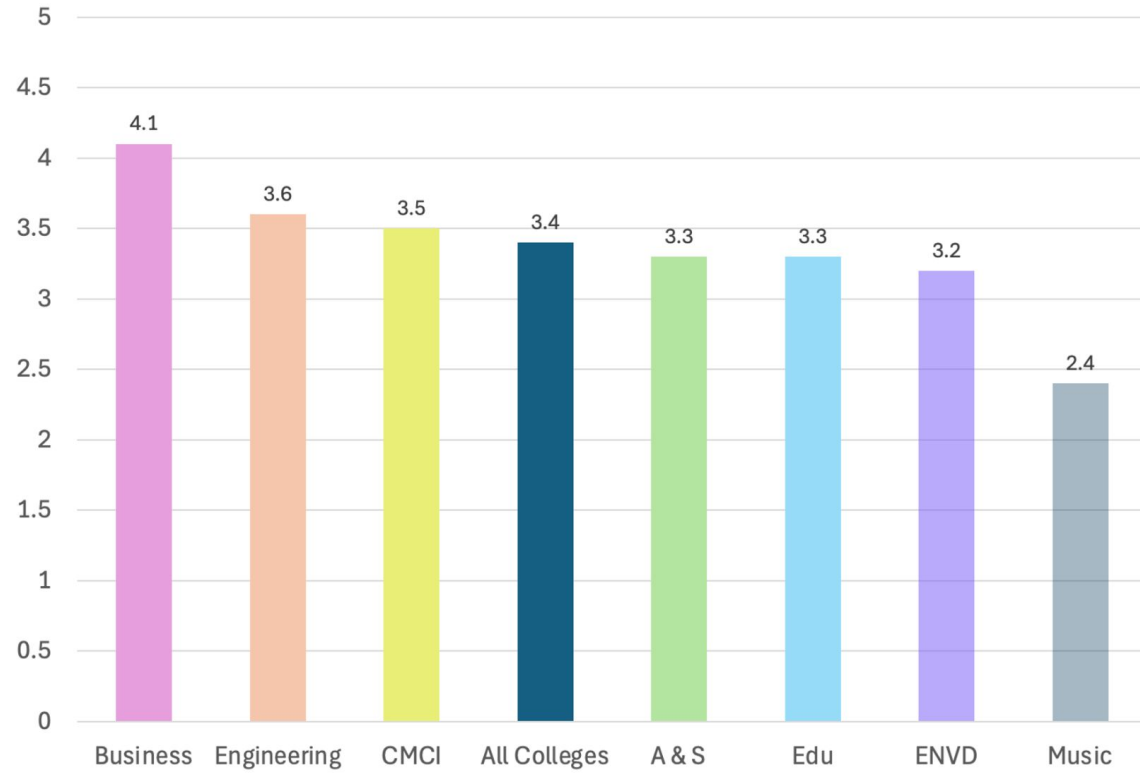| Tool	Percentage
Chat-GPT	85.4%
Grammarly	46.8%
Google AI Overview	19.9%
Gemini	15.0%
Microsoft Copilot	11.6%
I don't use AI tools	8.6%

Number of Students

*Top 5 are displayed; total percentage is above 100% as students checked multiple boxes

How would you rate your overall attitude toward AI?

- Very negative, 7.0%
- Very positive, 16.9%
- Somewhat negative, 16.0%
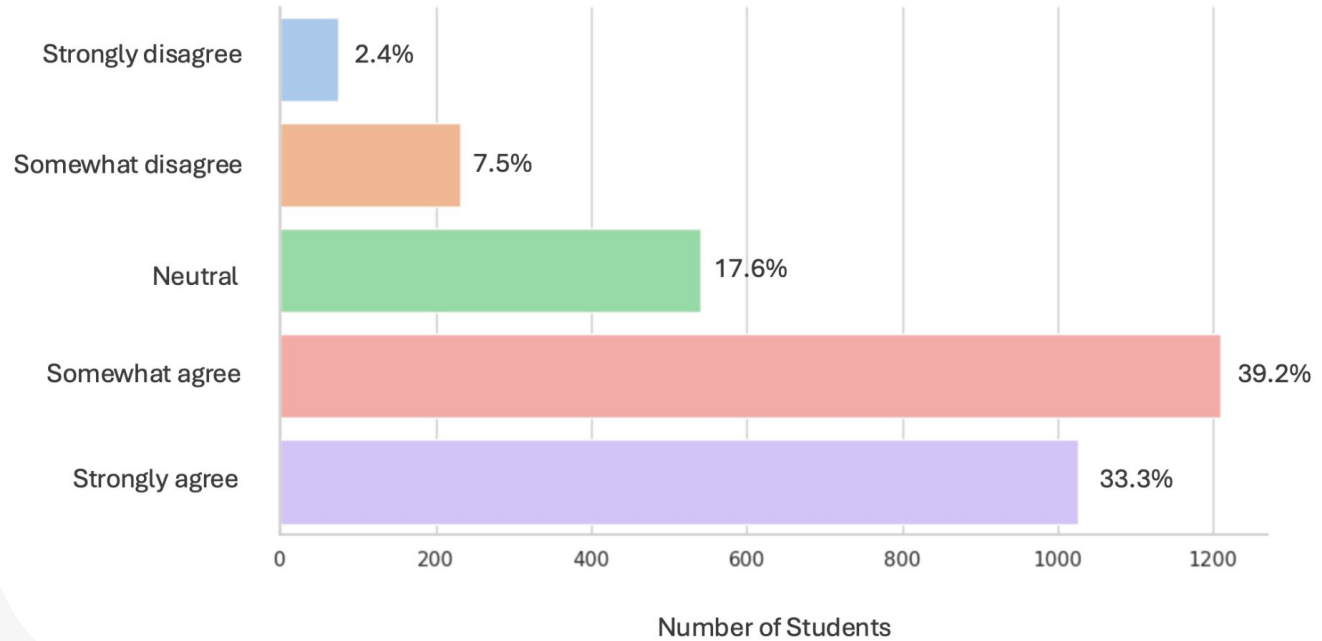- Neutral, 21.8%
- Somewhat positive, 38.3%
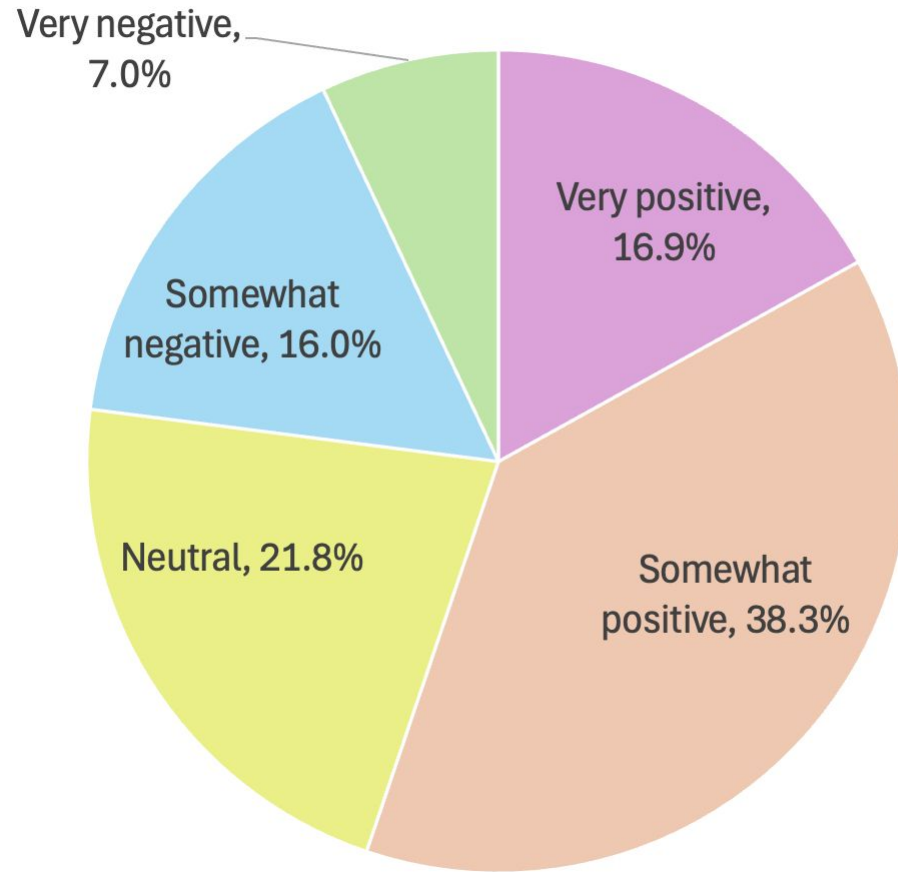
Attitude Toward AI by College

1= Very negative; 5 = Very positive

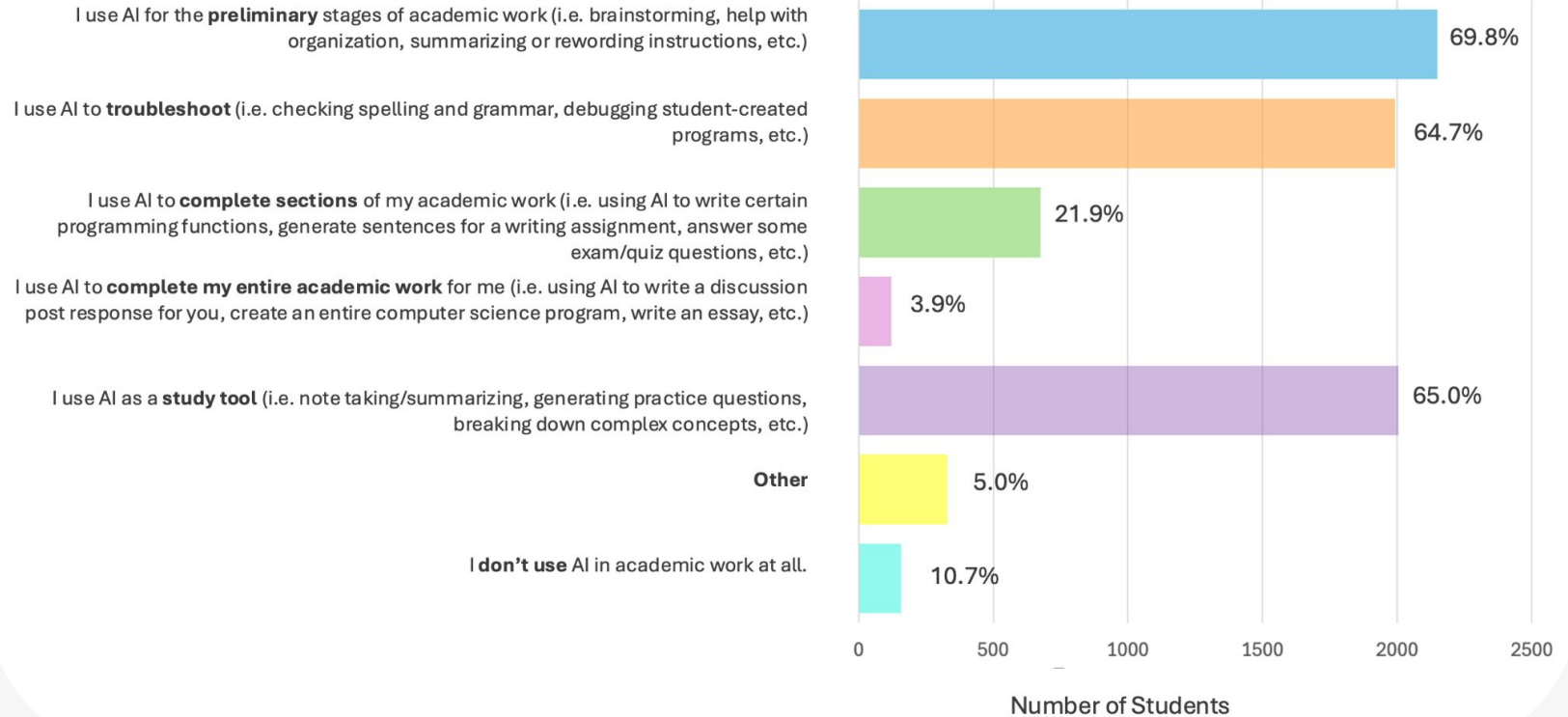It is important to me to understand how AI works in order to feel comfortable using it.
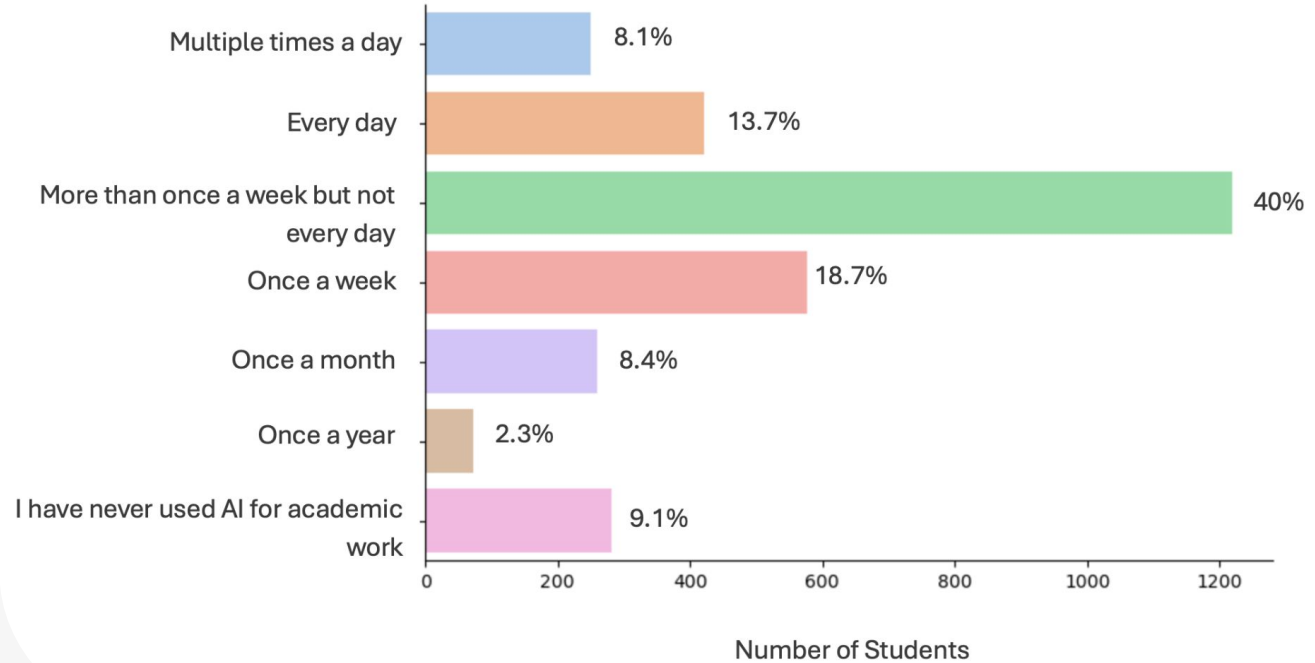
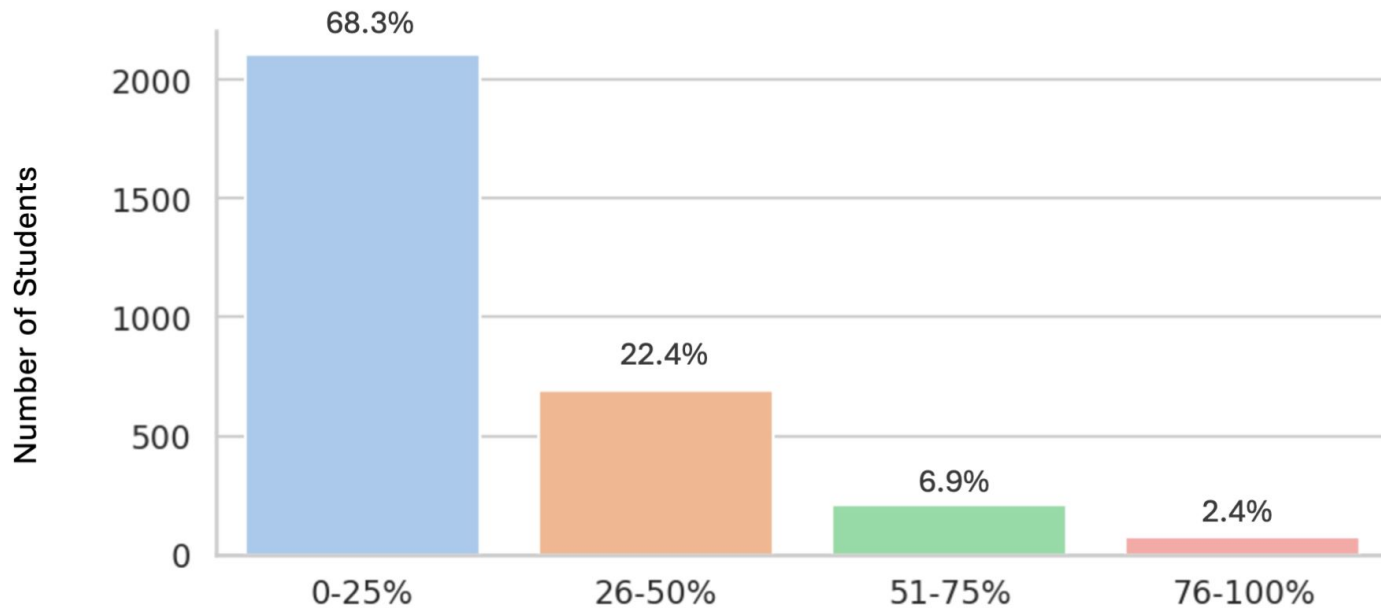# Academic Use of AI

What kinds of academic work do you use AI for?

- I use AI for the **preliminary** stages of academic work (i.e. brainstorming, help with organization, summarizing or rewording instructions, etc.) — 69.8%
- I use AI to **troubleshoot** (i.e. checking spelling and grammar, debugging student-created programs, etc.) — 64.7%
- I use AI to **complete sections** of my academic work (i.e. using AI to write certain programming functions, generate sentences for a writing assignment, answer some exam/quiz questions, etc.) — 21.9%
- I use AI to **complete my entire academic work** for me (i.e. using AI to write a discussion post response for you, create an entire computer science program, write an essay, etc.) — 3.9%
- I use AI as a **study tool** (i.e. note taking/summarizing, generating practice questions, breaking down complex concepts, etc.) — 65.0%
- **Other** — 5.0%
- I **don't use** AI in academic work at all. — 10.7%

Number of Students

How often do you use AI for academic work? Please exclude cases where AI use is required.

- Multiple times a day — 8.1%
- Every day — 13.7%
- More than once a week but not every day — 40%
- Once a week — 18.7%
- Once a month — 8.4%
- Once a year — 2.3%
- I have never used AI for academic work — 9.1%

Number of Students

What percentage of your academic work do you use AI for?

Have you had any assignment identified as AI generated by an instructor or grader?
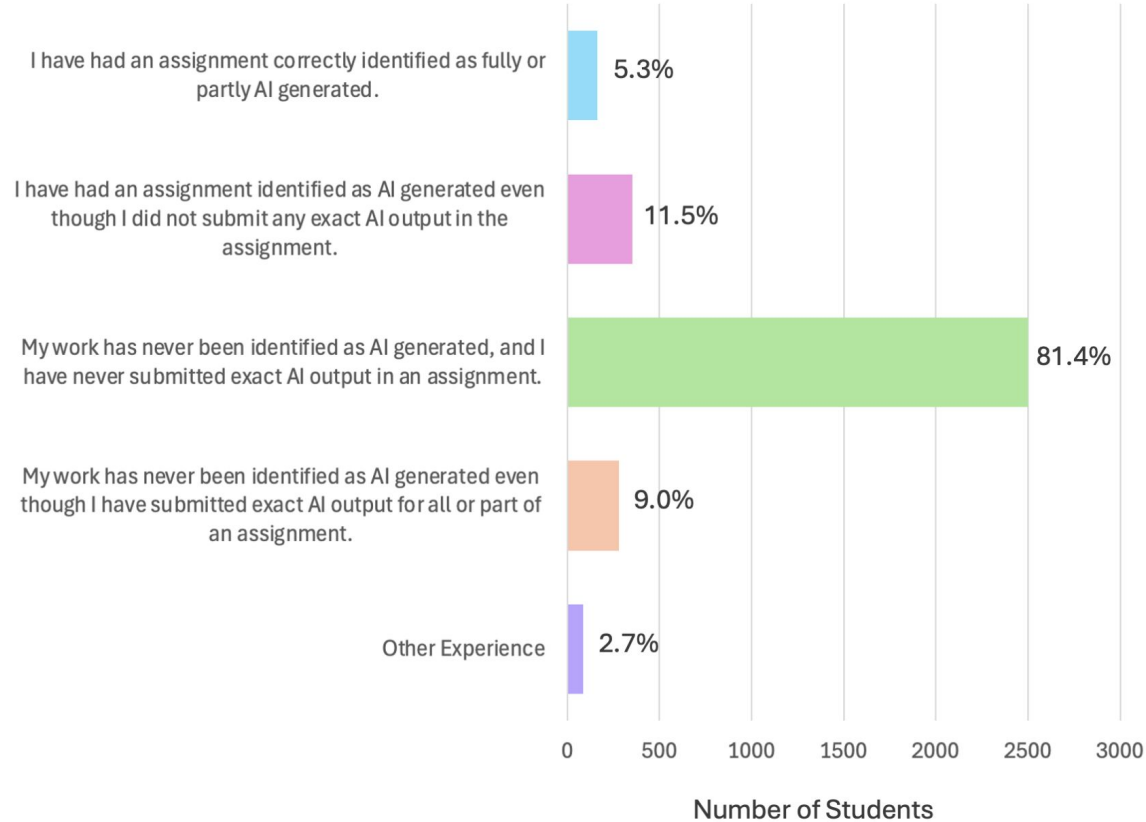
*Total percentage adds up to more than 100% - respondents selected multiple boxes

Have you had any assignment **identified as AI generated by an instructor or grader**? Please exclude situations in which AI use was allowed. You may select more than one item.
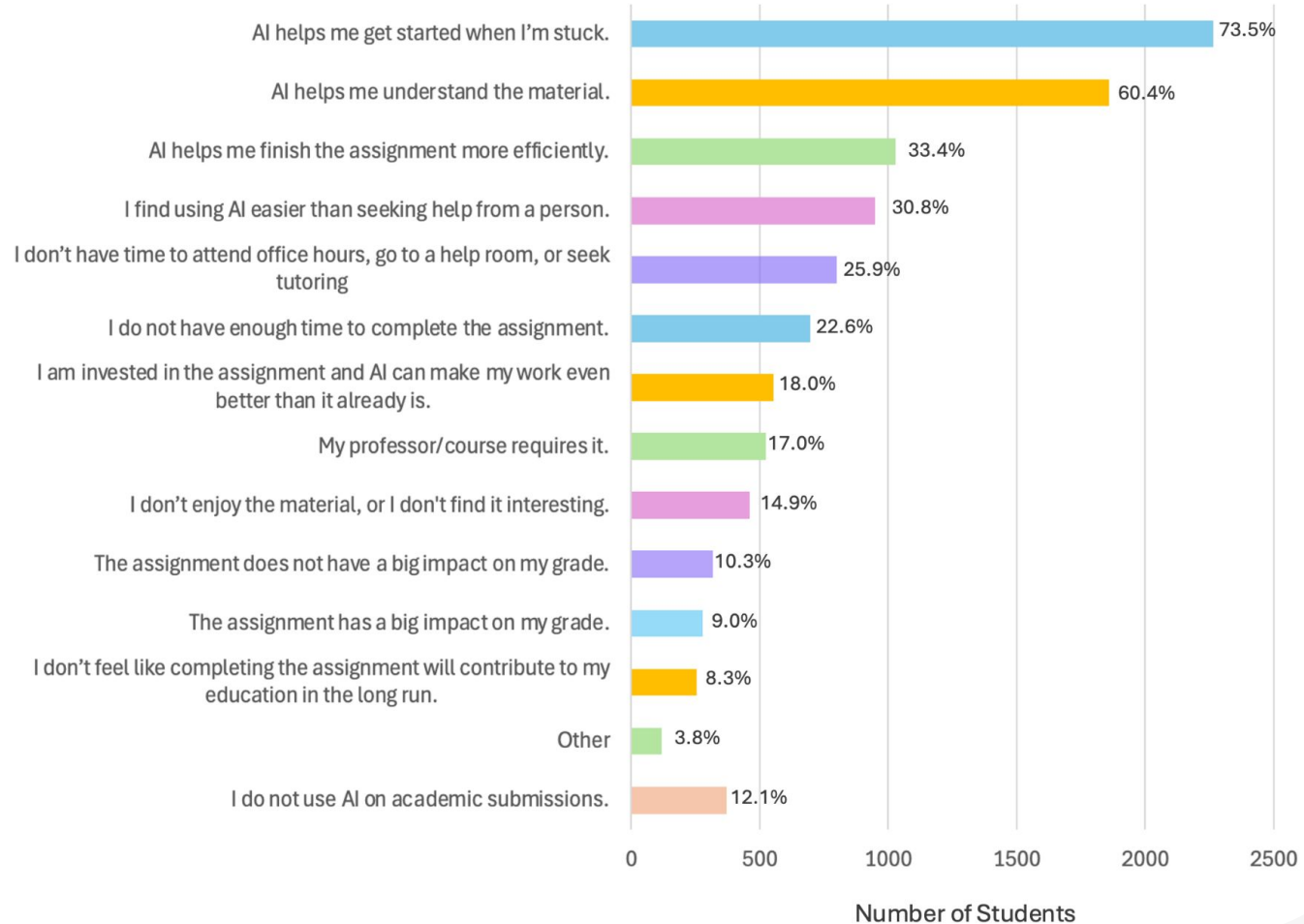
- ❏ I have had an assignment correctly identified as fully or partly AI generated. *(= accurate positive)*
- ❏ I have had an assignment identified as AI generated even though I did not submit any exact AI output in the assignment. *(= false positive)*
- ❏ My work has never been identified as AI generated even though I have submitted exact AI output for all or part of an assignment. *(= false negative)*
- ❏ My work has never been identified as AI generated, and I have never submitted exact AI output in an assignment. *(= accurate negative)*
- ❏ Other experience (Please explain below)

Have you had any assignment identified as AI generated by an instructor or grader?*
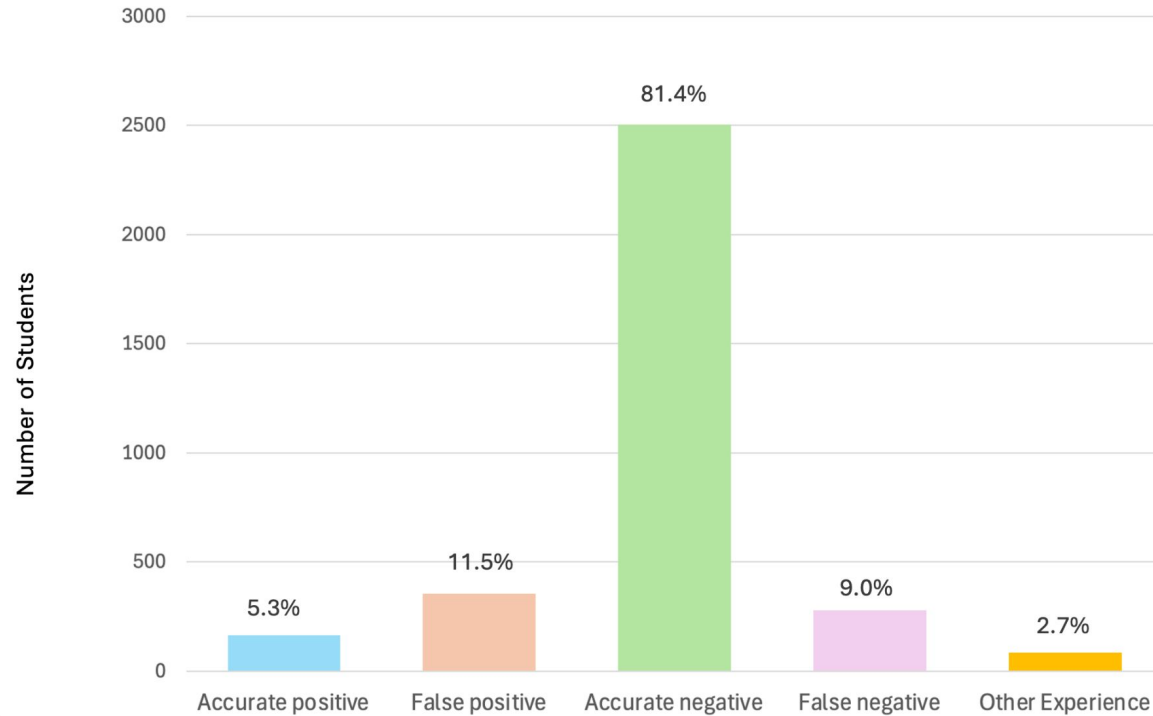
*Total percentage adds up to more than 100% - respondents selected multiple boxes

When you decide to use AI for a given assignment, what are the main reasons that drive your decision?
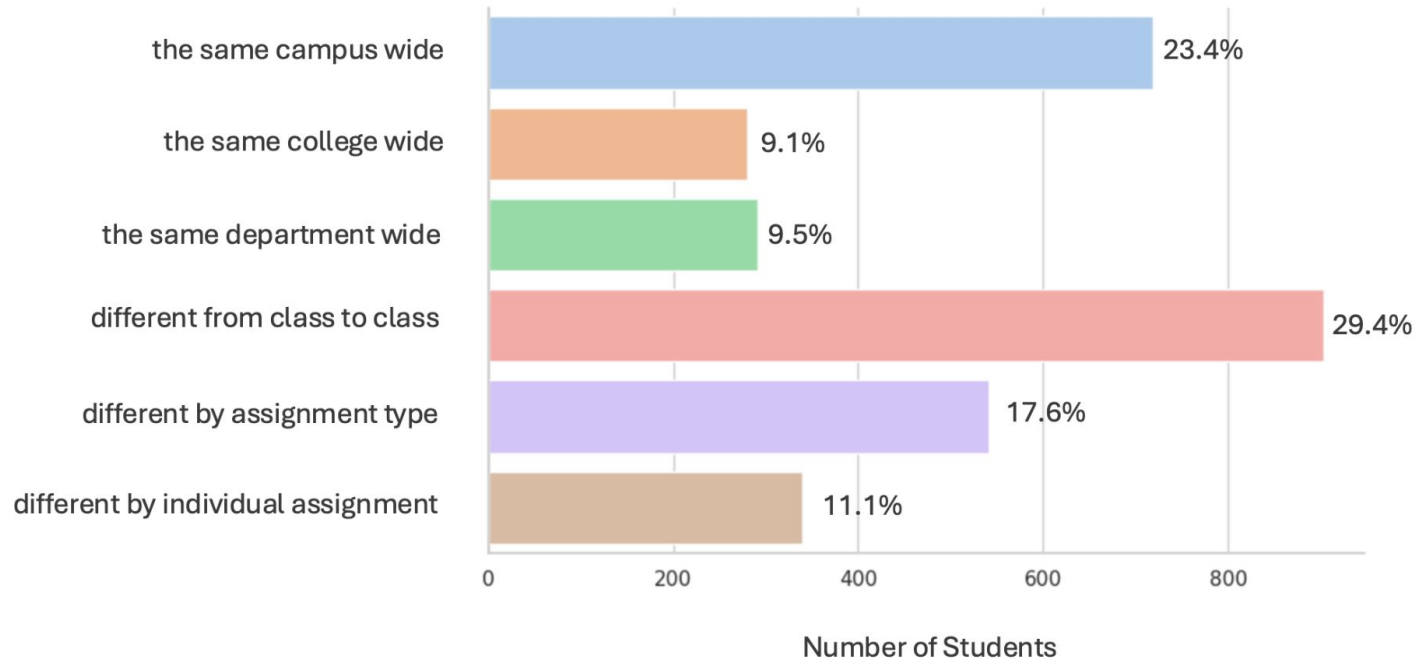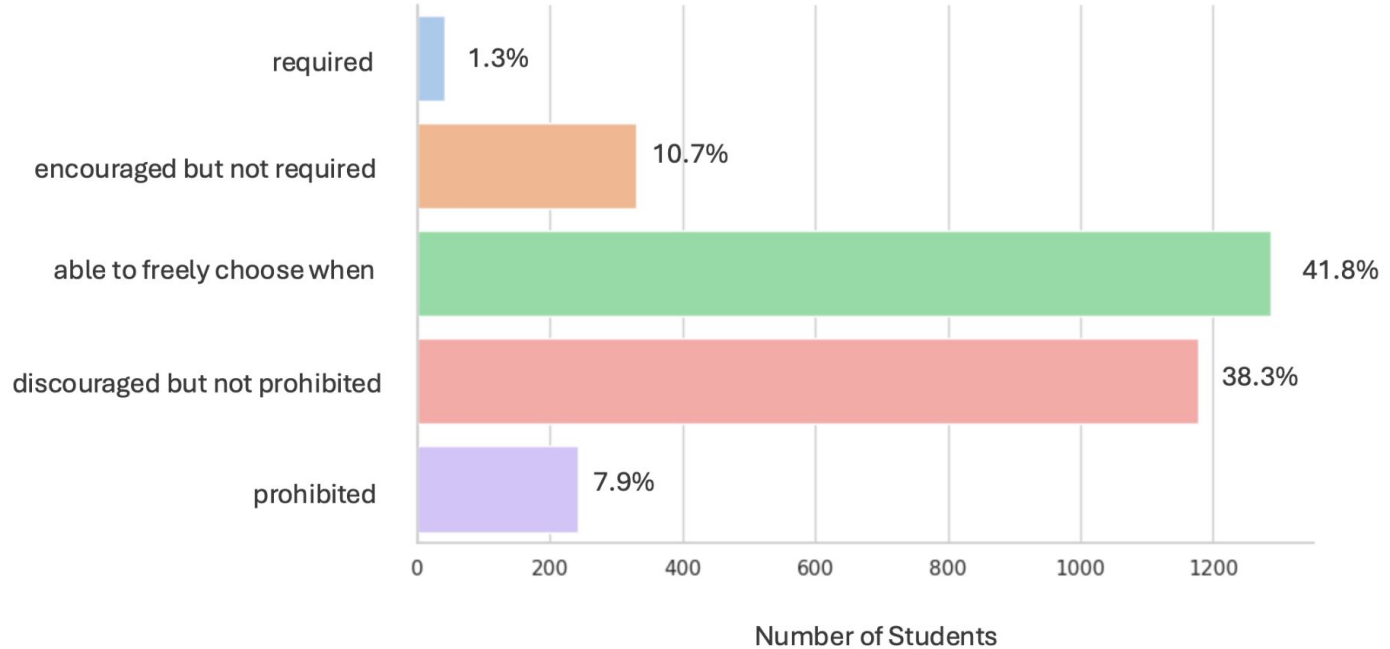
- AI helps me get started when I'm stuck. — 73.5%
- AI helps me understand the material. — 60.4%
- AI helps me finish the assignment more efficiently. — 33.4%
- I find using AI easier than seeking help from a person. — 30.8%
- I don't have time to attend office hours, go to a help room, or seek tutoring — 25.9%
- I do not have enough time to complete the assignment. — 22.6%
- I am invested in the assignment and AI can make my work even better than it already is. — 18.0%
- My professor/course requires it. — 17.0%
- I don't enjoy the material, or I don't find it interesting. — 14.9%
- The assignment does not have a big impact on my grade. — 10.3%
- The assignment has a big impact on my grade. — 9.0%
- I don't feel like completing the assignment will contribute to my education in the long run. — 8.3%
- Other — 3.8%
- I do not use AI on academic submissions. — 12.1%

Number of Students

Future AI Policies & Practices

At CU, I want the AI policy to be _____.

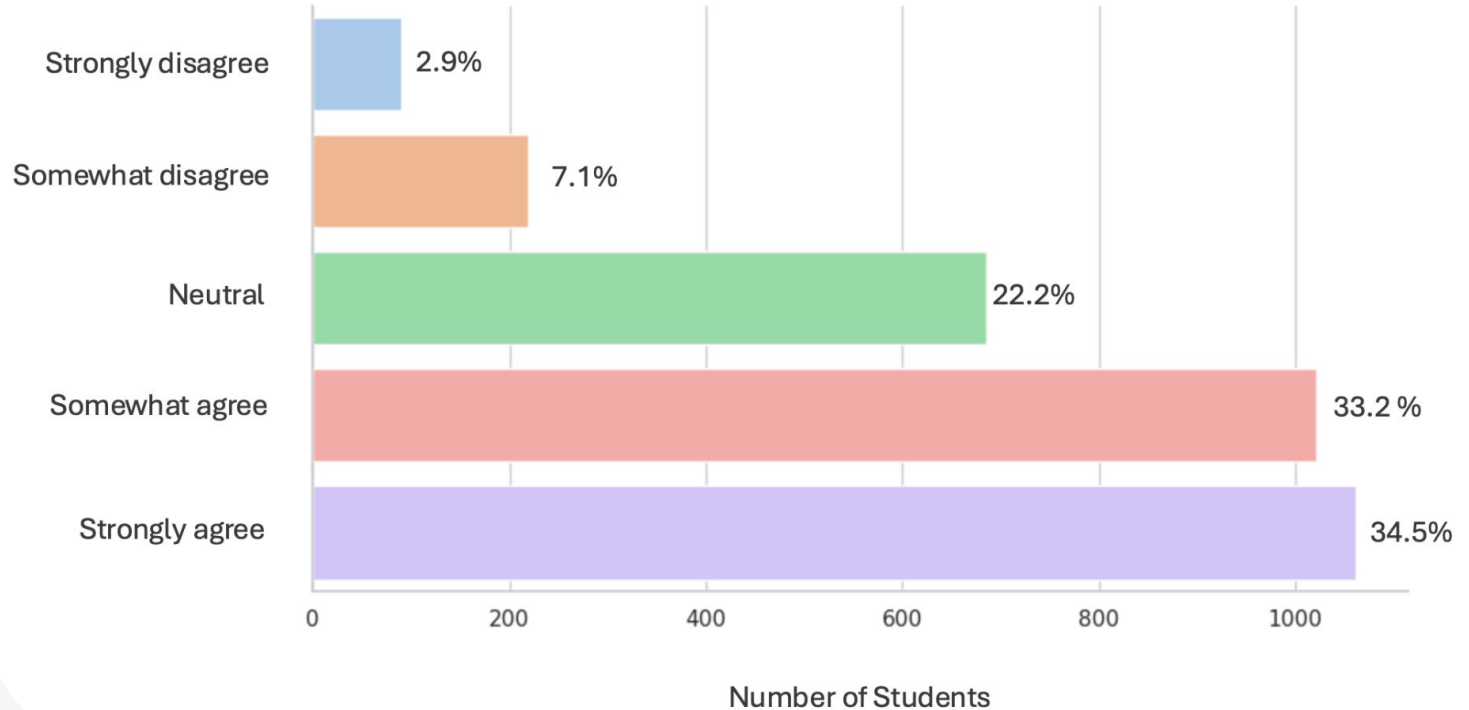| Category	Percentage
the same campus wide	23.4%
the same college wide	9.1%
the same department wide	9.5%
different from class to class	29.4%
different by assignment type	17.6%
different by individual assignment	11.1%

Number of Students

I think students should be _____ to use AI in their classes at CU.

	Number of Students	
required	1.3%	
encouraged but not required	10.7%	
able to freely choose when	41.8%	
discouraged but not prohibited	38.3%	
prohibited	7.9%	

I would like guidance from my professors on acceptable AI use in class.

Strongly disagree — 3.2%
Somewhat disagree — 5.2%
Neutral — 19.0%
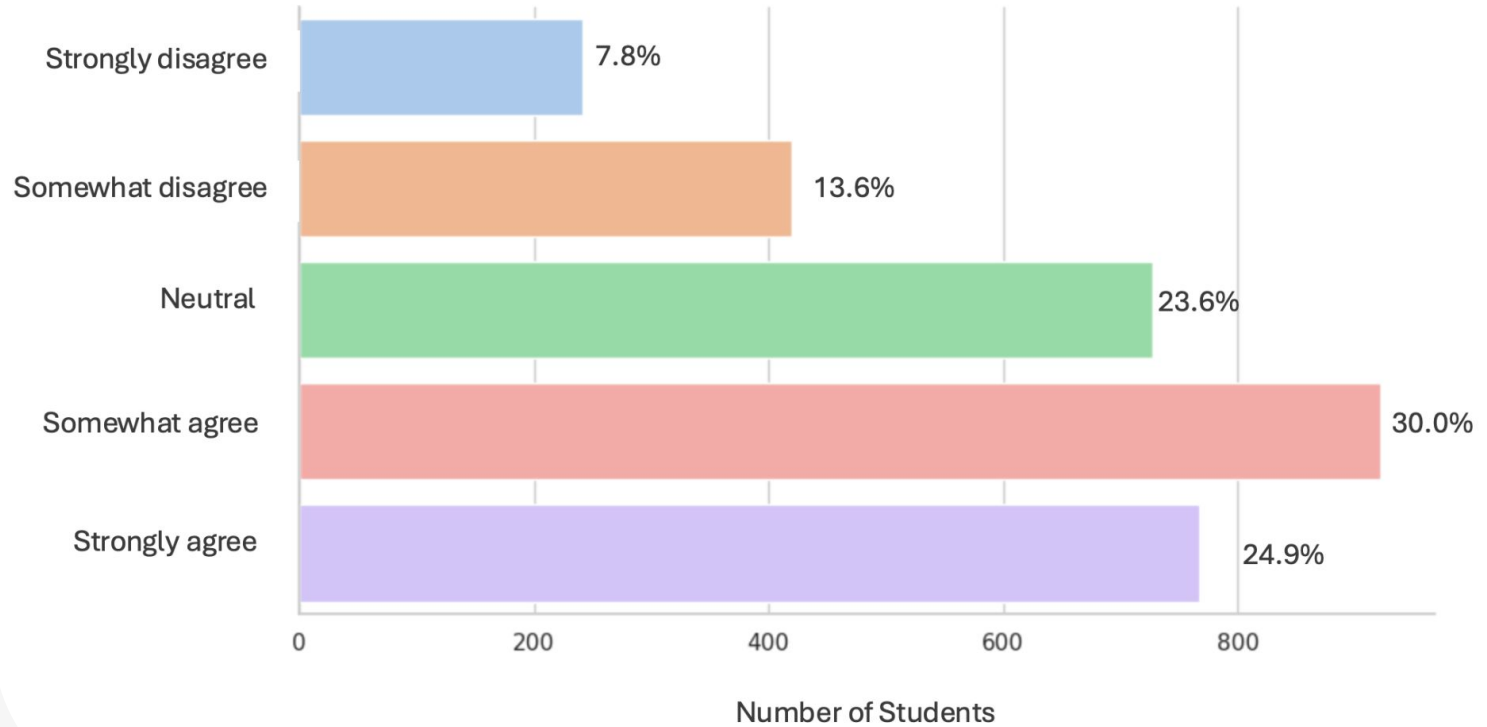Somewhat agree — 38.4%
Strongly agree — 34.1%

Number of Students
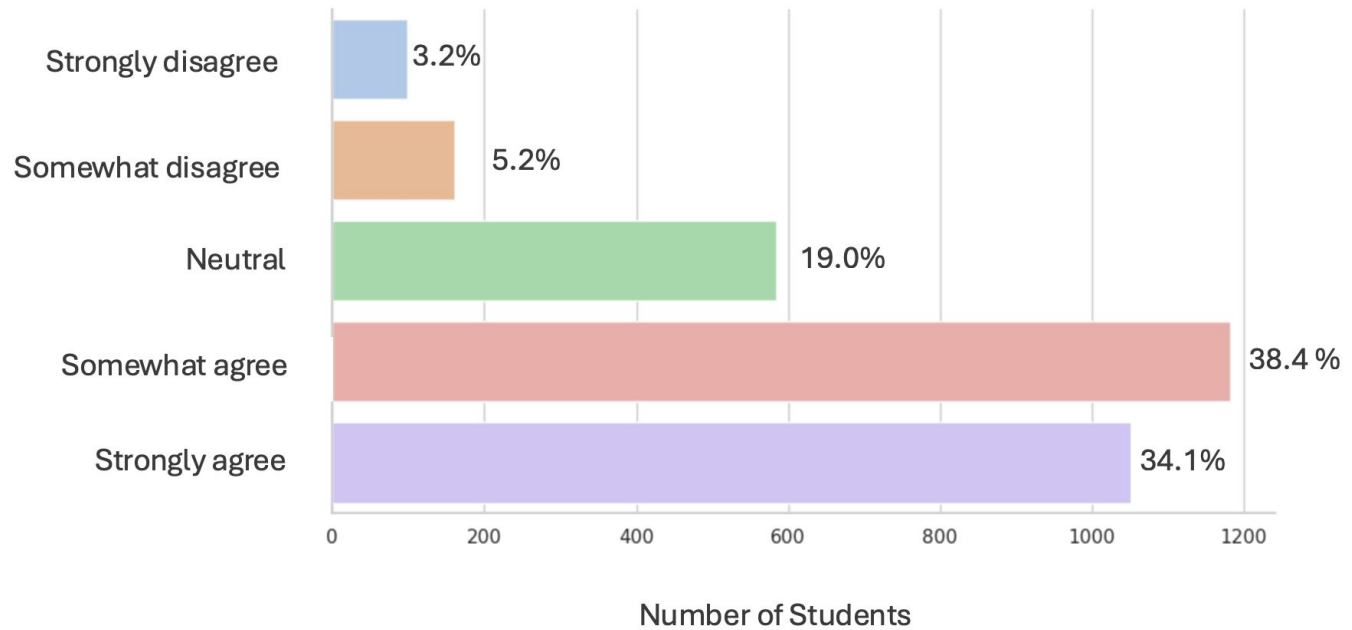
If AI use was permitted in class, I would be comfortable disclosing my AI use.

I am comfortable with AI being used in the grading of my work.

- Strongly disagree — 27.9%
- Somewhat disagree — 24.7%
- Neutral — 20.0%
- Somewhat agree — 18.6%
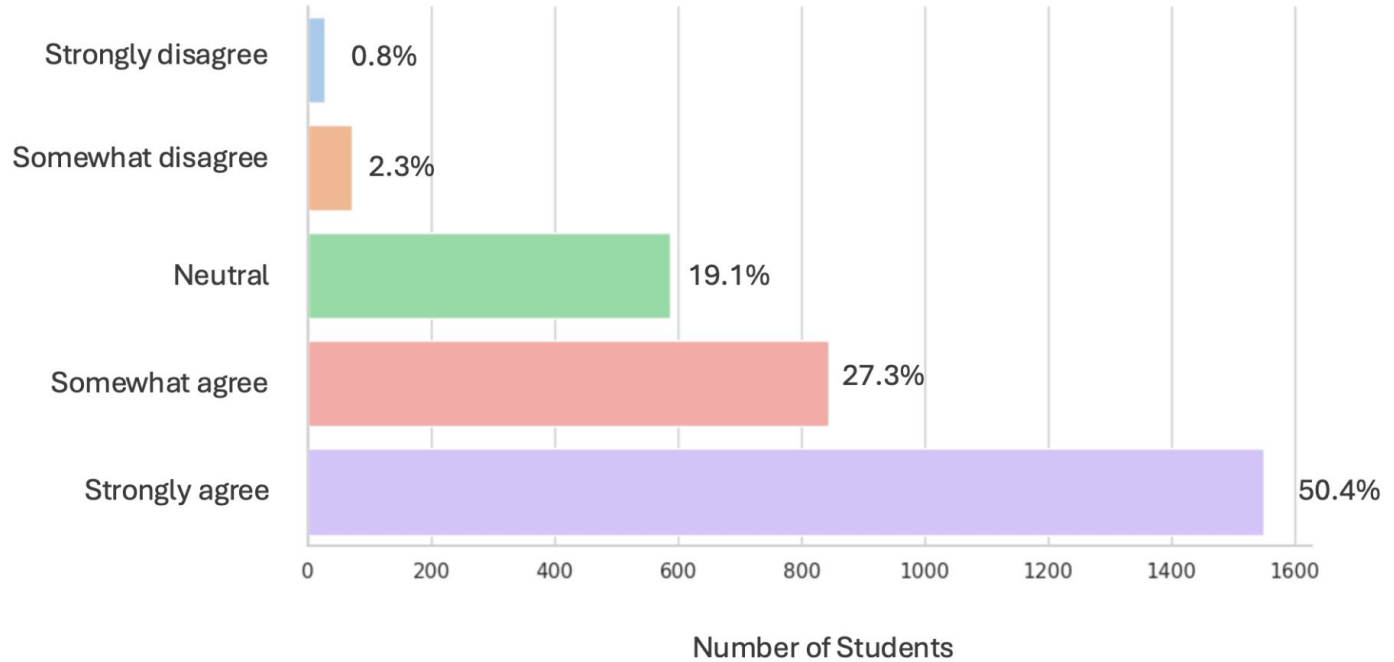- Strongly agree — 8.8%

Number of Students
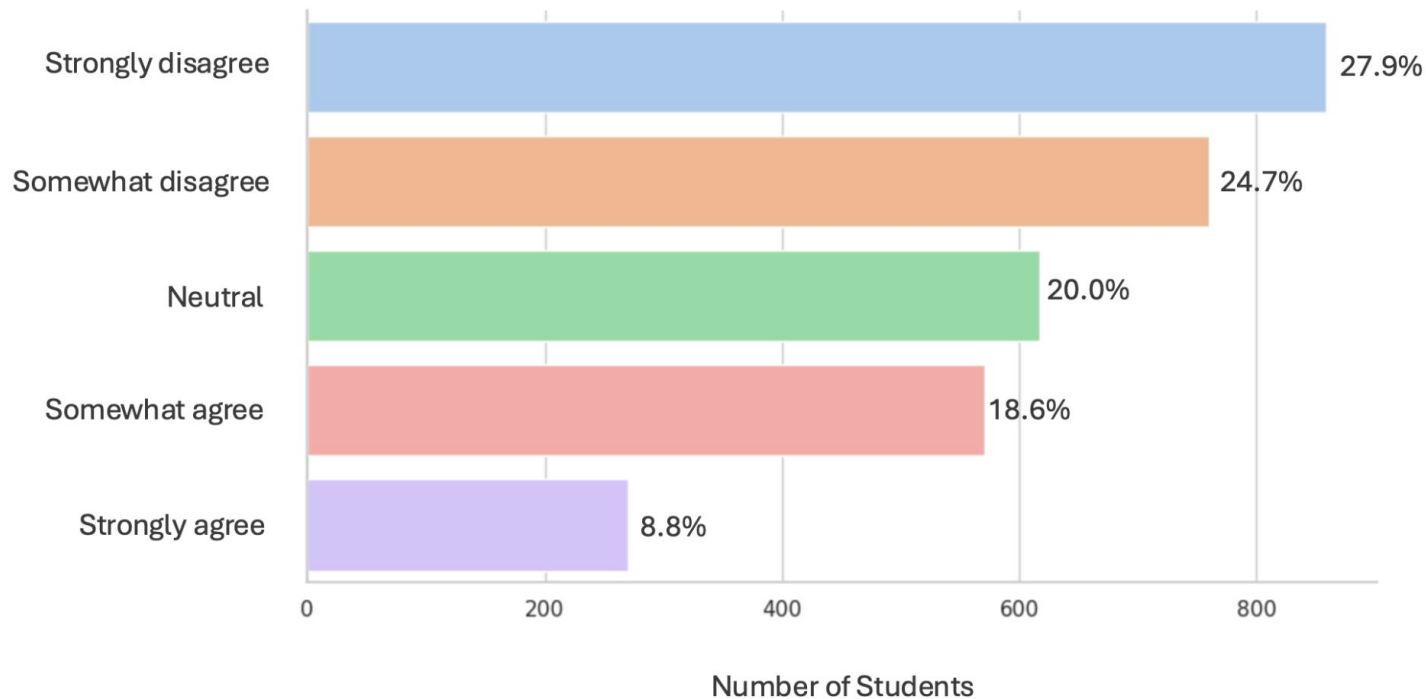
I am comfortable with AI detectors being used.

I am comfortable with my professor using AI to design course materials.
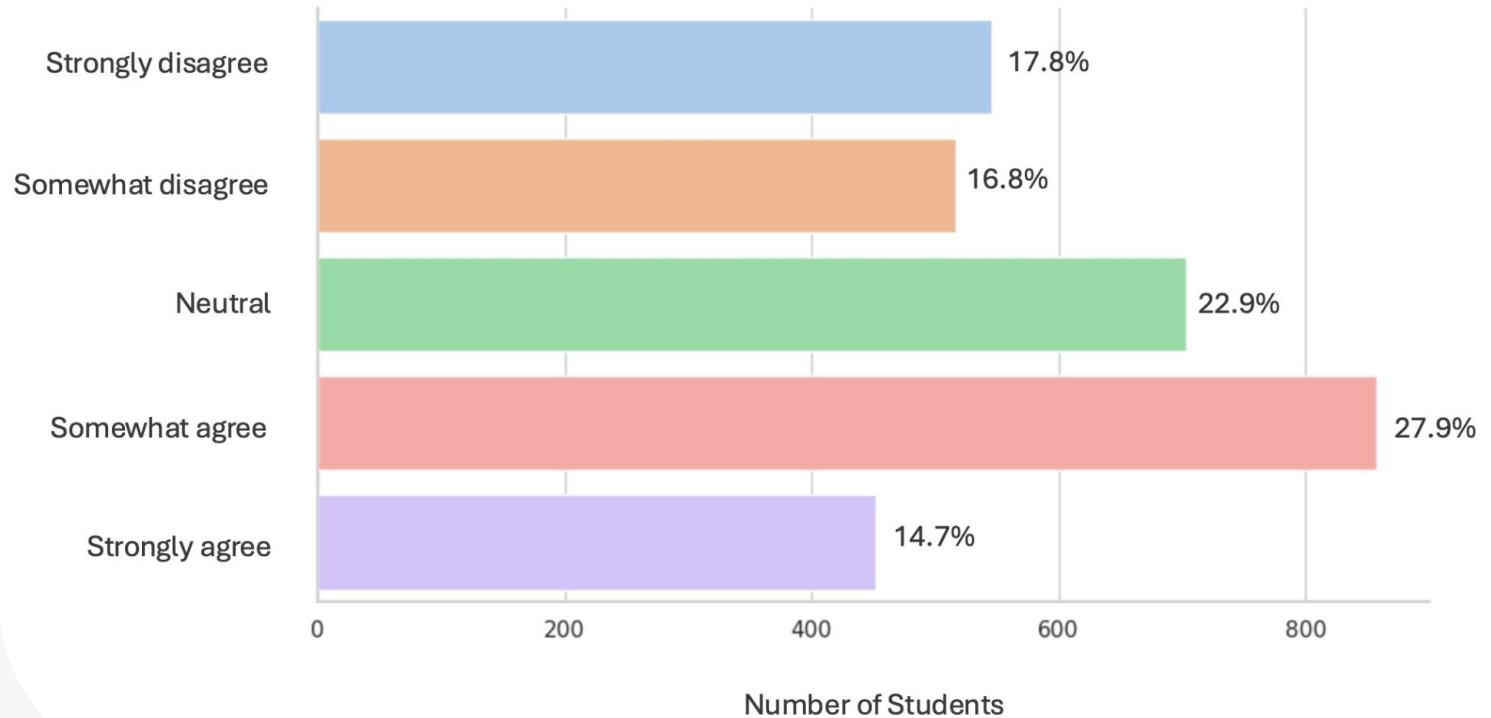
I want my professors to disclose their AI use.

Strongly disagree — 0.8%
Somewhat disagree — 2.3%
Neutral — 19.1%
Somewhat agree — 27.3%
Strongly agree — 50.4%

Number of Students

Student Concerns

One

"I am afraid that my own original work will be flagged as AI, potentially resulting in an honor code violation."
"I'm very concerned with professors trusting false positive results from AI detectors"

Two

"I think not allowing AI is a backwards way of looking at it. It is going to be more and more integral to every job, and I think not allowing or encouraging intelligent use of AI would be negatively impacting students in future careers."

Three

"How will AI be integrated into coursework while maintaining academic integrity? Will there be clear guidelines on acceptable vs. unacceptable AI use?"

"I am concerned that AI will not be addressed in my classes. People should be 100% transparent with their AI use"

Four

"I think it's contradicting for professors to not allow AI when they are using it to create presentations."
"I am concerned about AI being used for grading because one of the classes I am currently in seems to be doing that but the grades are not reflective of our work."

Frequently Mentioned:

1. Concerns over being flagged/AI detectors

2. Not enough integration of AI

3. Feeling policies are unclear

4. Concerns about instructor use/grading

Student Concerns

Five

"should not be used to generate work but help assist in brainstorming and generating framework for where to think or structure a work. As a college student if you use AI and dont care about learning the material that is your responsibility and choice."

Six

"I feel we don't talk about the ethic cost of AI enough at CU. It's framed as the future but the reality is, it could cause a lot of harm for us. This needs to be included in the conversations we have. AI isn't just about "cheating". It's about the environmental impact, its ability to strengthen and spread harmful stereotypes and beliefs, and its wealth of misinformation."

Frequently Mentioned:

5. Students missing out on their own education

6. Ethical concerns

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Questions?

Discussion Questions

1. What concerns do you have after viewing our initial results?

2. How do the results align (or not align) with your personal experiences?

3. What new perspectives did you gain from this presentation?

4. How do the results challenge your beliefs or assumptions?

5. What data points are most interesting or surprising to you - why?

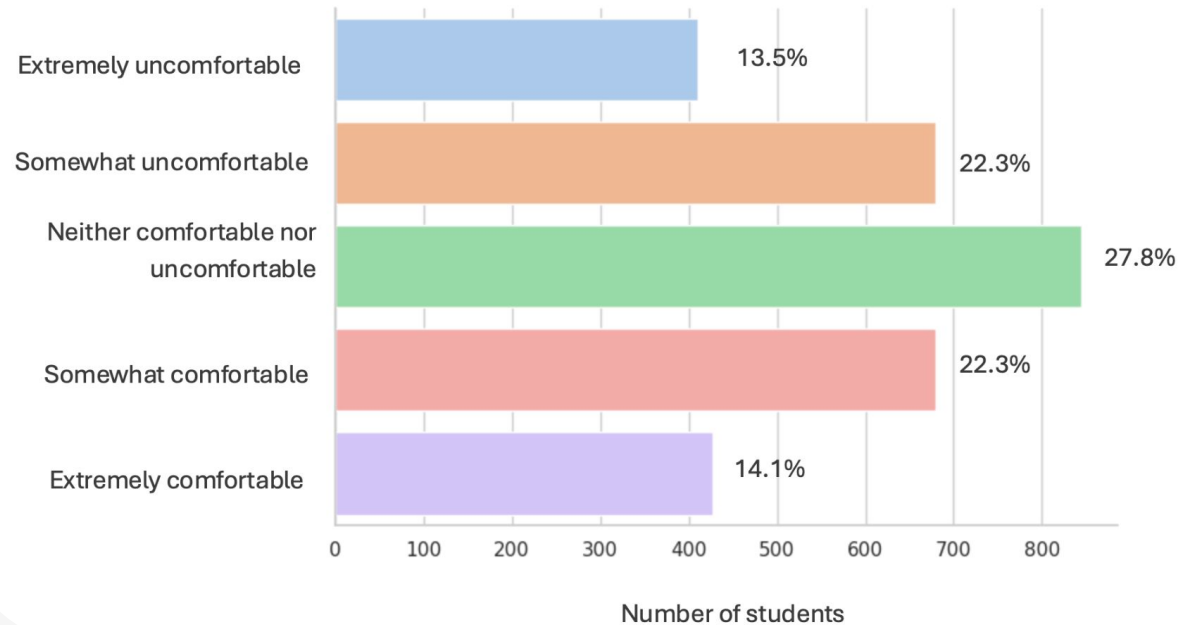6. What are implications of this data for your classroom practice?

Thank you!

Contact us: Ameenah.Razi@colorado.edu

August.Milliken@colorado.edu

Ellen.Kedzierski@colorado.edu

Rebecca.Lee@colorado.edu

Jacie.Moriyama@colorado.edu

How comfortable would you be with students being required to use AI in a class at CU?

How comfortable would you be with students being prohibited from using AI in a class at CU?