

Generative AI as a Learning Tool

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Seminar, Parma, Italy, October 1, 2026

What is this seminar about?

How can I *learn* as much as possible
in as little time as possible and
with as little effort as possible?

I (and homo sapiens) am basically “lazy”!

If I (homo sapiens) can obtain the *same* result with *less* effort,
we are in.

For the *curious* student GAI is a killer!

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The Role of Generative AI in University Education

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What is it *NOT* about?

GAI in general

Telling you how you can use GAI *to cheat*

Telling you to *stop thinking*

Teaching you *how to* use GAI as a Learning Tool

For the *lazy* student GAI is a killer!

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Intermezzo

For the *curious* student GAI is a killer!
Per gli studenti curiosi, l'IA generativa è una vera bomba

For the *lazy* student GAI is a killer!
Per lo studente pigro, l'IA generativa è una manna dal Cielo

What are the different meanings of the phrase "it is a killer"?
The phrase "**it is a killer**" (or "**that's a killer**") is highly context-dependent, ranging from literal descriptions of lethality to informal slang for extreme difficulty or exceptional quality.

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Snippets

Claim: The students who figure out how to use these tools to accelerate their learning instead of replace it are going to be unstoppable. The ones who let the AI do the thinking are going to hit a ceiling they don't see coming.

Empowering learners to shape their educational journeys!

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GAI and Lars Bendix ☺

I don't care about *producing* GAIs

I don't get depressed if "*meaning is reduced to geometrical distance*"

I care about *using* GAIs – for *teaching* and *learning*

I am a “carpenter” and I want to know how to best use my hammer, saw and chisel – and this wonderful new power drill

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I asked Copilot for...

A strong opening hook:

What happens when students start using Generative AI not just as a shortcut, but as a genuine learning tool?

A bold opening statement:

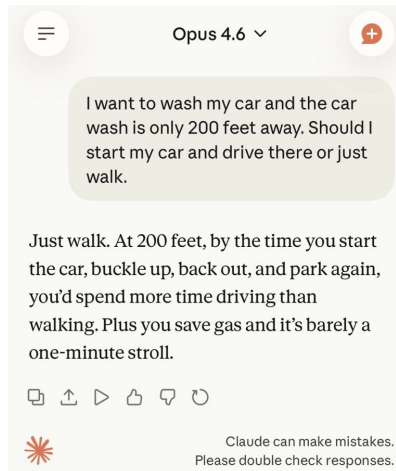
Generative AI is no longer optional—it's transforming how we teach and how students learn.

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I'm **not** a
GAI fan-boy

Disclaimer



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Copilot

Bottom line

For just 200 feet, **walking is the simplest, fastest, cheapest, and healthiest option.** Then drive the clean car home afterward.



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GAI and students 😊

Students (desperately) want us:

- to tell them what is **allowed** – and not
- to teach them **how to** best use GAI (as a learning tool)

Please, PLEASE, **PLEASE!!!**

GAI is out there in the wild (for students) – we need to **take back control!**

We are the adults in the room

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What is allowed?

<https://fileadmin.cs.lth.se/cs/Education/EDAN10/GAI-tools.html>

Who is cheating – and why?

Who is getting cheated?

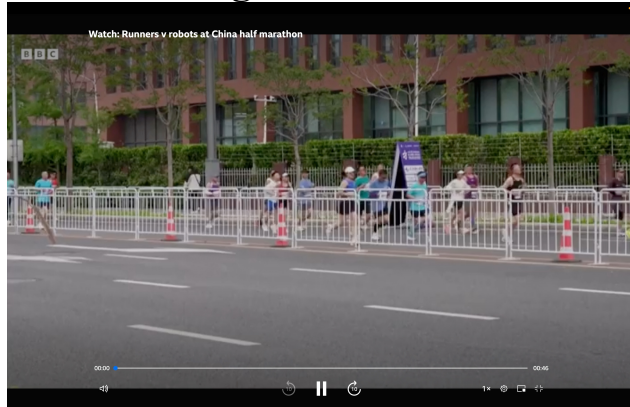
What **is** cheating?

How can we avoid cheating – and who is responsible?

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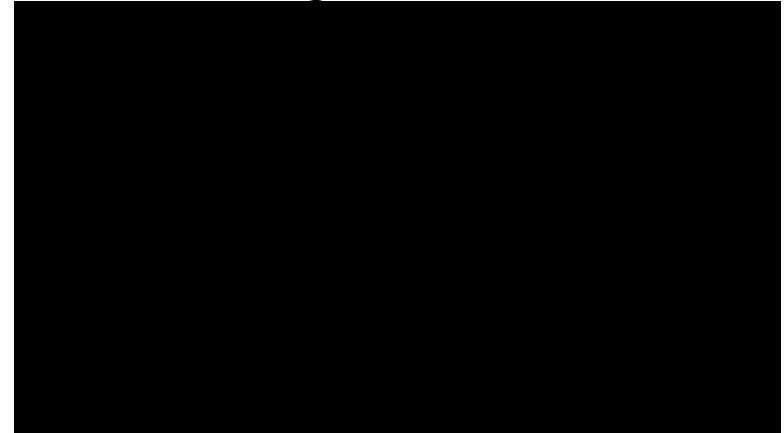
Same thing – different context



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Same thing – different context



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Some data

Chinese-Swedish GAI use study:

- +18% grade, -30% time, -20% exam grade
- 18-21% at admission tests (2 years later)

especially hit:

the youngest, males, the best students

political sciences & geography, natural sciences, English, Chinese

Danish GAI study:

- 1/3 are unsure about correctness of answers
- 14% use "blind trust"

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More data

Own GAI "study":

- +50% advanced users
- no more beginners
- 50% basic user

2.74 => 3.13

~20% paid for using their GAI tool

Surprisingly: valuable > reliable?!

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Conclusions?

Most students already use GAI
but maybe not the best way

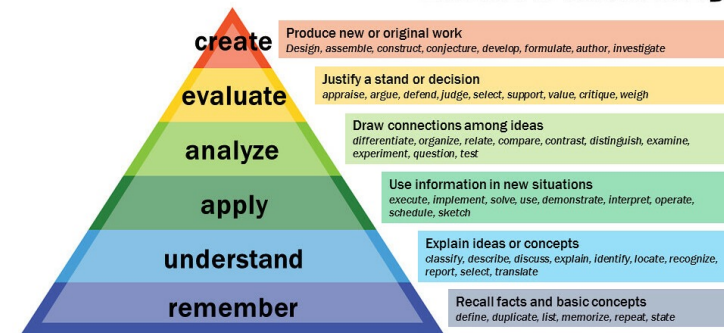
We have a (too) high degree of GAI-illiterate students!
Equal *access* to GAI tools is not enough – it must be equal
abilities in using GAI tools that is important!

What is the best way?
How can we convince them about that?
How can we teach them to use GAI?

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Mount Everest Bloom's Taxonomy



Use GAI to reflect and learn – not to let GAI do the work for you

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Generative AI

How can students use GAI?

- to get *feedback* on assignments
- to *explore* material on their own
- to *prepare* for exams

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Feedback I

I have written a paper review about “this paper” according to “these instructions”. Could you please check my paper review that I will upload in the next prompt. Check it for language, style and clarity. I would also like you to point out weaknesses in my paper review, explain to me why they are weaknesses and tell me how I can improve them. Finally, I would like you to tell me what you think is the strongest point about my paper review and why you think that is the strongest.

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I have been given an assignment

Write a piece of code in Java that will sort a linked list of records of students containing a field with the date of birth in descending order of age.



I have been given an assignment

First attempt:

Claude, could you give me a piece of code in Java that will sort a linked list of records of students containing a field with the date of birth in descending order of age.

I have been given an assignment

Second attempt:

Claude, I have been asked to write a piece of code in Java that will sort a linked list of records of students containing a field with the date of birth in descending order of age.

I have written some code but it does not work. I will upload it in the next prompt. Can you fix it for me so it will work?



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I have been given an assignment

Third attempt:

Claude, I have been asked to write a piece of code in Java that will sort a linked list of records of students containing a field with the date of birth in descending order of age.

I have written some code that should solve the assignment. Could you please check my code for correctness. Also evaluate my code, point out the weaknesses you find, tell me why you think they are weaknesses and what I should do to improve the code?

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Maybe this should be the assignment?

Ask Claude to write a piece of code in Java that will sort a linked list of records of students containing a field with the date of birth in descending order of age.

When you get the code, evaluate it according to the principles for coding you have been taught on this course. Where does Claude follow the principles? Where does Claude break or miss the principles? How easy it is to understand the code? Point out where you would improve the code, why it is an improvement and how you would do it.

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Feedback II

Giving feedback is mostly a boring, repetitive task

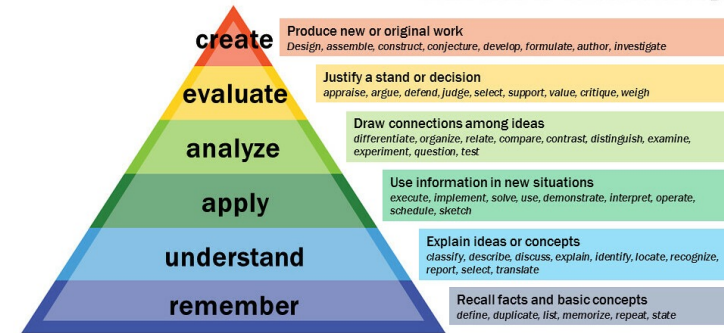
GAI never gets bored or tired – it works 24/7 – even at 3 a.m.

Giving feedback is a ”slow” process that requires many resources

GAI is blisteringly **fast** and quite **cheap** – and “self-service”

Mount Everest

Bloom's Taxonomy



GAI as a study buddy

“I didn’t quite understand what “high cohesion” means and why it is useful – could you please explain that?”

“I think that the root cause of the “Double Maintenance” problem is that things are copied, but should remain identical – it that correctly understood?”

Leading into hardcore exam preparation!

Explore

I am a university student on my third year of study. I study computer science and currently I am taking a course on software engineering. Could you please explain to me what characterises the waterfall software development method?

Exam preparation

Why are you nervous before an exam?
Because you don't know what you don't know!

GAI can help you by:

- ask you questions and evaluate your answers
- create multiple-choice quizzes
- create/**evaluate** short summaries of important concepts
- ...

But...

GAI can provide feedback at a scale, speed and time that I cannot do...

...but what about the quality of feedback/results...

...is GAI equally as good at the professor?

Almost, but not quite – however it is extremely **cost-effective** and **scalable**

Important: quick, immediate, partial feedback is *pedagogically* better than late, complete feedback!

What is there not to like?

GAI is trained/designed/brought up to be:

- convincing
- polite/pleasing

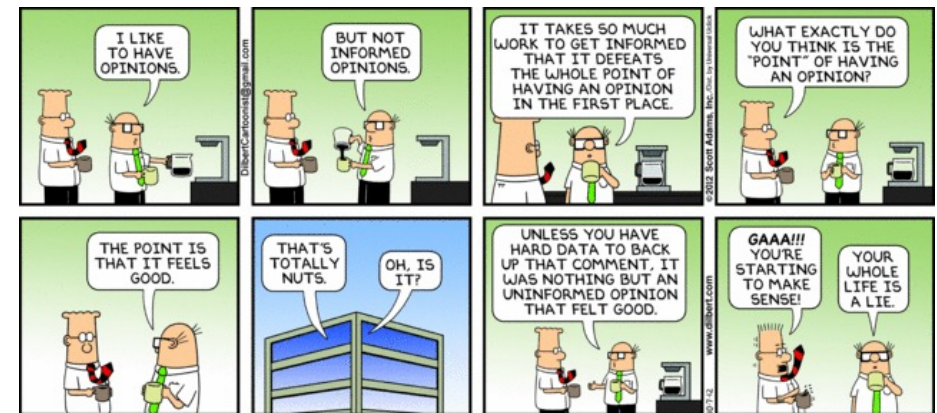
Hallucinations?

Often caused by “lack of data”:

- training data
- “question” data
- “statistics”

Good questions give good answers – also at real exams ☺

Opinions – or verified facts?



Cheating – or short-cuts – or...

Could you give me a 2-page summary of this 20-page paper?

Why should I show up at the seminar to discuss questions when I can ask GAI and have the answers?

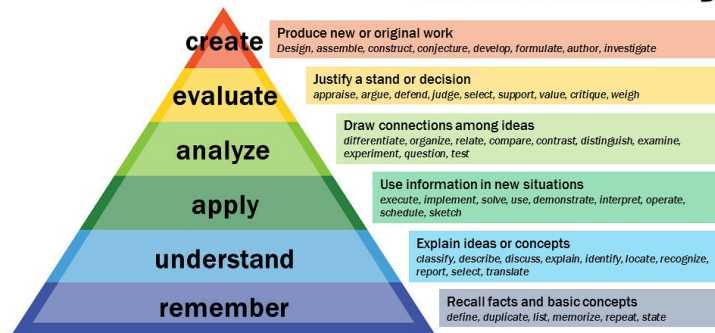
Modern exams?

How will/should GAI change the way we do exams?

- basic skills/facts (Bloom levels 1-2) without GAI
- real-life assignments (Bloom levels 3-5) with GAI
- “academic” skills?
 - analyse
 - evaluate
 - create

Mount Everest

Bloom's Taxonomy



Beyond students...

How do *I* use GAI?

- “language”
- brainstorm
- feedback
- Palle alene i verden

Example

I have been invited to give a 15-minute talk at a conference on pedagogics at my local university. The overarching theme of the conference is "Cultivating Judgment, Creativity and Critical Thinking in the age of AI" and the title of the track where I will give my talk is "My opinions on the matter". The title of my talk is "Generative AI as a Learning Tool". I have now been asked for a 500-word abstract for my talk. *I have written a proposal that I would like you to help me complete. Could you check it for grammar, style and clarity and give suggestions for how I could strengthen the abstract?*

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Example

Could you create five multiple-choice questions about ****Xxxxxx**** suitable for a course on ****Yyyyyyyy****. For each question you should state what is the correct answer and also a motivation for why that answer is correct. Please make sure that the correct answer is not always the textually longest.

Based on the lecture note that I have uploaded, could you create

Could you please explain to me why choice B for the third question is not the correct one?

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Take-aways

We/someone teach students to read and write – we should also teach them how to use GAI for **learning**

What should be taught by us/humans – and what can students do on their own with the help of GAI?

If students can use GAI for assignments and exams, so can **we**!

How do we stop students from “cheating”?
pre-course: information post-course: proper exams

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But please...

...do **read** (most of) the reading material

...do use a **human** study buddy

...do show up at lectures and seminars

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And please...

...**DO NOT** use GAI as a “search engine”

...**DO NOT** give out personal or sensitive information

...**DO NOT** use GAI for dealing with personal problems

GAI?

It is a
learning
tool!

GAI?

GAI makes it easier to avoid
learning – but...
when used well, makes it
easier to learn *more*!

GAI?

It is an
exam preparation
tool!

GAI?

Treat it as a tutor
not as a butler!