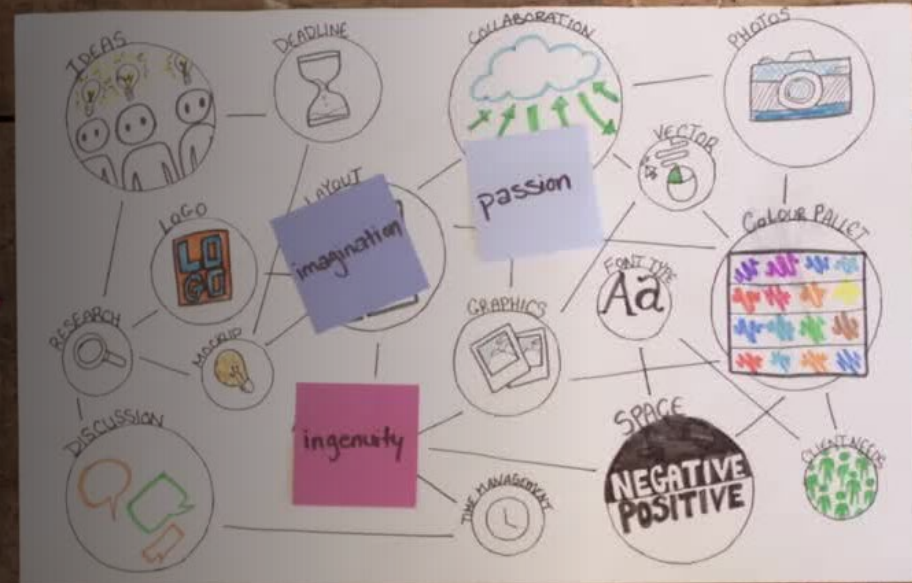


Anything you can do (A)I can do better ...

Why AI teachers will replace human teachers (and why that may not be a bad thing)

- AI & Bloom's central problem of education
- AI & the shadow education system
- AI & autodidacts
- AI, autodidacts & Maisha



Bloom's central problem in education:
"to find methods of group instruction as effective as one-to-one tutoring" (1984).

Benjamin Bloom:

The 2 sigma problem in education

Tutored students perform better in standardized tests than **98%** of students in traditional (**non-tutored**) classrooms.

Example:

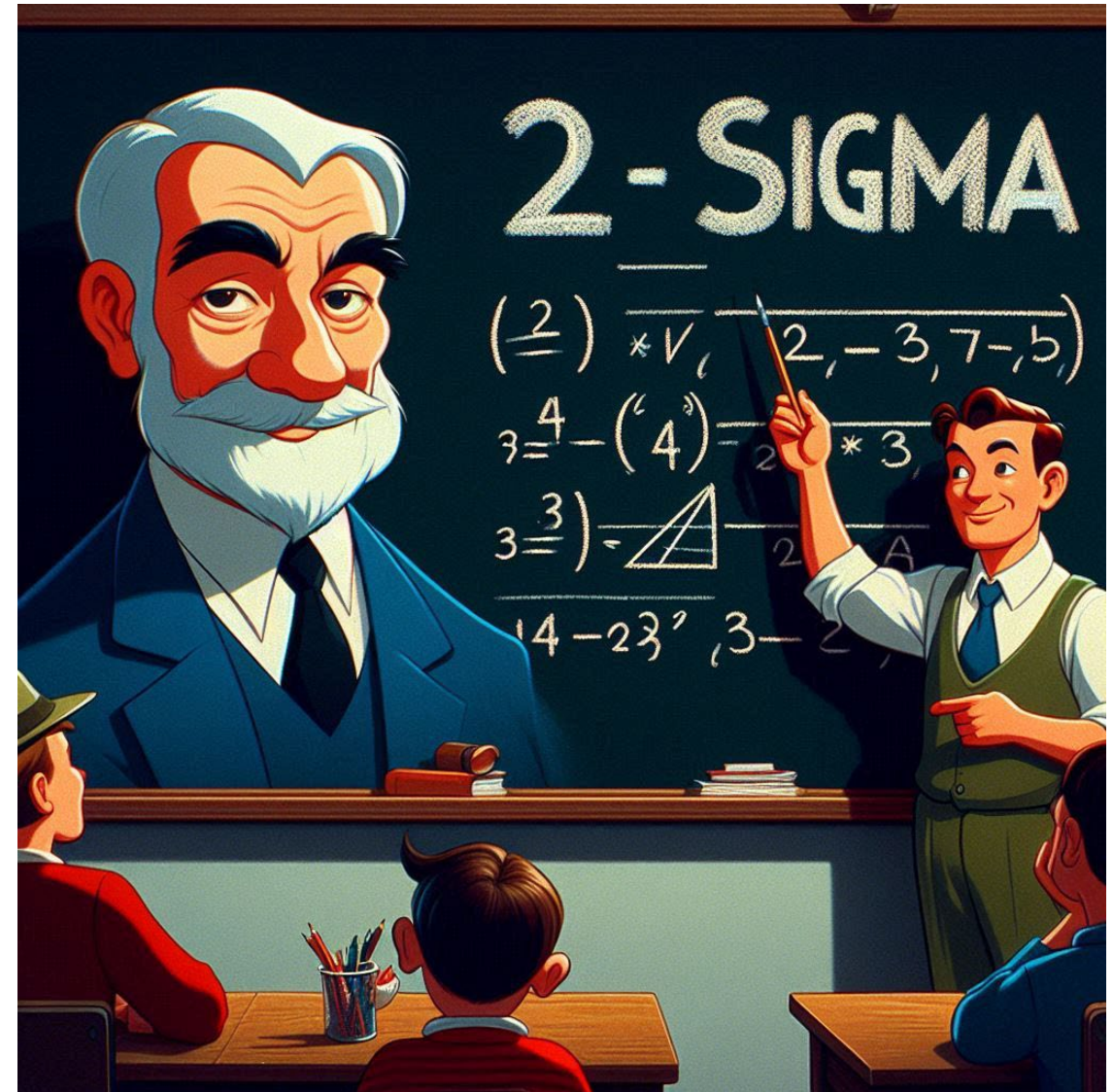
Mean score: 65%

Standard deviation: 10%

2 sigma above the mean: 85%

Benjamin Bloom (1913-1999)

- Educational psychologist, University of Chicago
- Best known: Bloom's Taxonomy of Educational Objectives



AI-generated image: Image Creator in Bing

Bloom, B. (1984). The 2 Sigma Problem: The Search for Methods of Group Instruction as Effective as One-to-One Tutoring.

Educational Researcher, 13(6), 4-16. <https://doi.org/10.3102/0013189X013006004>

Comprehension check

Talk to someone near you for 3:00 minutes (1:00 per question):

- In your own words, what is Bloom's 2 sigma problem in education?
- Think of a student you know. How **important** do you think the **shadow education** system is in her / his success?
- Greg is giving a presentation on AI. **Why** is he talking about **Bloom's 2-sigma problem** and the **shadow education system**?



AI-generated image: Image Creator in Bing

autodidact

noun (countable); formal

/,ɑːˌtɒsˈdaɪ.dækt/

“a person who teaches herself / himself, rather than being taught by a teacher”

]

Q: What are some things you've **taught yourself**, **without** a teacher?



AI-generated image: Image Creator in Bing

Course cost: QAR2,150

Class timing: Wed, 03:00-06:00 AST

COPILOT

You

Why do I use square brackets instead of round ones in this case?

COPILOT

NOTEBOOK

Try the app

- **Round brackets** `()`: Used to call functions or methods.

Python

```
def greet(name):  
    return f"Hello, {name}!"  
  
greeting = greet('Alice') # Calling the function greet
```

AI-generated code. Review and use carefully. [More info on FAQ.](#)

So, when you want to access an element in a list, you use square brackets to specify the index of the element you want to retrieve. If you were to use round brackets, Python would think you're trying to call a function, which would result in an error.

Does that help clarify things? If you have more questions about Python or anything else, feel free to ask!



GREG: ENROLLED IN A COURSE IN PYTHON
COMPUTER PROGRAMMING LANGUAGE;
ENCOUNTERING AN ERROR IN HIS CODE

AI-generated image: Image Creator in Bing

Meet: Maisha

- Engineering student
 - Single parent
 - Part-time work: 20 hours / week
- Course: Engineering Statics
 - 3 lecture hours per week
 - 400+ students
 - Tutorial: limited slots
 - “Office hours”



Meet: Maisha *now*

- LMS customizes course materials
 - Based on interactions
- AI tutor customized for 1st year Engineering
 - Prof: aggregate reports with key review teaching points
- Student Success department
 - Aggregate reports
- Virtual reality lab
 - customized learning
 - gamification



EDUC 211

Introduction to Academic Writing in Education

- *Online course*
- *1st year undergraduates*
- *Rural & remote learners*
- *High stakes (compulsory program requirement)*

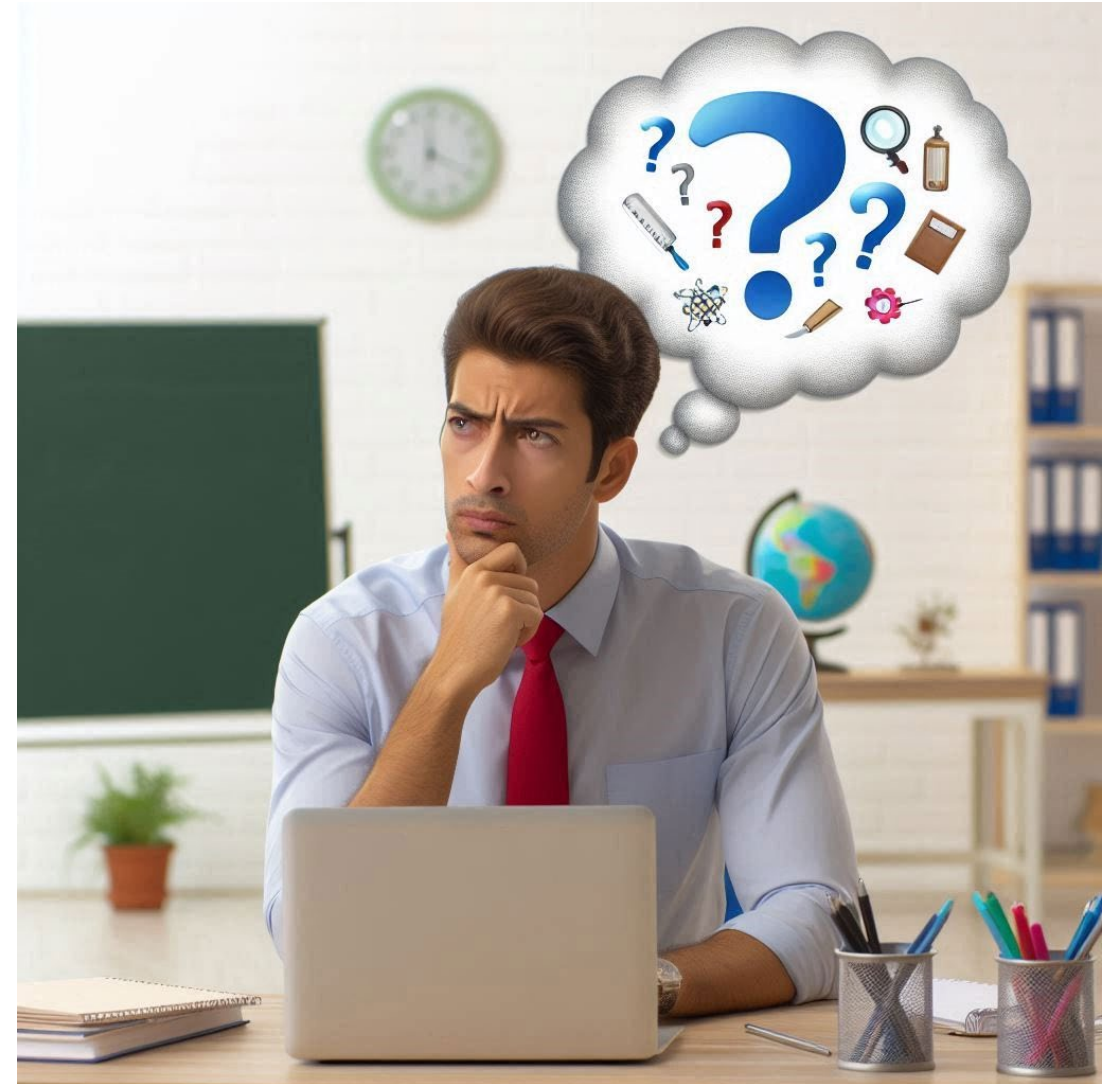
CASE STUDY

Greg's wicked assessment problem

In the era of Large Language Models and other AI tools, how do I assess improvement in online students' academic writing????

wicked problems (Rittel & Webber, 1973)

- complex issues in social planning and policy that are difficult or impossible to solve due to incomplete, contradictory, and changing requirements



AI-generated image: Image Creator in Bing

EDUC 211 – WICKED PROBLEM(S)

Assess the quality and depth of learning, rather than the written output

 Poe
<https://poe.com>

Poe - Fast, Helpful AI Chat

WEB Poe lets you ask questions, get instant answers, and have back-and-forth conversations with AI. Gives access to GPT-4, gpt-3.5-turbo, Claude from Anthropic, and a variety of other bots. T...

Gpt-4

Powered by OpenAI's GPT-4 Turbo with Vision. Outperforms GPT-3.5 in quantita...

Claude-Instant

Claude-Instant - Poe - Fast, Helpful AI Chat

Contact

Contact - Poe - Fast, Helpful AI Chat

About

About - Poe - Fast, Helpful AI Chat

Aicharmaker

Aicharmaker - Poe - Fast, Helpful AI Chat

Chatchatopenai

Chatchatopenai - Poe - Fast, Helpful AI Chat



For the win: Rapper **Snoop Dogg** body slams The Miz at Wrestlemania 39 (April 2023)

[example: Poe Grammar Slammar query](#)



Test drive

- *You are a first-year university student.*
- *What writing question will you ask the Snoop Dogg Grammar Slammer chatbot?*