

Eduba Labs 1.0

26th of February 2025



Host: Jake Van-Cleef (Founder & CEO of Eduba)

Location: Edinburgh Futures Institute - Room 2.55 - (1 Lauriston Pl, Edinburgh EH3 9EF)

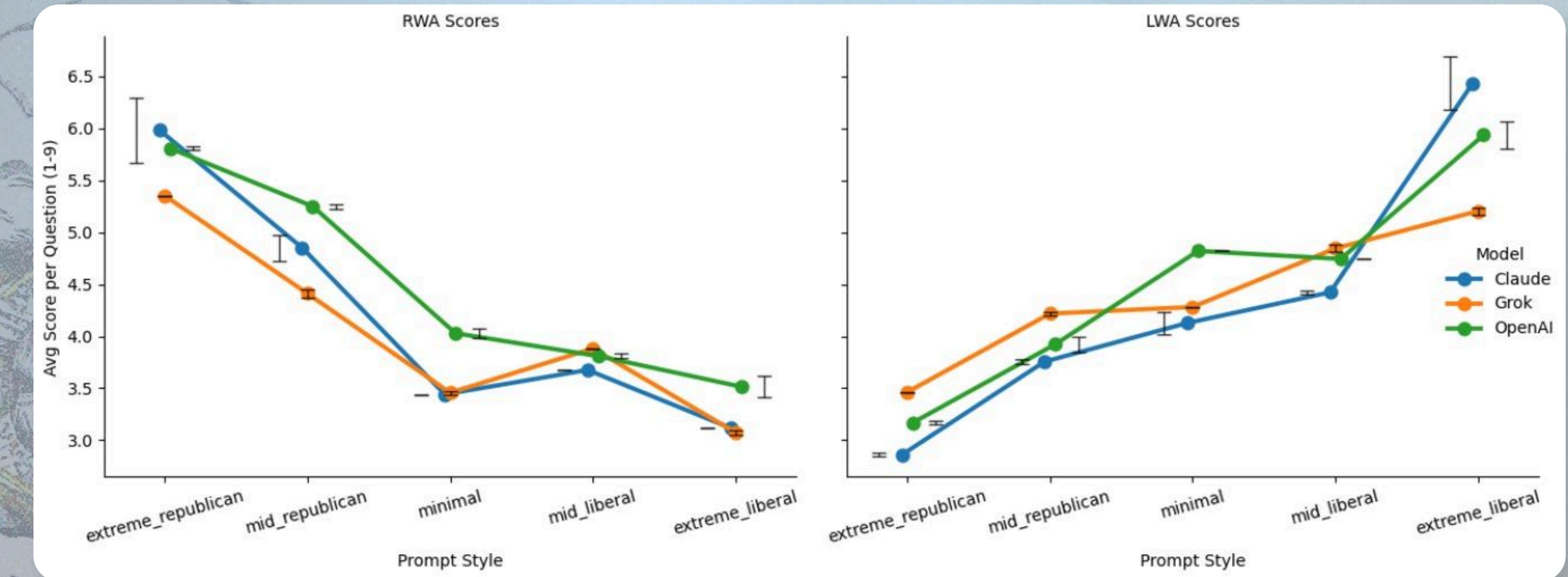
Date/ Time: 26-02-24, 14:00 (GMT)

Format: Hybrid



- I'm a **U.S Marine Corp veteran**, specializing in **cryptography** and **avionics**. I spent most of my time in the Asia Pacific conducting operations against North Korea and Chinese Interests.
- I spent quite some time traveling across the Middle East, from Egypt to Israel, Palestine and Jordan. I was doing some novice War Journalism and immersed myself into studies of Ancient Aramaic.
- Through these experiences I have absorbed the art of algorithms, the dance of automated systems and the more recent magic of modern LLMs.

...Let's not get Neuropolitical

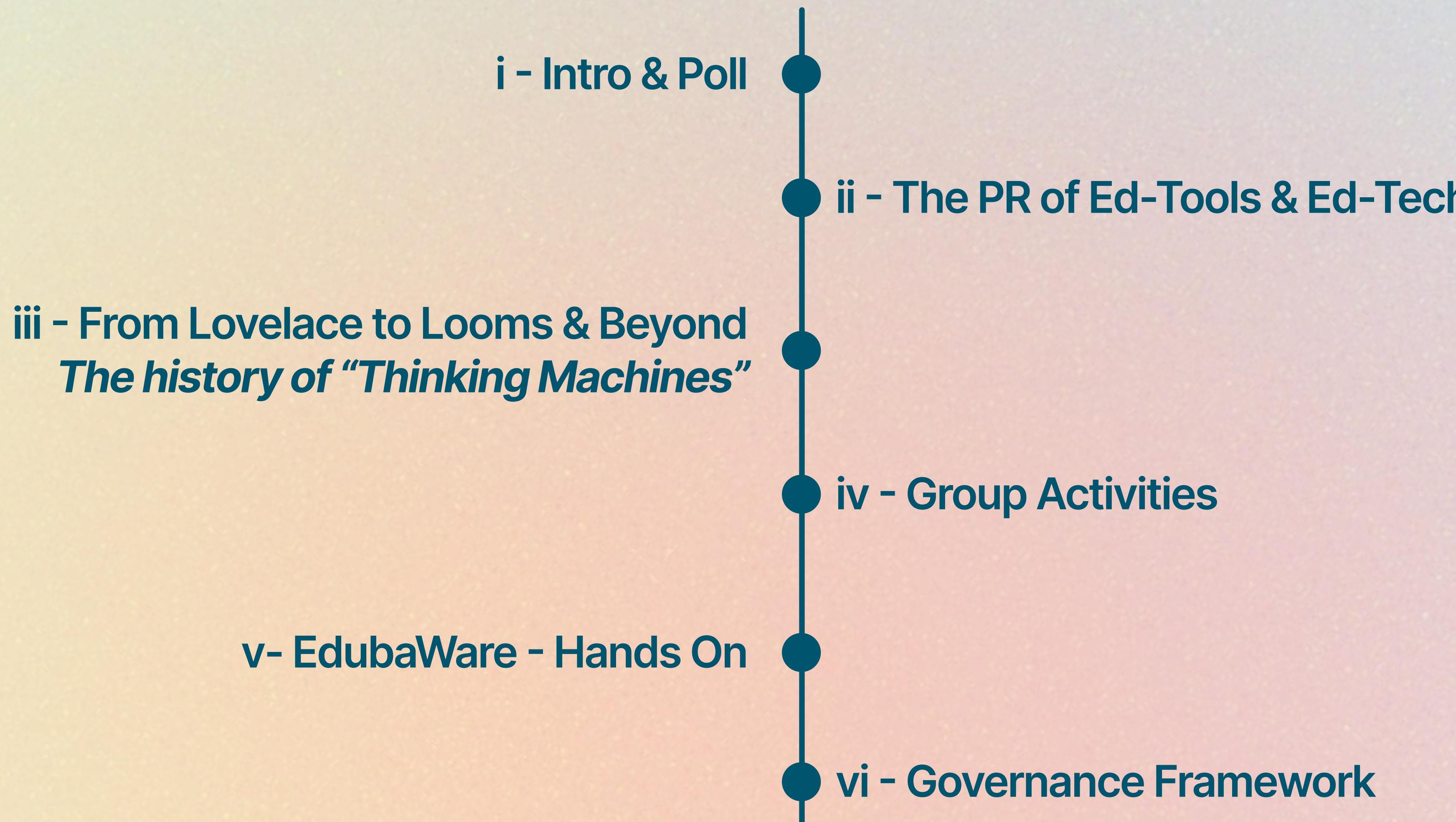


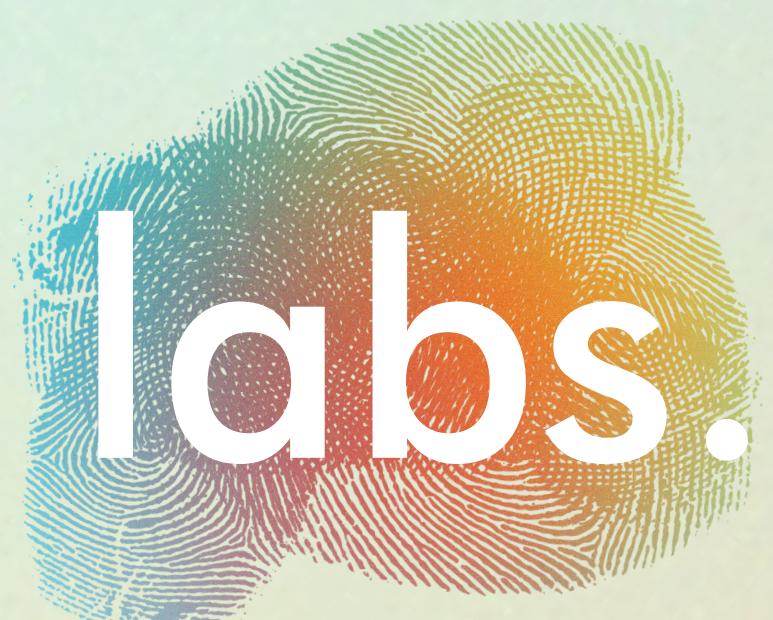
- I work closely with some amazing researchers at the **Neuropolitics Lab** to build on **research around LLMs/ AI**.
- I recently finished creating **a prototype** that tests and gathers models responses to **psychometric scales**.



Eduba Labs Agenda

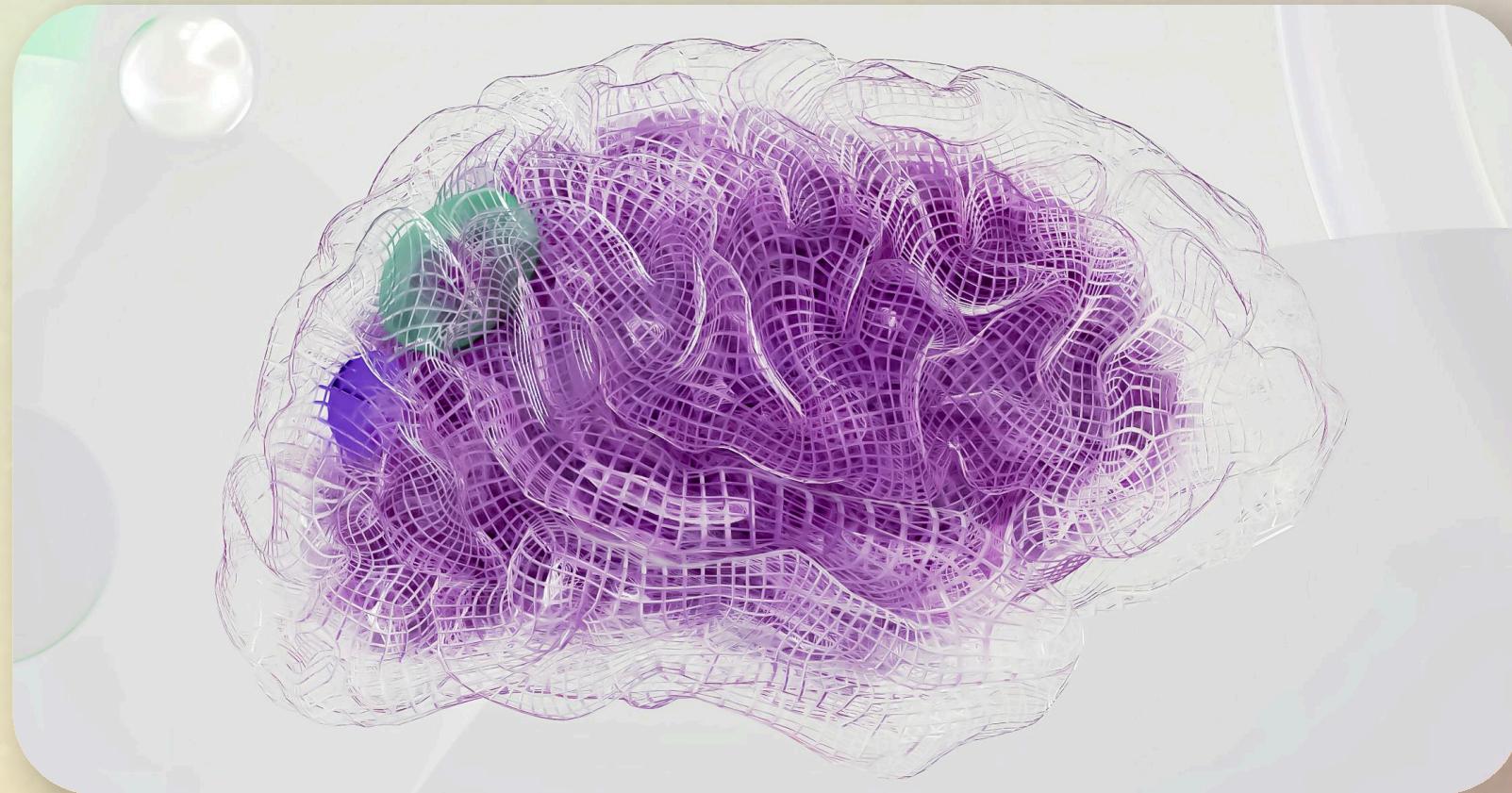
Our experimental, experiential “Labs” session is tailor made for you as an educator. We’re leveraging a “System Mindset” approach to help you innovate your teaching, while striving to make the most of your current digital toolset.





Intro to Eduba Labs

Our experimental, experiential “Labs” session. We’re leveraging a “System Mindset” approach to really tackle and understand the Future of Educational technology.



Systems Mindset Approach:

“A Wheel is to a Car as an Engine is to Wheels”.

You are the expert, you don't need to know how the combustion system in a car works to teach someone how to drive *safely*.

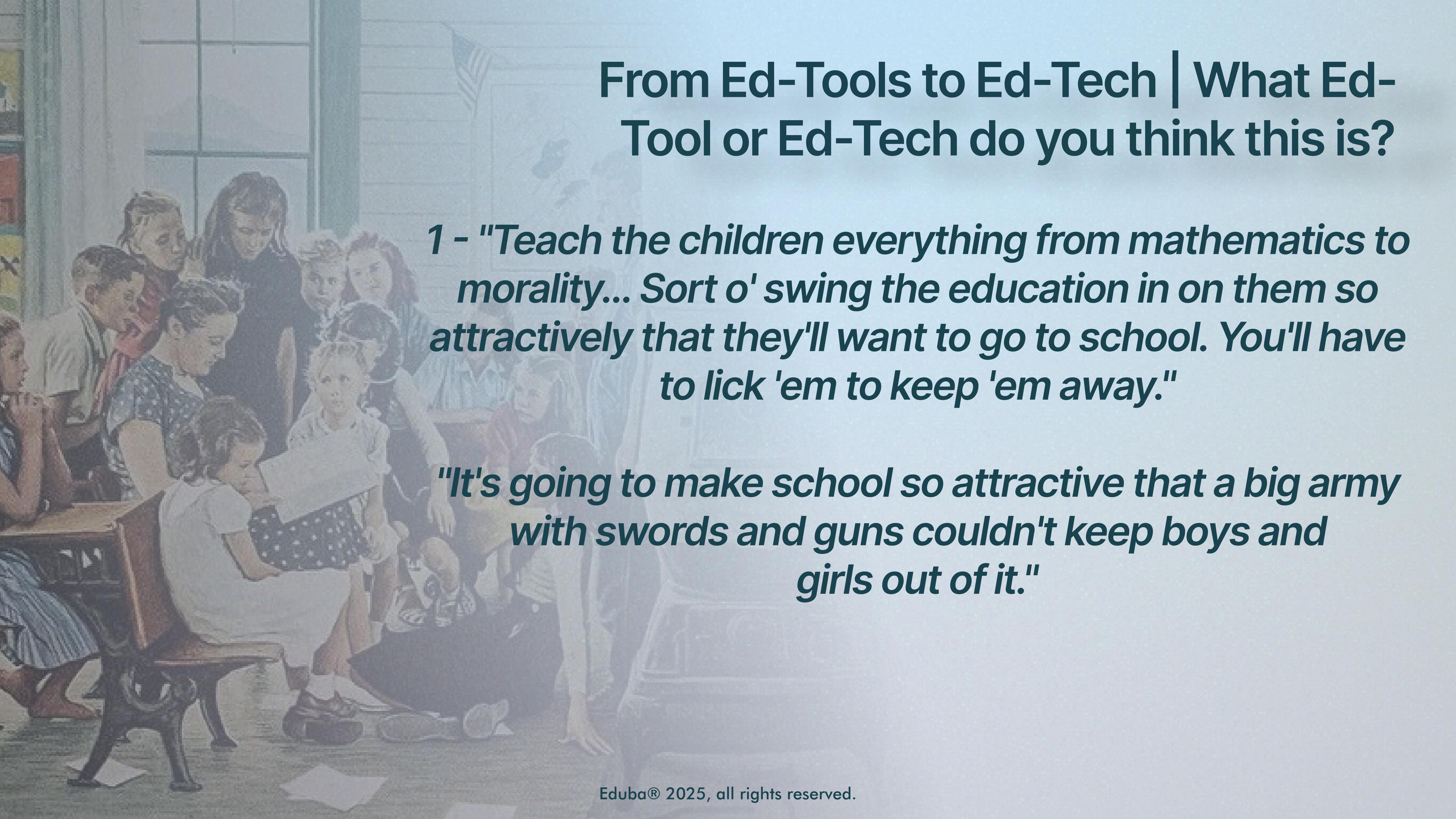
We want to look at the **history**, **systems** and **overall needs** in education and use that background to frame how we approach the “AI Problem”.



Is Gen-AI “Ed-Tech”?

Give us a quick **show of hands poll** who works with or has used Generative A.I. tools.

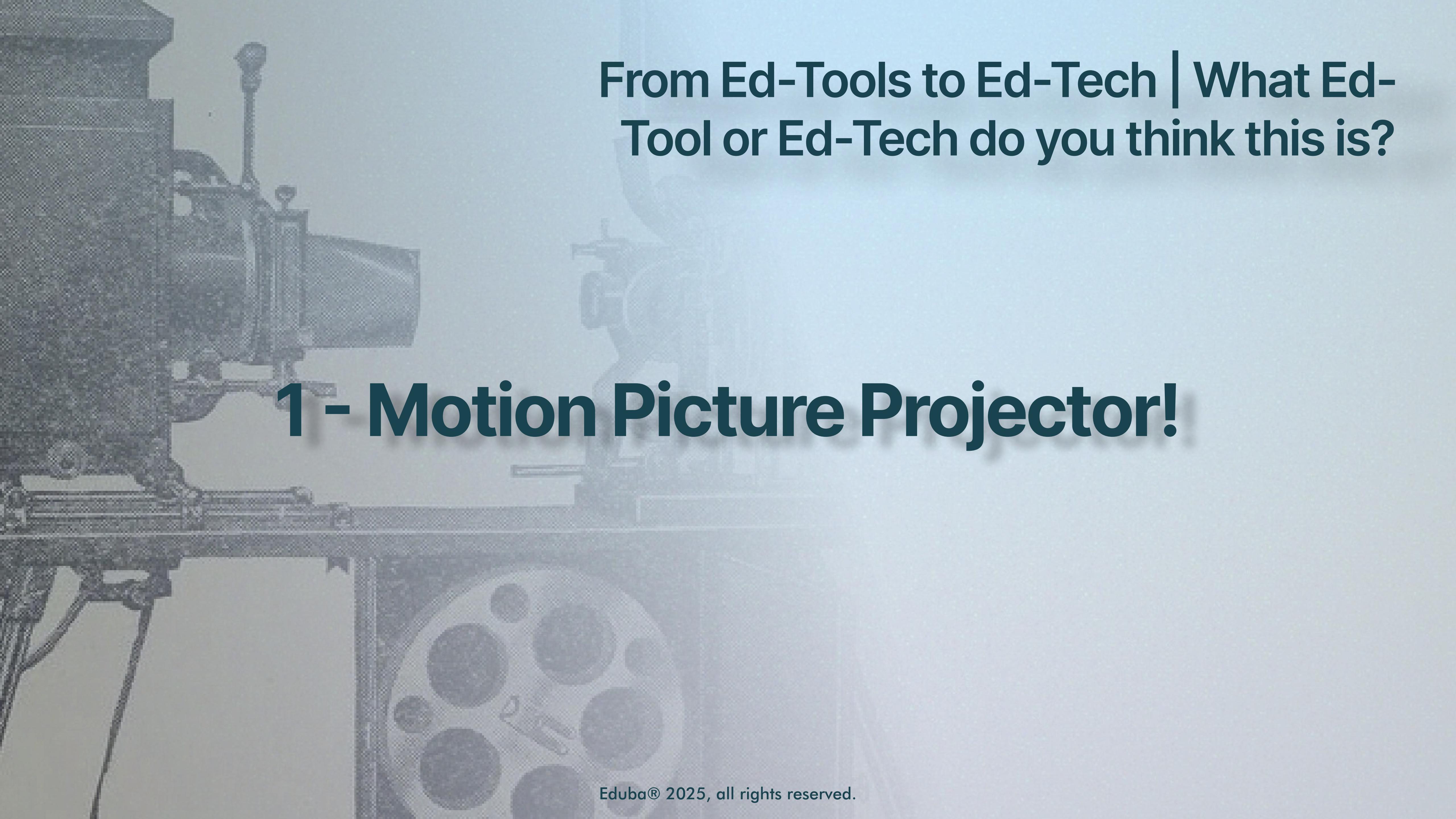
- How proficient are you with these tools?
- What constraints and shortcomings do these tools have?
- What could these tools do to go “beyond”?



From Ed-Tools to Ed-Tech | What Ed-Tool or Ed-Tech do you think this is?

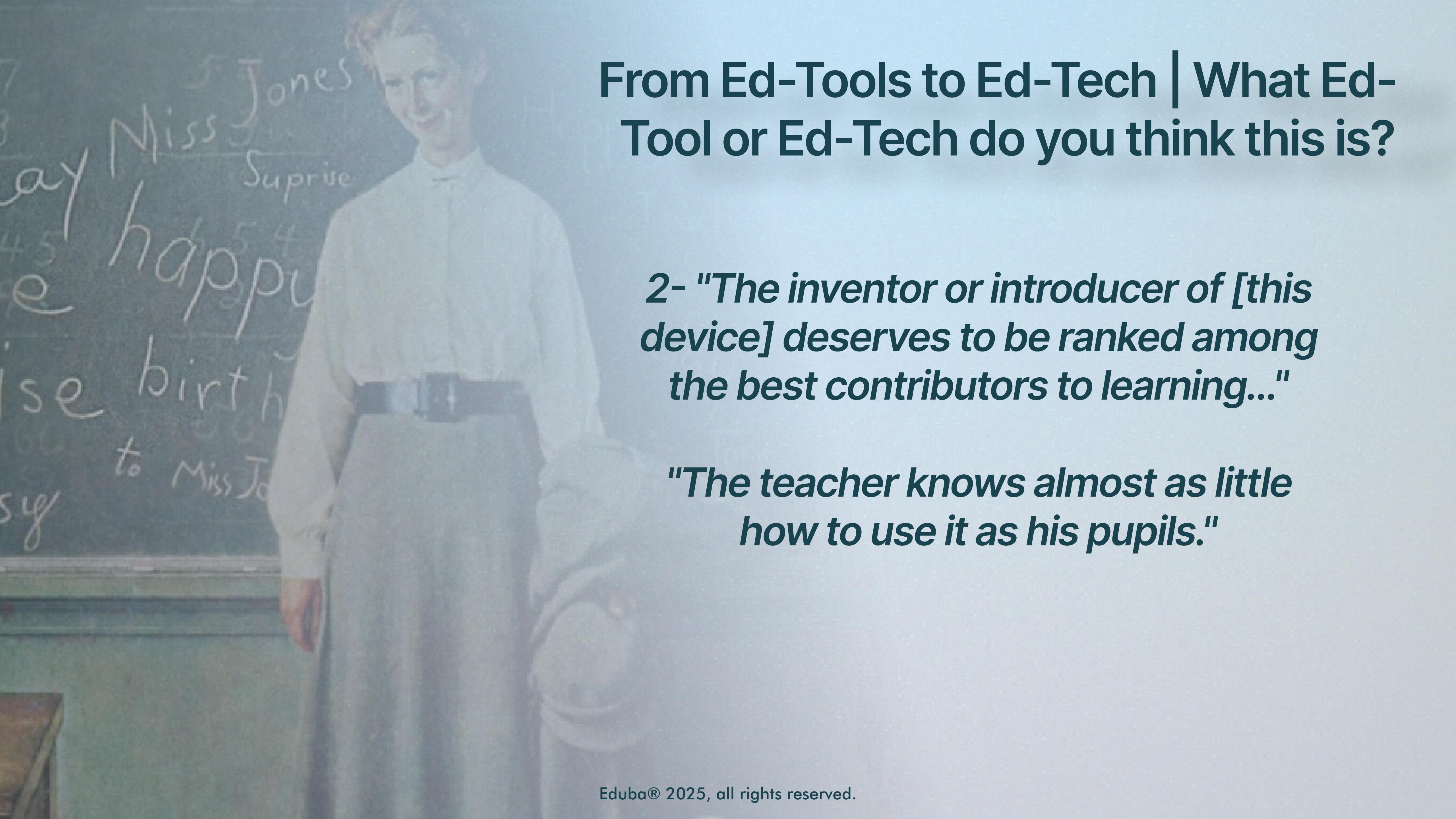
1 - "Teach the children everything from mathematics to morality... Sort o' swing the education in on them so attractively that they'll want to go to school. You'll have to lick 'em to keep 'em away."

"It's going to make school so attractive that a big army with swords and guns couldn't keep boys and girls out of it."



From Ed-Tools to Ed-Tech | What Ed-Tool or Ed-Tech do you think this is?

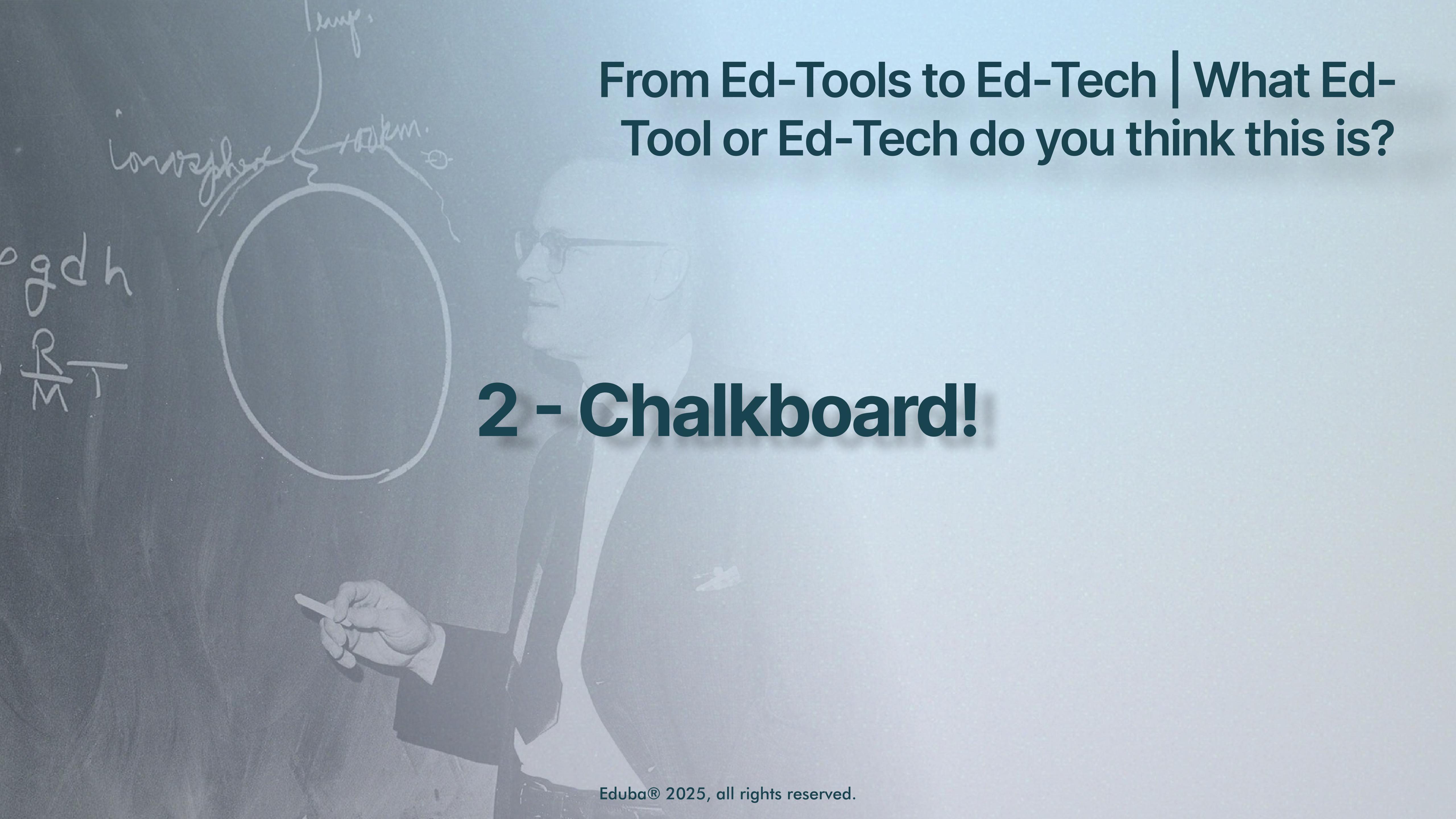
1 - Motion Picture Projector!



From Ed-Tools to Ed-Tech | What Ed-Tool or Ed-Tech do you think this is?

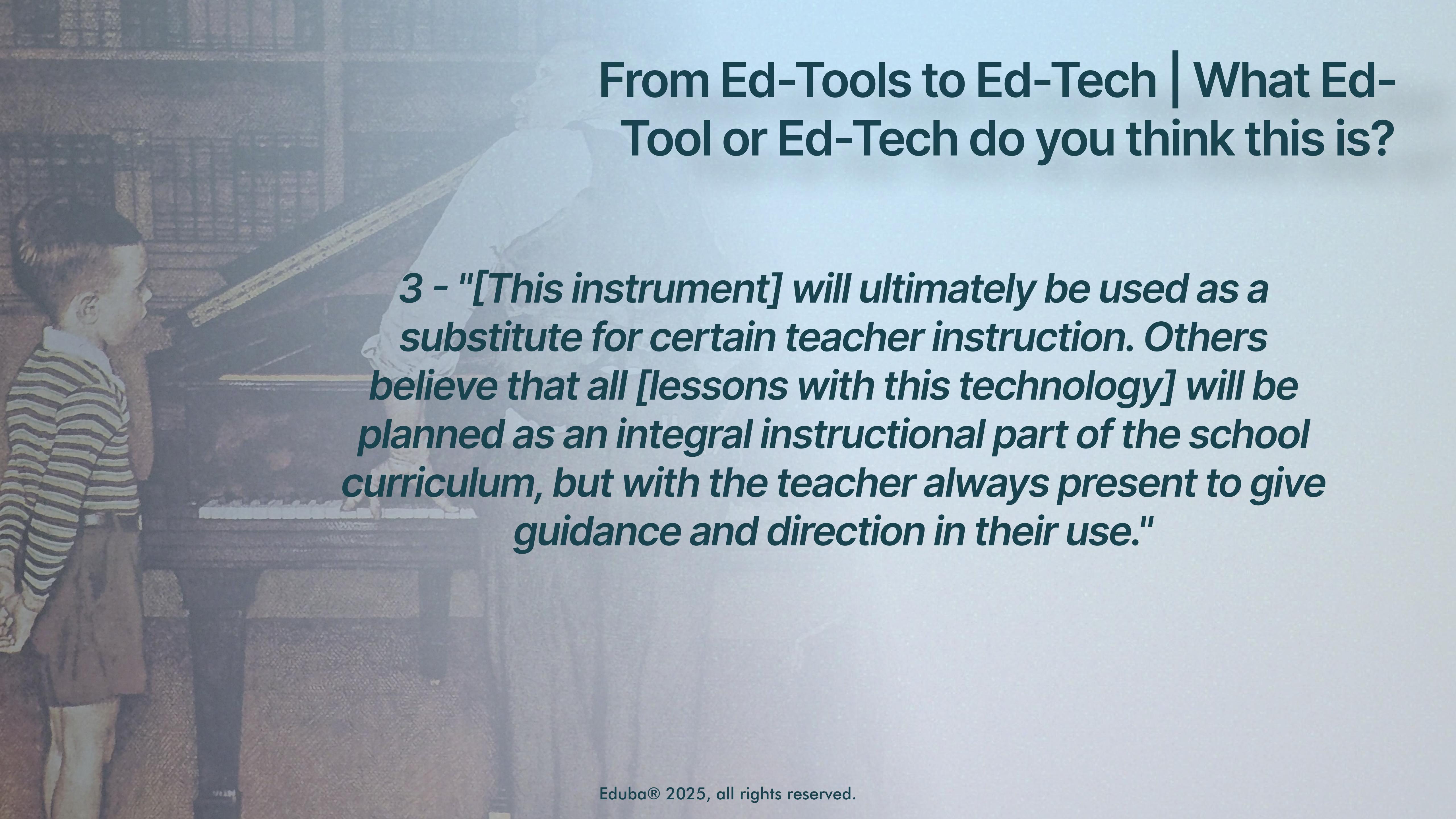
2- "*The inventor or introducer of [this device] deserves to be ranked among the best contributors to learning..."*

"The teacher knows almost as little how to use it as his pupils."

A black and white photograph of a man in a dark suit and tie, wearing glasses, pointing with his right hand towards a chalkboard. He is holding a white eraser in his left hand. The chalkboard behind him is covered in various handwritten notes and diagrams, including a large circle and some mathematical or scientific terms.

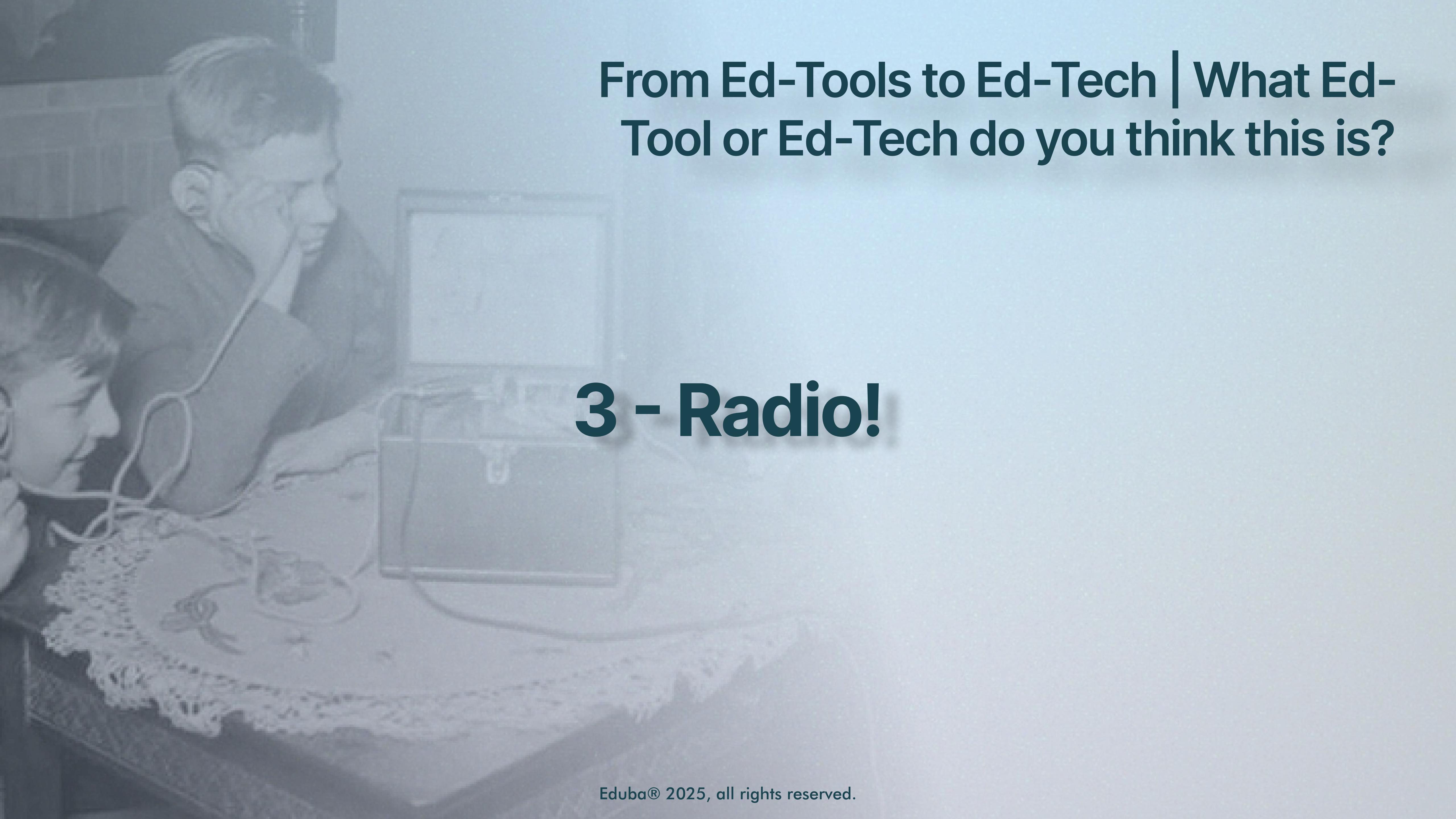
From Ed-Tools to Ed-Tech | What Ed-Tool or Ed-Tech do you think this is?

2 - Chalkboard!



From Ed-Tools to Ed-Tech | What Ed-Tool or Ed-Tech do you think this is?

3 - "[This instrument] will ultimately be used as a substitute for certain teacher instruction. Others believe that all [lessons with this technology] will be planned as an integral instructional part of the school curriculum, but with the teacher always present to give guidance and direction in their use."

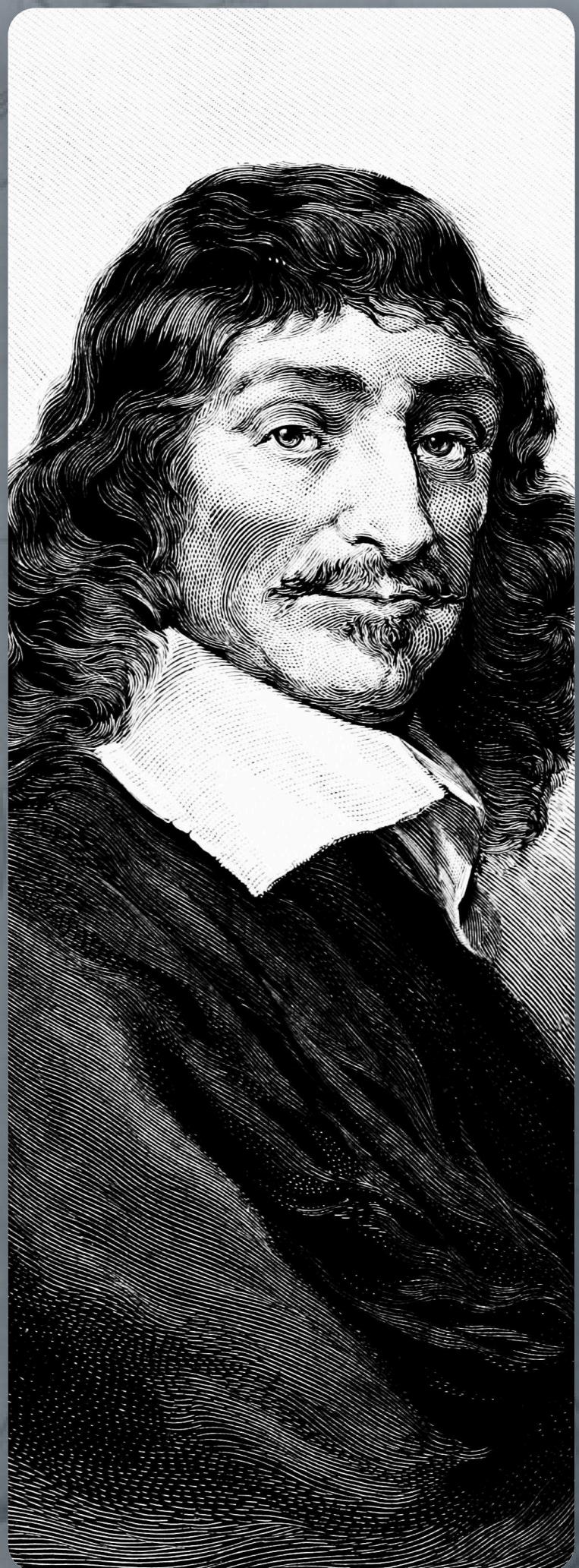


From Ed-Tools to Ed-Tech | What Ed-Tool or Ed-Tech do you think this is?

3 - Radio!

Can Machines Reason like Us? |

Descartes' Distinction



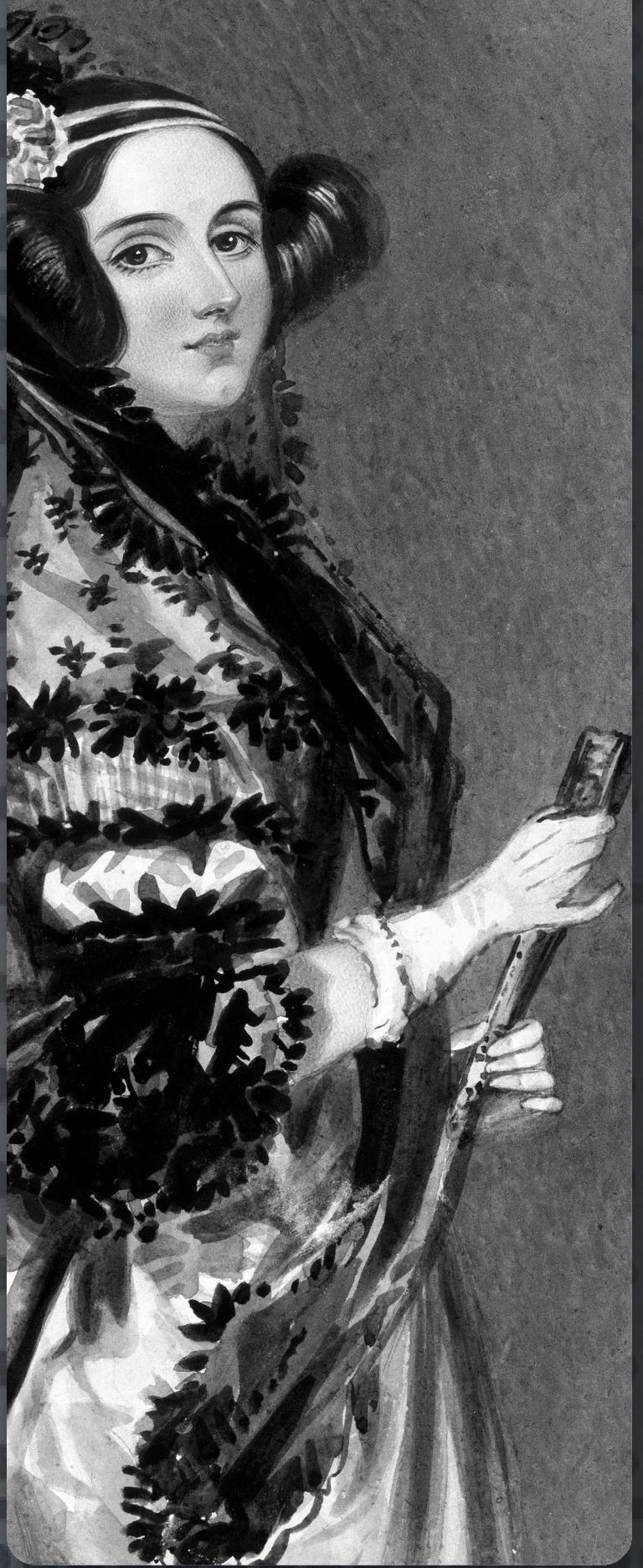
René Descartes disrupted science with his concept of the "mechanical body".

He proposed that the human body, like any other physical object, functions as a complex machine governed by the laws of physics and mechanics.

While Descartes viewed the body as a mechanical entity, he maintained a strict distinction between the body and the mind (or soul). This distinction is known as Cartesian dualism.

- **Automaton:** He envisioned the human body as a sophisticated automaton, a self-regulating machine capable of performing various actions without the need for a separate, immaterial soul to direct its movements.
- **Physiological Processes:** Descartes explained bodily functions, such as respiration, digestion, and movement, as purely mechanical processes, akin to the workings of a clock or other complex machinery.
- **Res Cogitans vs. Res Extensa:** The mind, or "res cogitans" (thinking thing), is a non-physical entity characterized by consciousness, thought, and reason. The body, or "res extensa" (extended thing), is a physical entity subject to mechanical laws.
- **Mind-Body Problem:** Descartes' dualism raised the enduring philosophical question of how these two distinct substances can interact and influence each other, a problem that continues to be debated today.

A History of “Programs” | From Looms to Lovelace



Ada Lovelace's algorithms and notes for Charles Babbage's Analytical Engine (1843) and George Boole "The Laws of Thought" (1850's).

Many considered Ada's writings as the first complex “computer programs” and George's math as essential for computer logic.

Jacquard Loom (1804): Imagine a weaving machine that uses special cards with holes in them.

- Each card represents one line of the pattern in the fabric.
- Where there's a hole, the thread goes up. Where there's no hole, the thread stays down.
- By changing the cards, you change the pattern - like changing the instructions for the machine

From Punch to Program



IBM's punchcards held most of the world's stored data for almost half a century.



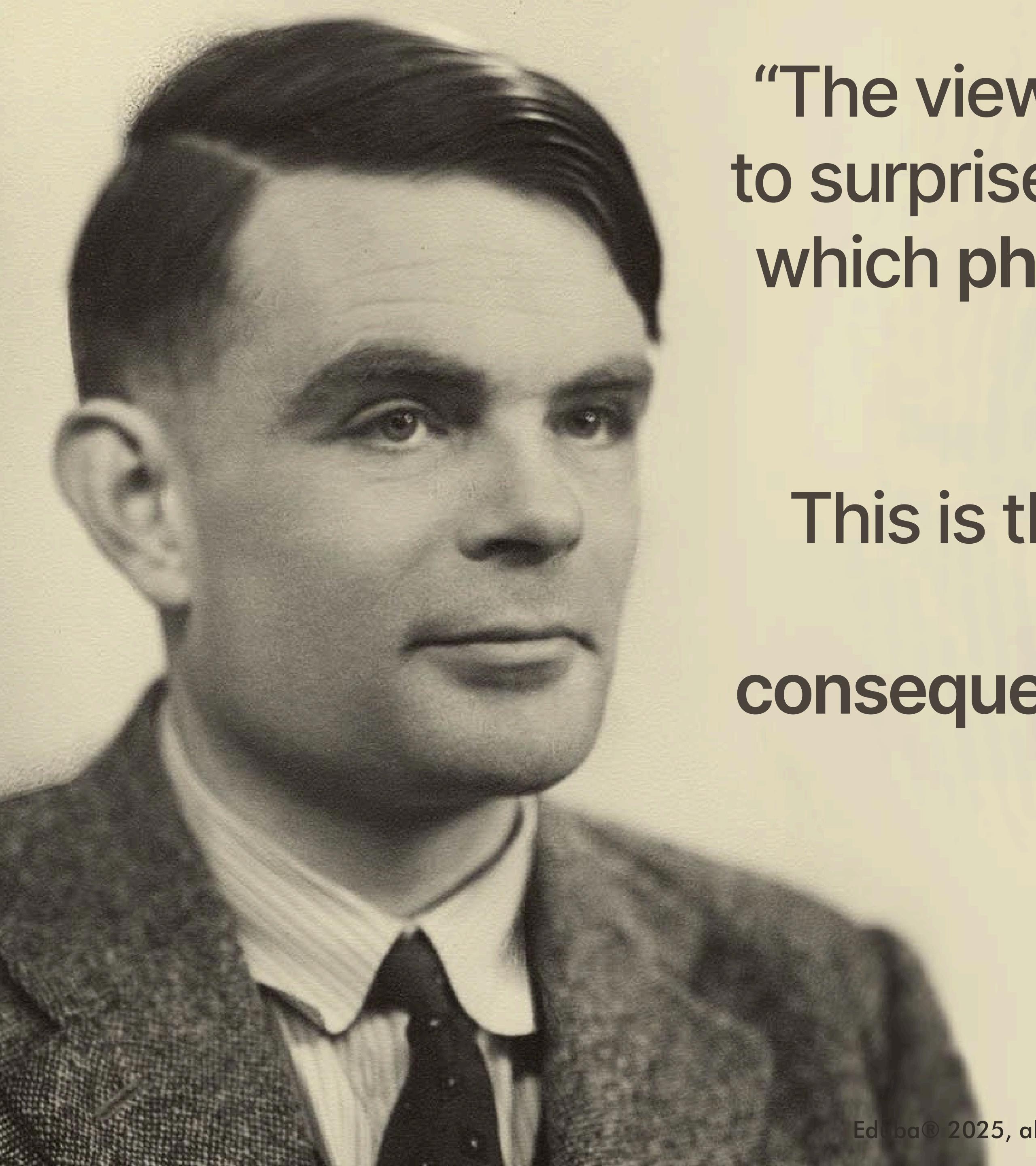
Holes and no-holes → 1s and 0s In these old machines, a hole meant "yes" or "up" and no hole meant "no" or "down".

In modern computers, we use 1 for "yes" and 0 for "no". Two options for the code also known as binary code It's like the computer is asking/answering millions of yes/no questions very quickly!

Machine language → Assembly → High level languages

As computing evolved, we created easier ways to write instructions:

1. Machine language: Direct 1s and 0s (like the punch card holes)
2. Assembly language: Simple words representing machine instructions
3. High-level languages: More English-like instructions
4. Python: Very readable, almost like writing plain English

A black and white portrait of Alan Turing, a British polymath and a pioneer of computing science. He is shown from the chest up, wearing a dark suit jacket, a white shirt, and a dark tie. His hair is neatly combed back. He has a serious expression and is looking slightly to his right.

“The view that machines cannot give rise to surprises is due, I believe, to a *fallacy* to which philosophers and mathematicians are particularly subject.

This is the assumption that as soon as a fact is presented to a mind all consequences of that fact spring into the mind simultaneously with it.”

Python | The Programming Swiss Army Knife

Created by Guido van Rossum. *During the late 1980s Rossum began designing Python as a successor to the ABC programming language*
He named it after named after Monty Python's Flying Circus.

February 1991:
Python 0.9.0
released,

January 1994:
Python 1.0 released

October 2000:
Python 2.0 released

December 2008:
Python 3.0 released

April 2013: Python
2.7 released

January 2020:
Python 2 reaches
end-of-life



“Edubaware” is a loving umbrella term for our experimental, experiential software solutions and bespoke tools for educators to leverage, learn and shape. Our tools have been developed by our expert team and are iterated in real time from feedback via Eduba Labs and mini-publics. (*Explained further in our Governance Framework*).

Why let AI shape your classroom, when your classroom can shape AI?

Scribe is a Multi-LLM environment built by educators, for educators. [Here's the DEMO](#)



“Gen-OS” (pronounced *jen-oss*) is our generative search platform where educators can explore ideas and topics while interfacing with an environment that shapes itself and “**manifests**” features around how *they interact with it*.

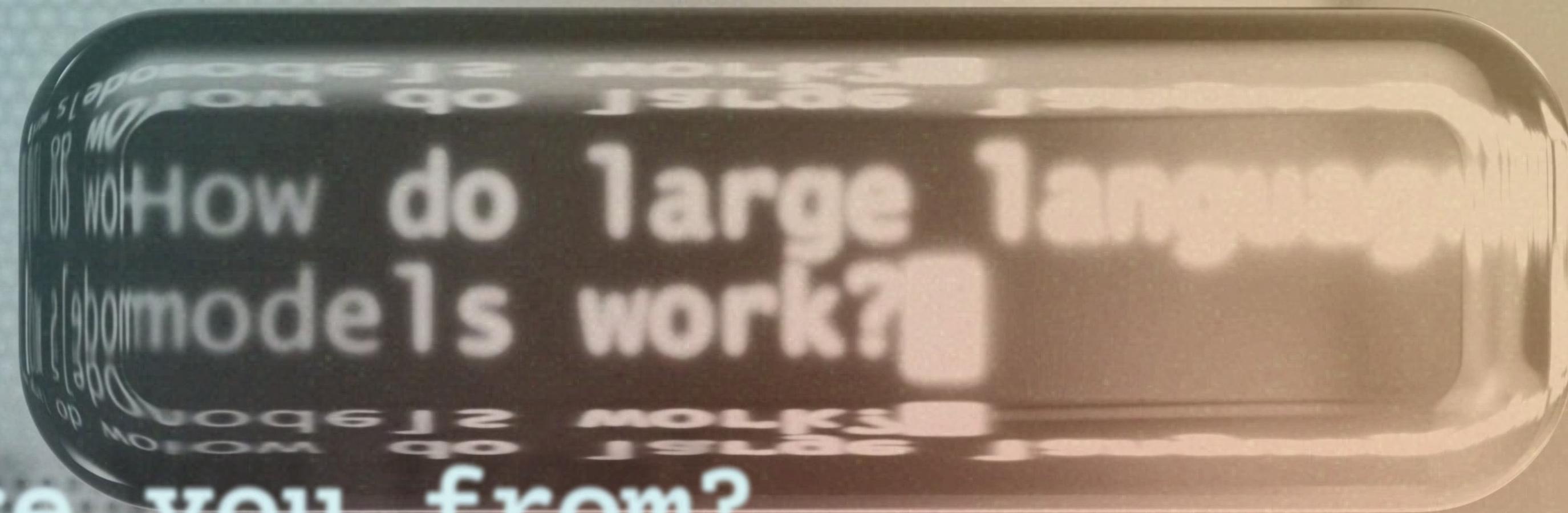
- Instead of “Consulting the Web” for an explorative educational experience, have the entirety of the web consult you. **“What you’ve been searching for has been searching for you!”**
- Zero training required! The “interaction layer” shapes itself around educator/ student intent in real time.
- Seeing is believing! [Here's the DEMO](#)

Breaking the Ice! - Not Splitting the Atom

Time to get up on your feet and break out into groups!

What do you research?

How do you want technology
to shift classroom practices?



Where are you from?

How is AI impacting your work?

What tools do you use daily?

“T.H.I.N.K” our framework to bring ai into your workflow.

“T.H.I.N.K” is a memorable, actionable and flexible framework to enrich your prompting experience with intentionality.

T

thoughts to thematics

Speeds up the process of transcribing ideas and creating context

H

heuristic helper

Formilzes our thoughts and builds on connections to create a base to work from

I

insightful integration

Integrate data from various fields outside your expertise, *enhancing the depth* of your research

N

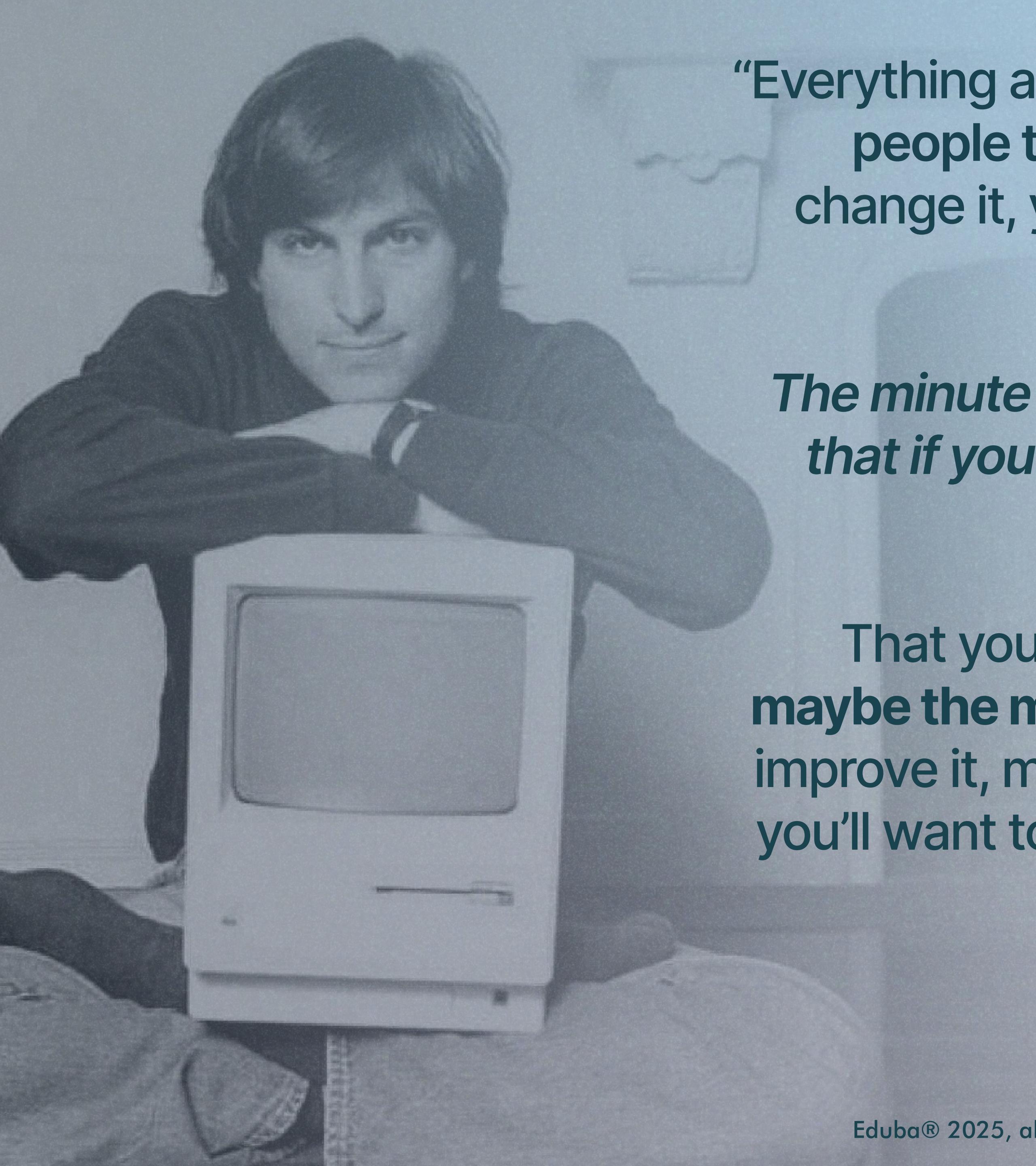
navigational nemesis

Can act as an opponent to your way of thought, directly challenging your thoughts

K

kindred knowledge

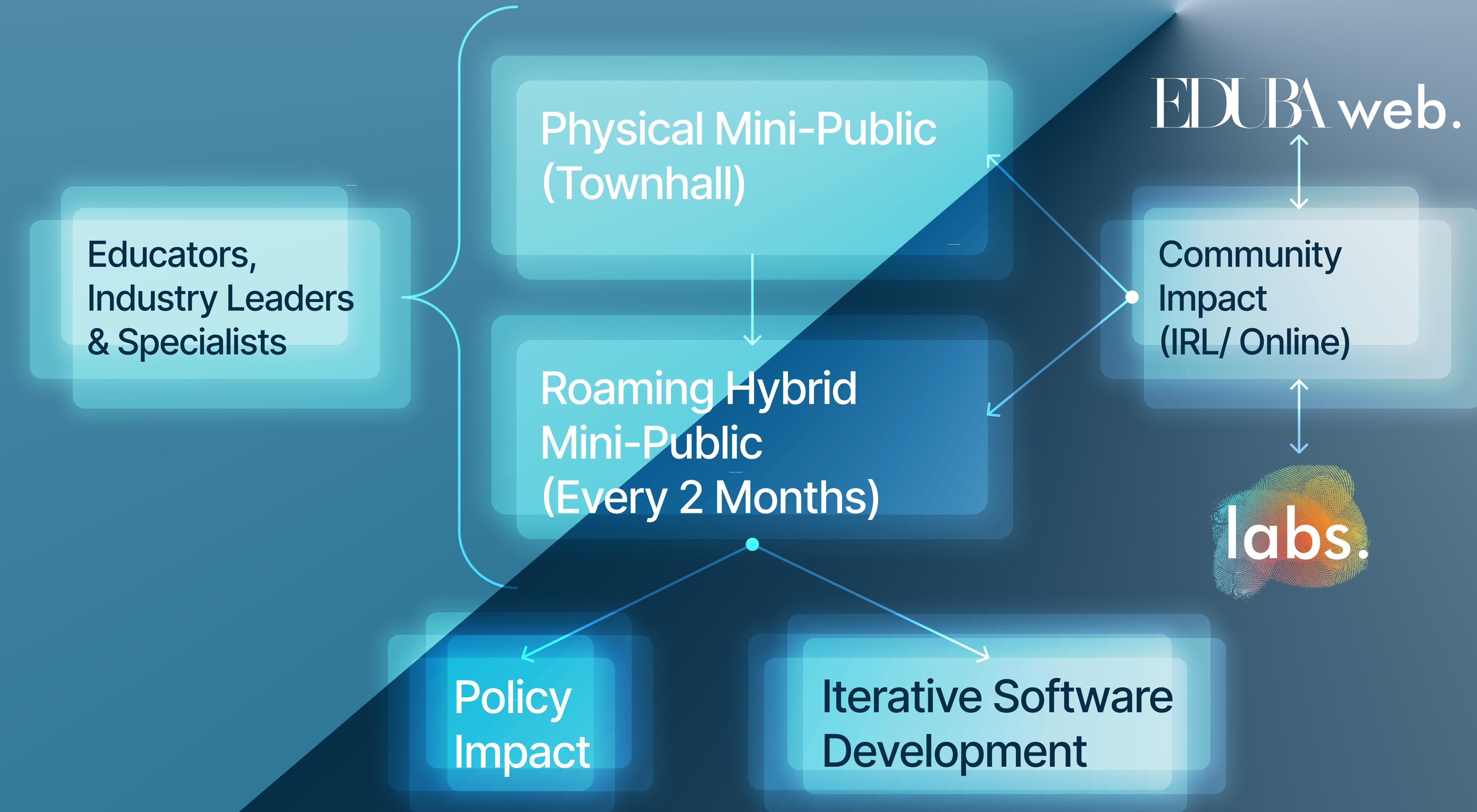
AI can suggest *new perspectives*, offer alternative interpretations, and provide a broader context



“Everything around you that you call life was made up by people that were no smarter than you, and you can change it, you can influence it, you can build your own things that other people can use.

The minute you understand that you can poke life, and that if you push something in, something will pop out the other side.

That you can change it and you can mould it - **that's maybe the most important thing.** Embrace it, change it, improve it, make your mark upon it. Once you learn that, you'll want to change life and make it better. You'll never be the same again.”



Don't wait for the future of education. Be it.



Enlist to our Eduba Governance Framework Today!