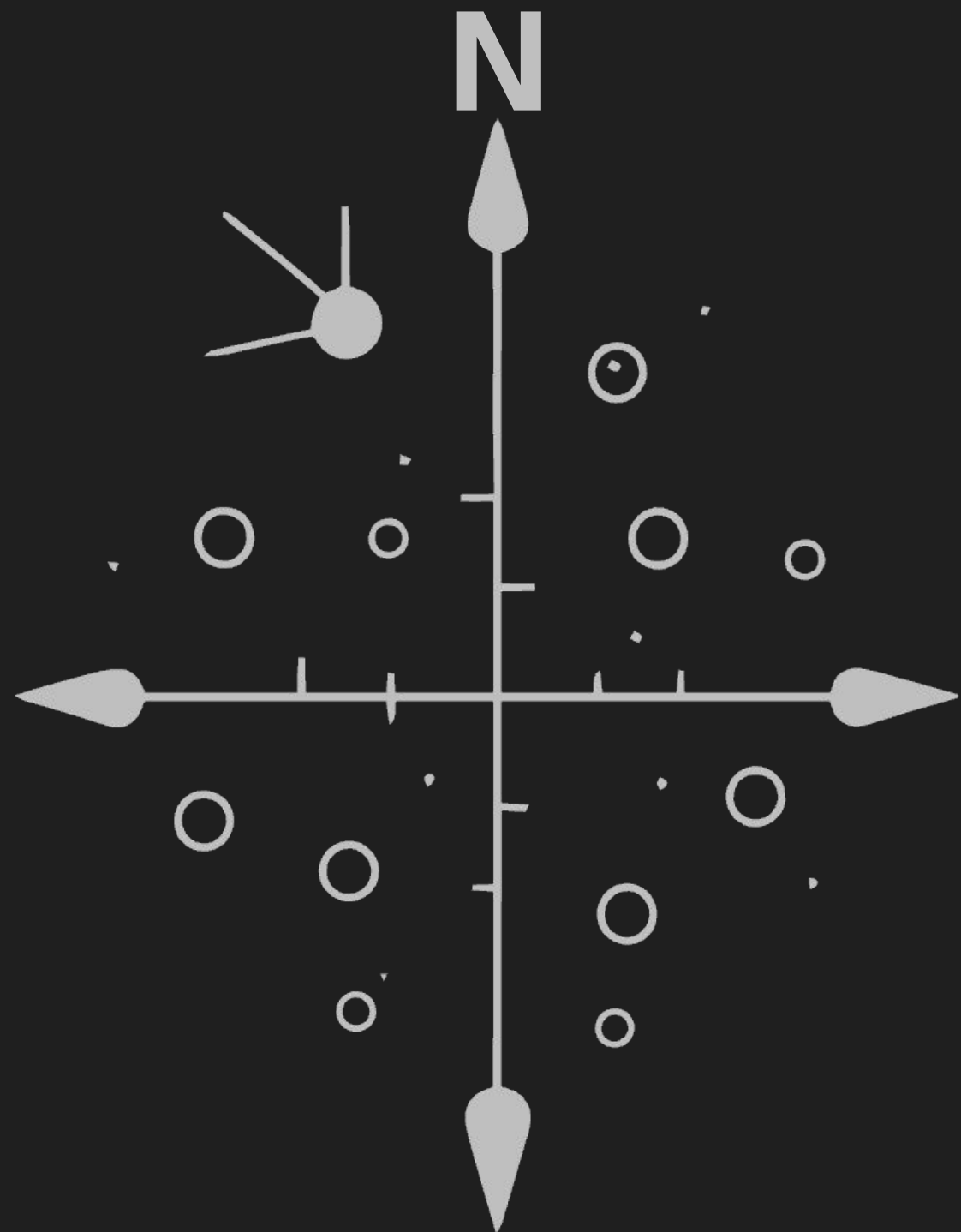




Critical Reader

A ChatGPT-based Contextual
Vocabulary Trainer for Second
Languages

Sean Minton



Meet Your Presenter



Chicago born & raised

Might tell you a lot, without telling you anything



15+ years in education

Various teaching and education adjacent roles



Now in Waikiki


Bringing new methods to Hawaii




Started in China

Lazily stumbling through a necessary language

Some Questions...

 **Learned another language?**

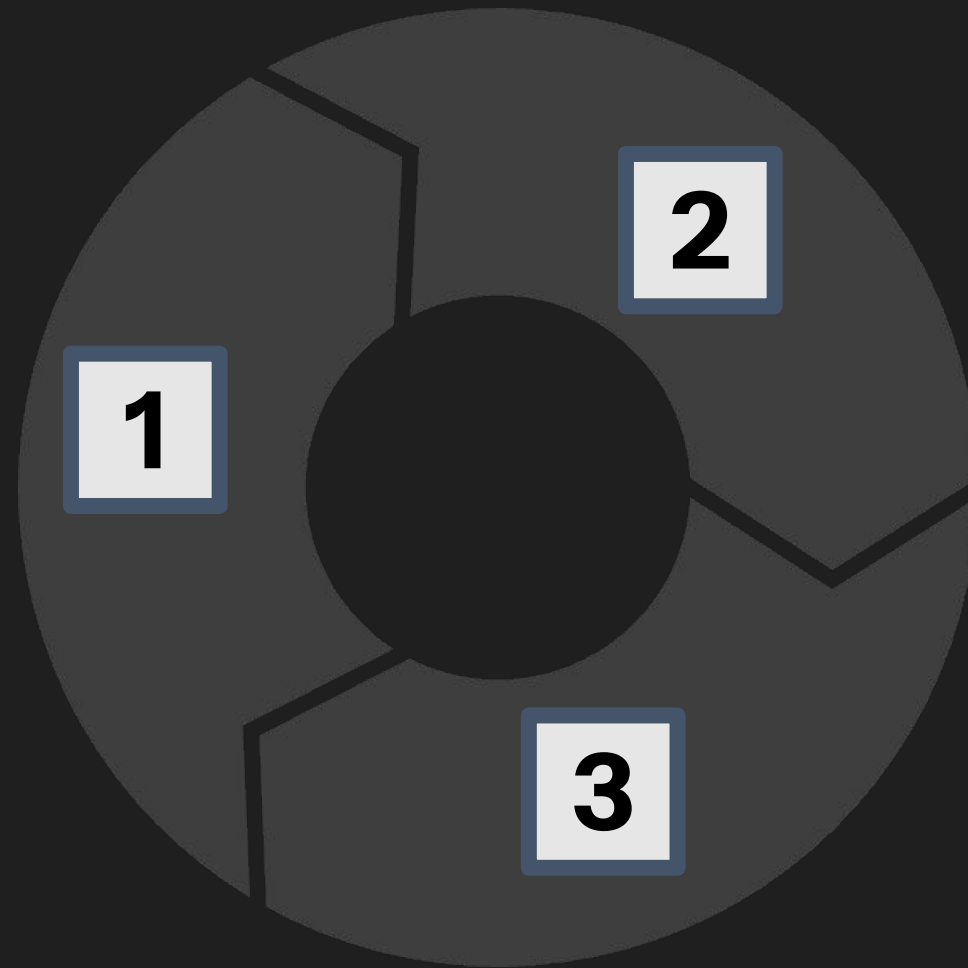
 **Was it difficult?**

 **Was it time consuming?**

How the Process

Works Pre-think

Use current vocab to make **connections** with the topic



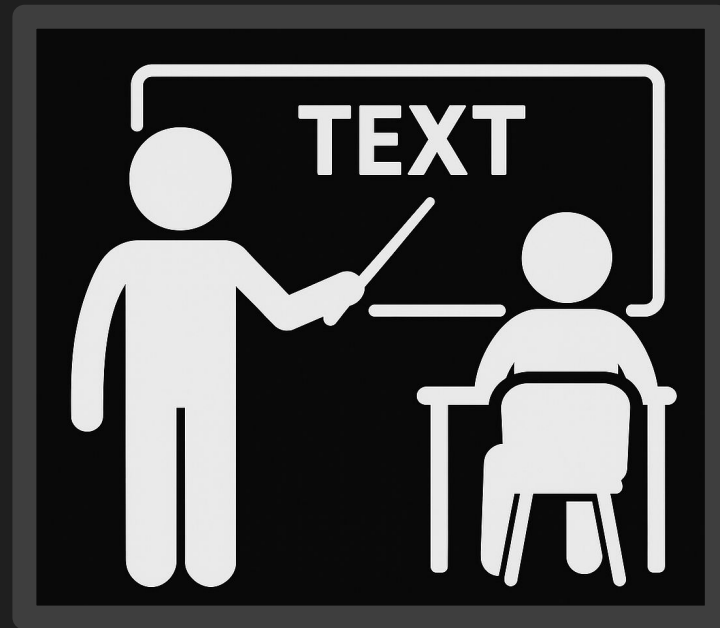
Assume

Make **assumptions** and **rationales** about target vocab

Use

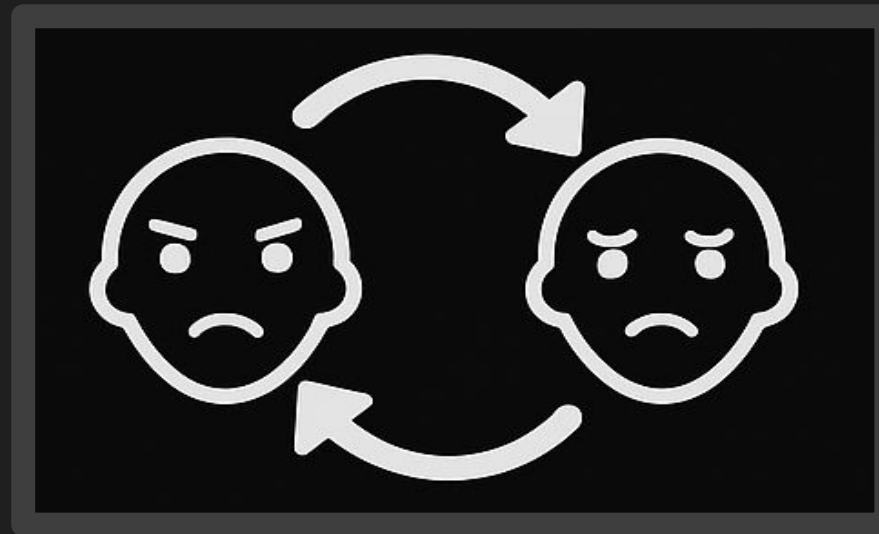
Practice creating **sample** sentences with new vocab

Cool, so... What?



Current Practice

- Taught in class
- Academic content
- Manually counted learner data



Roadblocks

- Rolling admissions
- Difficult to master
- Early, direct feedback is critical



Desired Practice

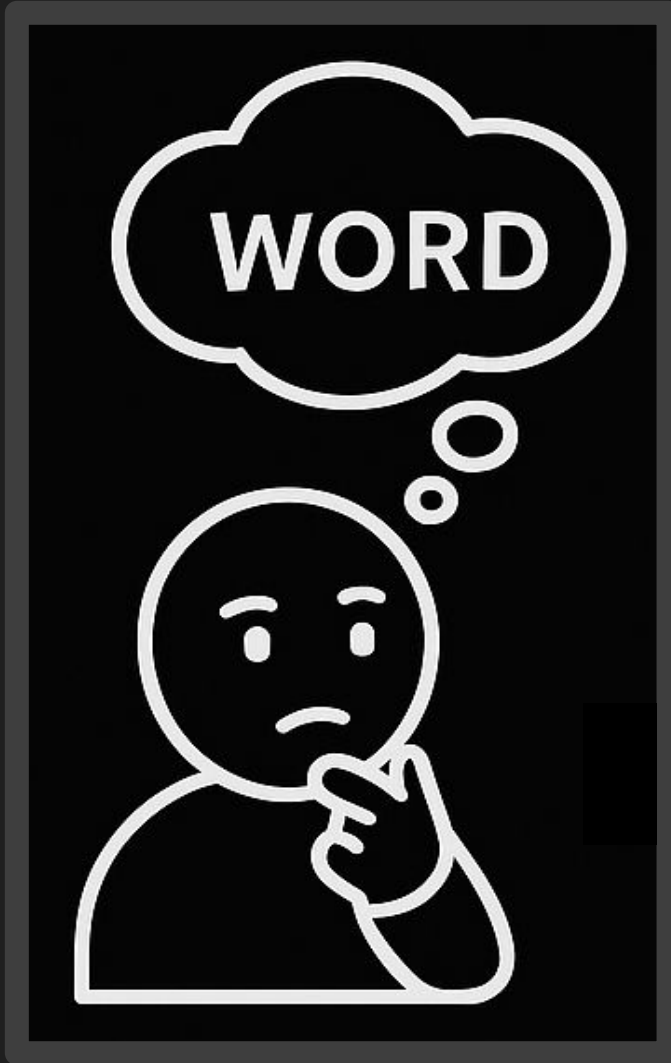
- Learn from anywhere
- Dynamic content
- Automatic learner data

The background features a stylized, dark grey illustration of a desk setup. On the left, a desk lamp with a glowing lightbulb is positioned. In the center, there are several books stacked. On the right, a large pencil stands vertically. The overall aesthetic is clean and educational, with a dark grey color palette.

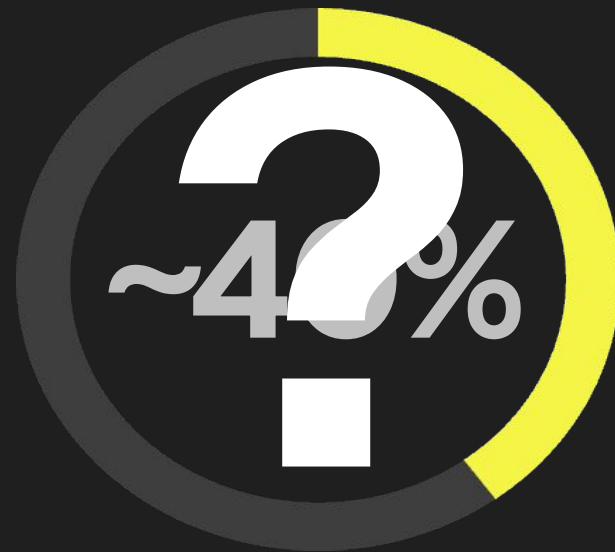
The Solution

A **ChatGPT-based learning and practice tool** that **allows free practice** in this tricky, cognitive exercise

Current State

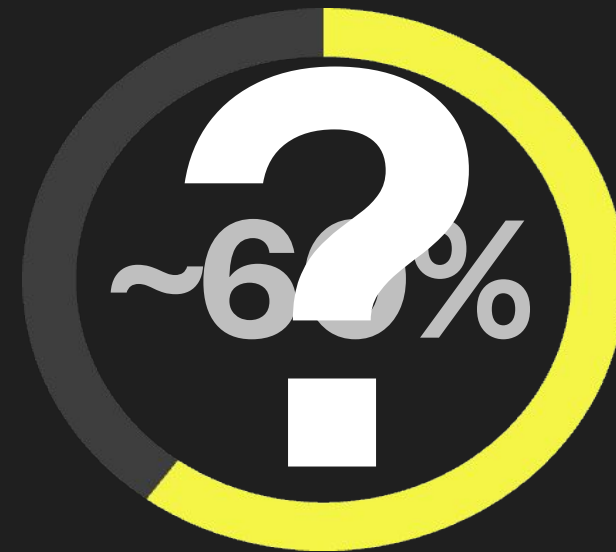


Learners predict they can guess new vocab with...

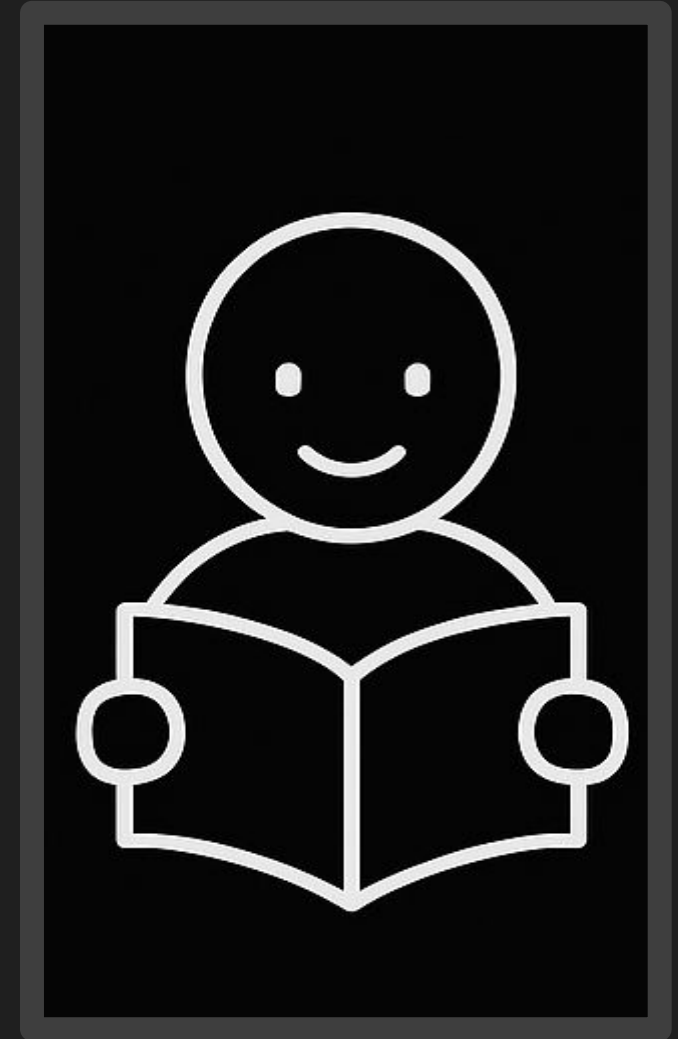


Accuracy

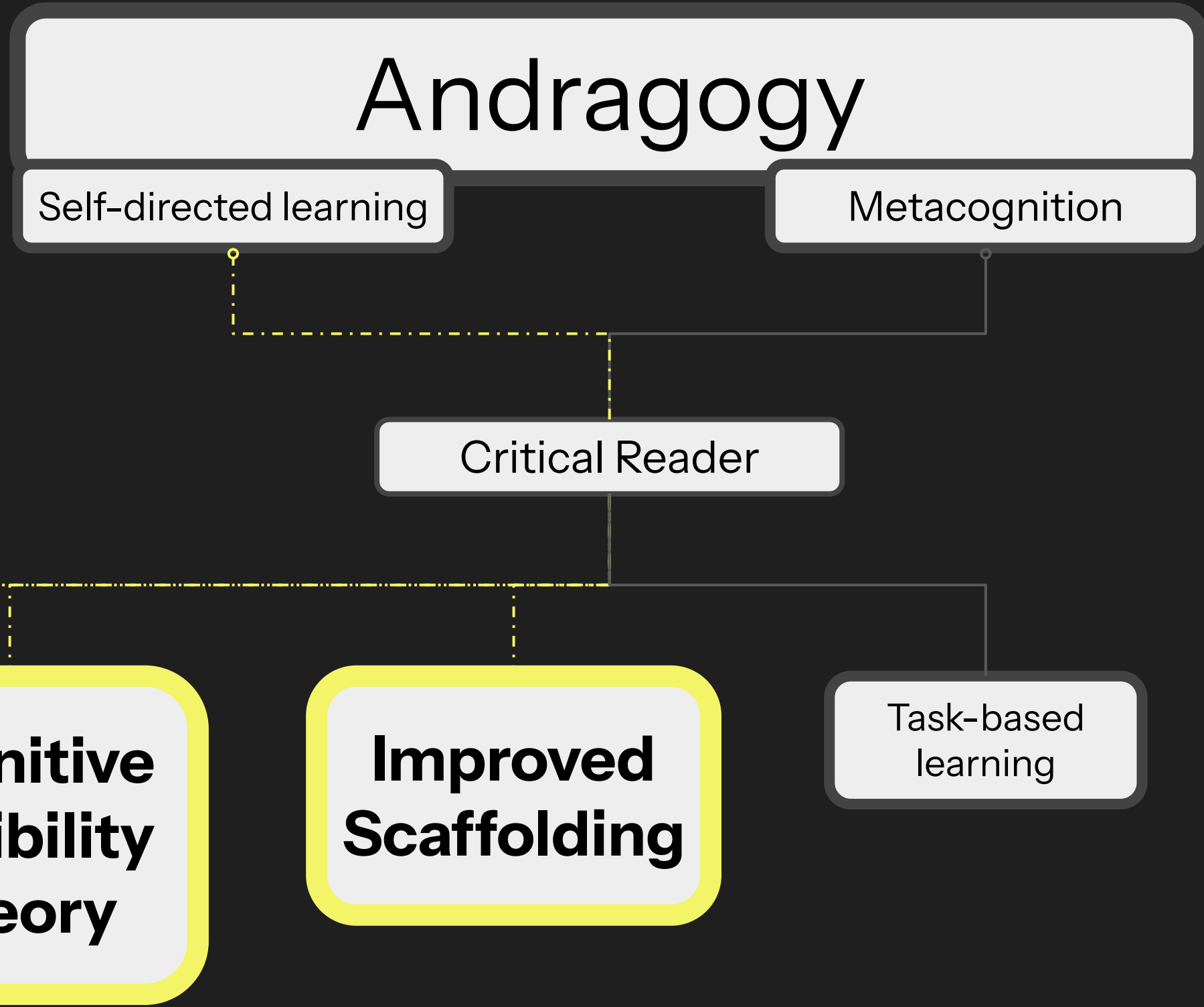
While in practice, they guess new vocab with...



Accuracy



In Theory



Andragogy

Self-directed learning

Metacognition

Critical Reader

**Cognitive
Load Theory**

**Cognitive
Flexibility
Theory**

**Improved
Scaffolding**

Task-based
learning

Desired State

Learners improve **accuracy** when
guessing new vocabulary



Critical Reader- English

By Sean Minton &

A vocabulary acquisition tool for English as a Foreign Language learners

Let's get started!

Ask anything



Let's get started!

Error talking to connector

Welcome, slick! 😎 Before we dive into the madness, you *gotta* check this out:

 [Introduction Video](#)

💡 And if you're feeling spicy: [Language Hacks Video \(Optional\)](#)

Whoa! Slow down, slick. Watch the intro first so you know what's about to hit you.

Once you've done that, tell me:

1. What's your language level? (A1-C2 or just say beginner/intermediate/etc.)
2. What's your primary language?

Let's get this party started. ✨

It means like... do?

Oho! Not bad, slick—not bad at all. You're circling the drain on the right idea.

Let's break it down:

- "Got around to" means you **finally did something you've been delaying**.
- It's not just "do," it's more like "*do something you've been avoiding*."

🗨️ You said:

"It means like... do?"

That's your *Assumption Score* moment right there!

🧠 Rationale Score bonus?

Well... you didn't really say *how* you guessed, but I'll let it slide this time. Next time, gimme a little more juice, yeah?

Now, let's crank it up:

Use "got around to" in a new sentence. Show me what you got, champ.

I want to go past the roadblock

Oooh yeah, that's a clean sentence, slick—simple, sharp, and grammatically solid. ✨

"I want to go past the roadblock."

✅ Totally works if you're talking about a literal roadblock—or even a metaphorical one like a challenge in life.

But if you're going for that *figurative* punch (like work or life obstacles), here's a jazzed-up version:

"I want to overcome the roadblocks in my English learning."

💡 "Overcome" is a great verb when you're talking about challenges.

Now let's take it up a notch:

What's one "roadblock" you've faced in learning English? Be real, slick—I can handle the truth.

I want to make English not a roadblock

OHHHH! Now *that's* what I'm talkin' about! 🎯

"I want to make English not a roadblock."

🔥 That's poetic, slick. It hits right in the feels.

Let's just give it a little polish to make it sing:

👉 "I don't want English to be a roadblock anymore."

OR

👉 "I want to turn English from a roadblock into a strength."


Boom. That's how you drop knowledge and ambition in the same sentence.

Alright, champ—what next? Wanna keep grinding through new words or switch it up with something spicier? You're driving this thing.


Usability Testing

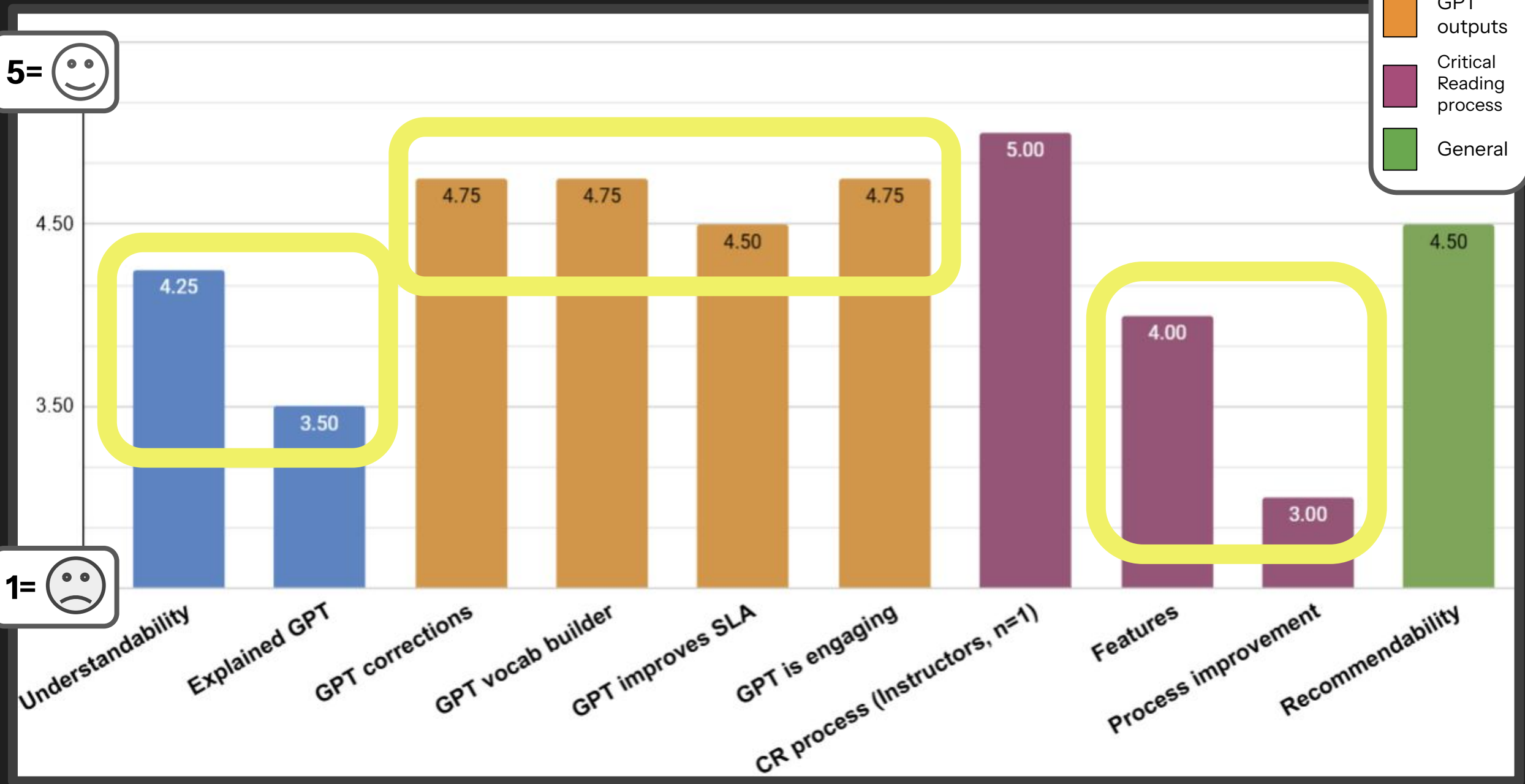
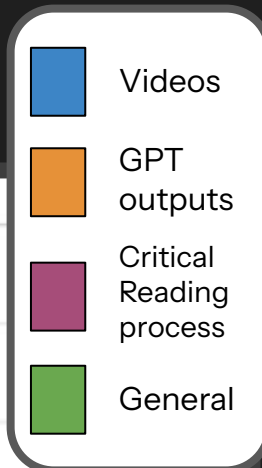
 Generally Positive

 Video Issues

 Critical Reading Process

5= 

1= 



GPT Responses

Known Errors

Expected &
undesirable

Hallucinations

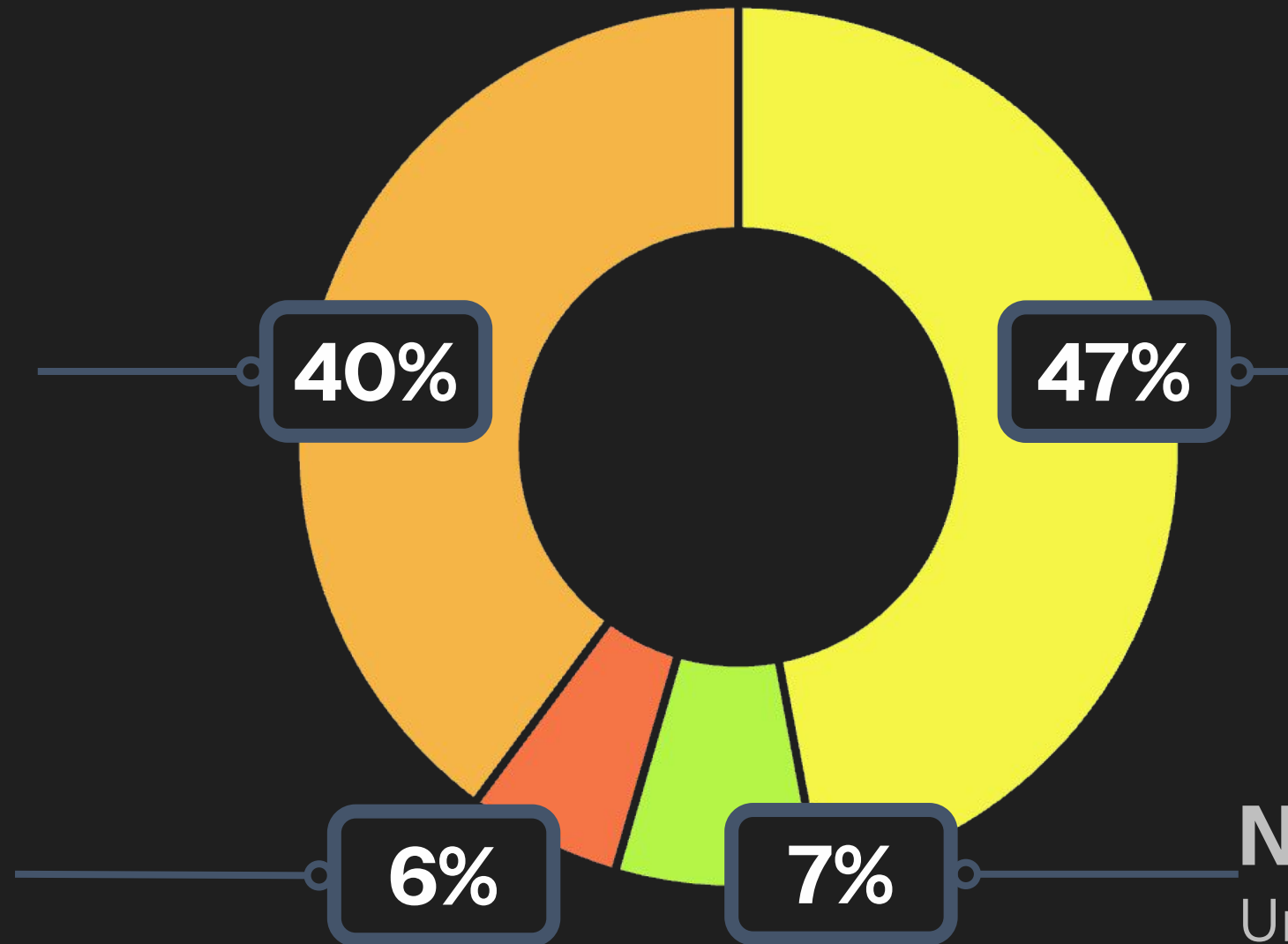
Unexpected &
undesirable

Met Expectations

Expected & desirable

Novel Responses

Unexpected & desirable



Learner Performance Test Process

Introduction Videos

The process & tips

1

Post-test Score

Further performance data collected
after ~30 minutes of use

2

3

4

Pre-test Score

Learner performance data collected
after the first 1-2 loops to create
a "baseline"

Survey

Opinion data collected after
their session

Novelty, Accuracy and Relevance

Rubric breakdown

| | Connection | Assumption | Rationale | Sample |
|------------------|---------------------------------------|------------|-----------|--------|
| Novelty | Can you use the language creatively? | | | |
| Accuracy | Can you reduce your mistakes? | | | |
| Relevance | Can you stay on topic and in context? | | | |

Learner Performance



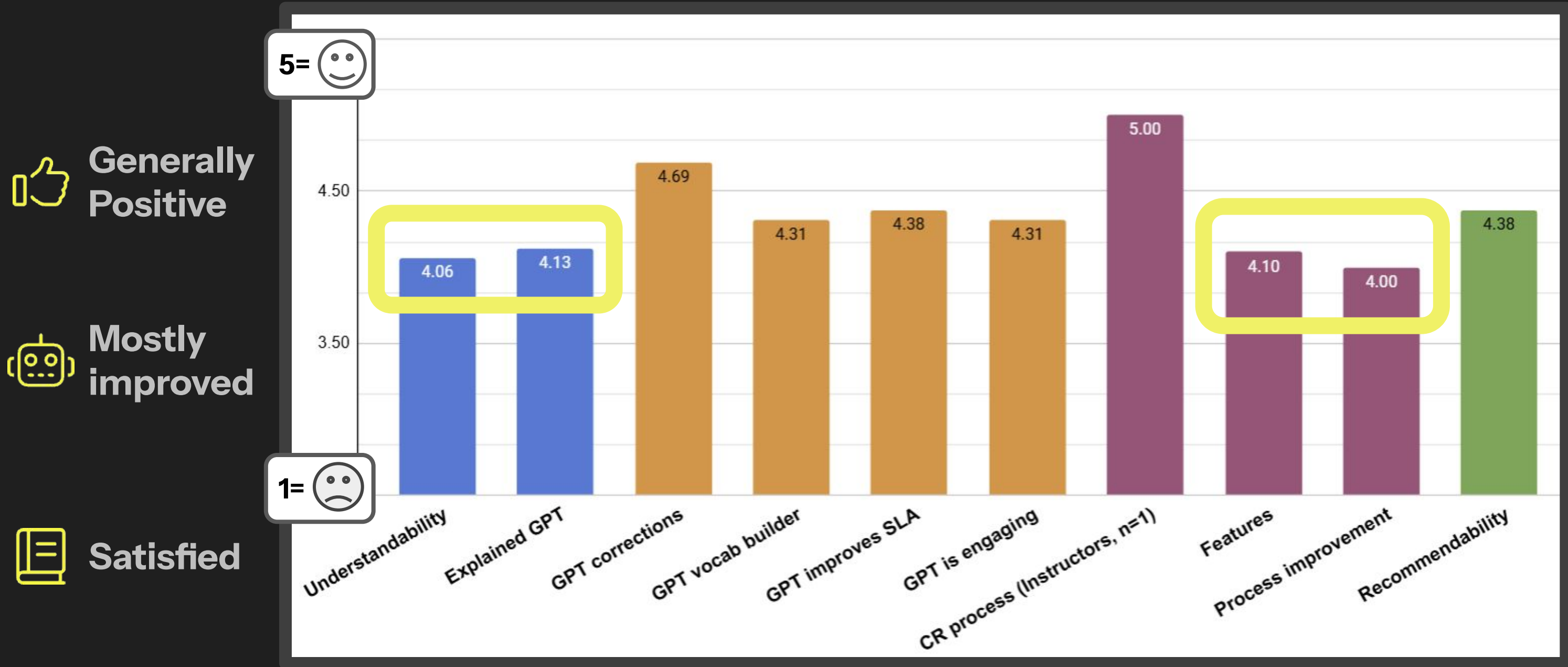
Post increase (Score ~7.7):

- Students demonstrated greater use of **complex sentences by embedding subordinate clauses** (e.g., "Since organic produce is healthier, I always try to buy it when possible").
- They improved in their ability to use **relative clauses** ("The bananas, which were freshly harvested, tasted amazing") instead of simpler structures like "The bananas are fresh."

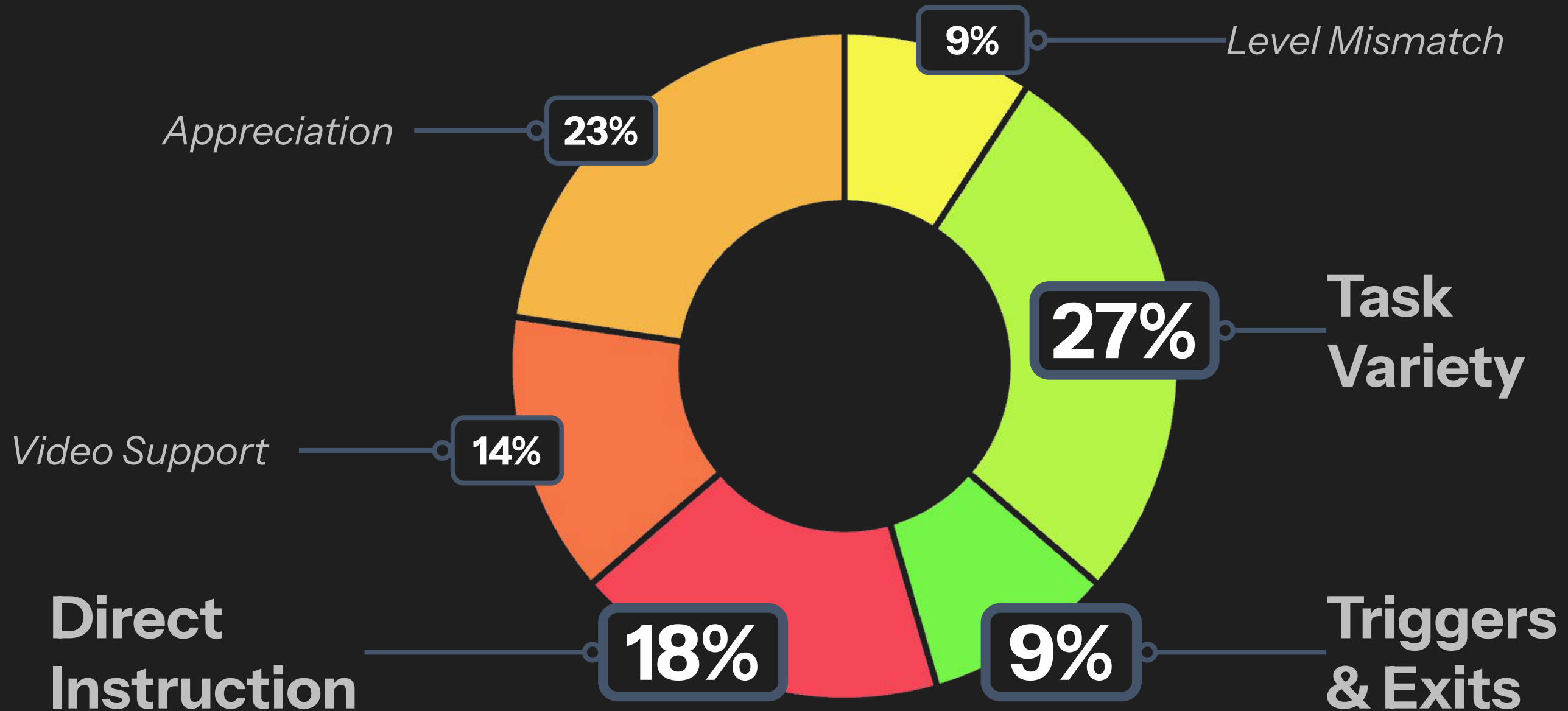
**Relative &
subordinate clauses!**

Learner Attitudes

Improvements between usability test and learning performance test



Categorized Learner Comments

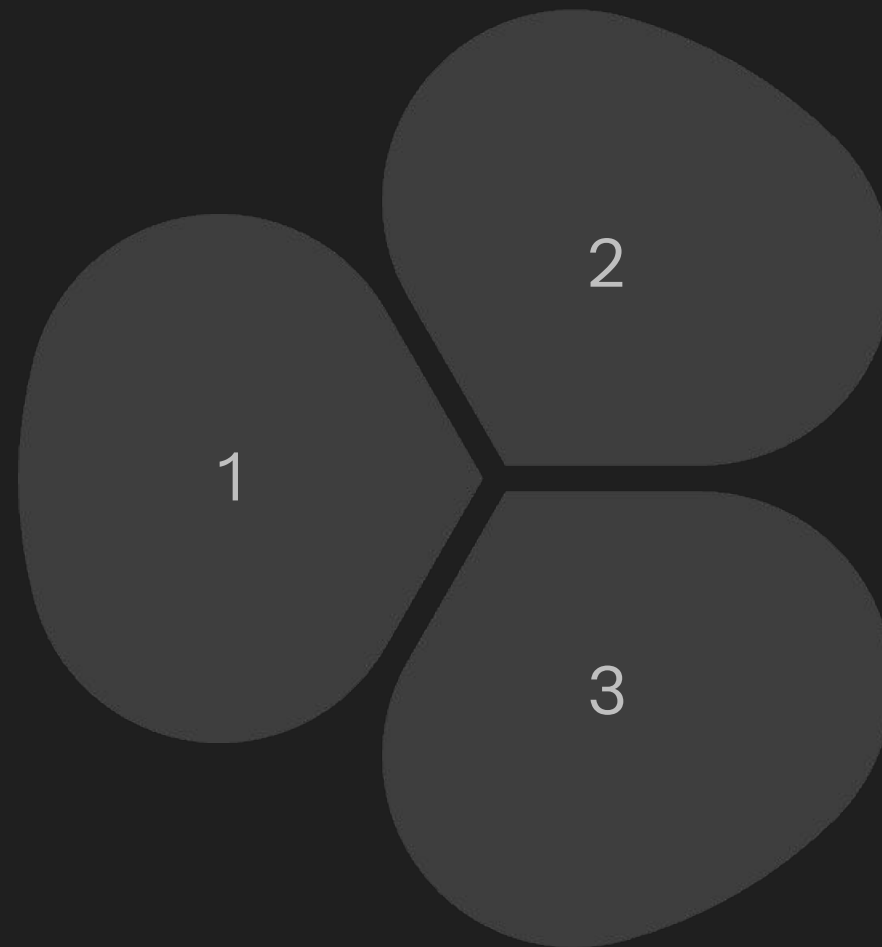


Back to our Desired State...

Learners

Improved

Across the majority of tasks
& dimensions



The GPT Tool

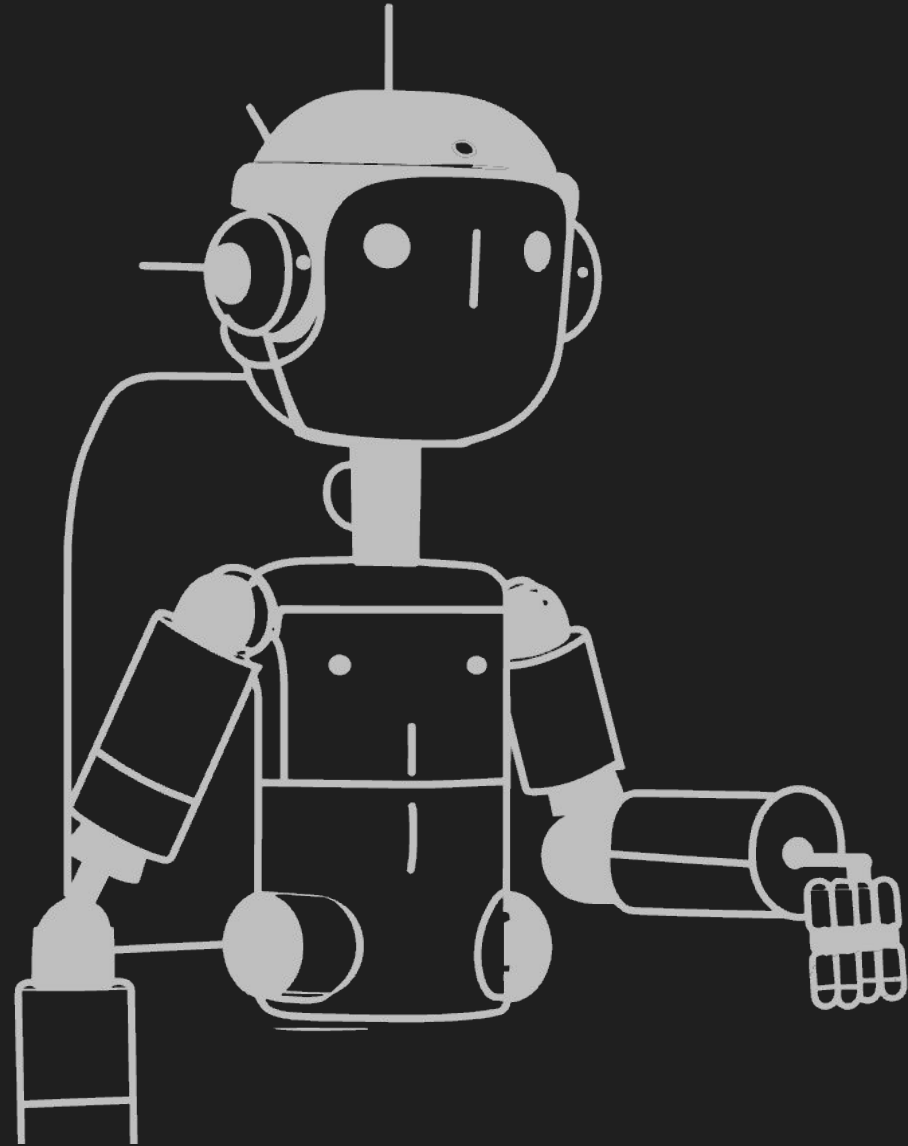
It does its job reliably, but not perfectly

Engaging

Even though typing is boring,
they saw potential

The Promised Land...

Back to our Desired State



Error Triggers

Codify mistakes to instruct the GPT how to deliver targeted direct instruction



Direct Instruction

Just-in-time grammar content & exercises get delivered when triggered



UI Improvements

Including listening and speaking modalities



Longitudinal data

Update rubrics with data from learner-GPT conversations

Try it out



Critical Reader- Spanish

By Sean Minton &

A little vocab machine for folks what can't speak Spanish too good.

Vamos, cabron!

Publicly available on
ChatGPT

English,
Spanish
& Farsi

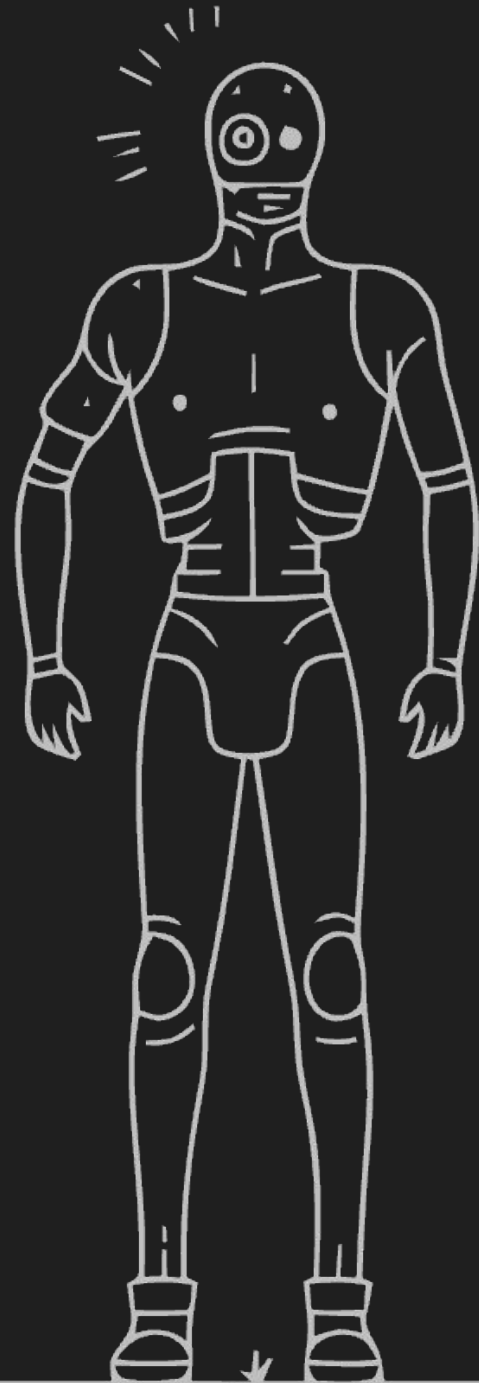
Available
right now!

Hawaiian
& Tagalog

Coming
soon...

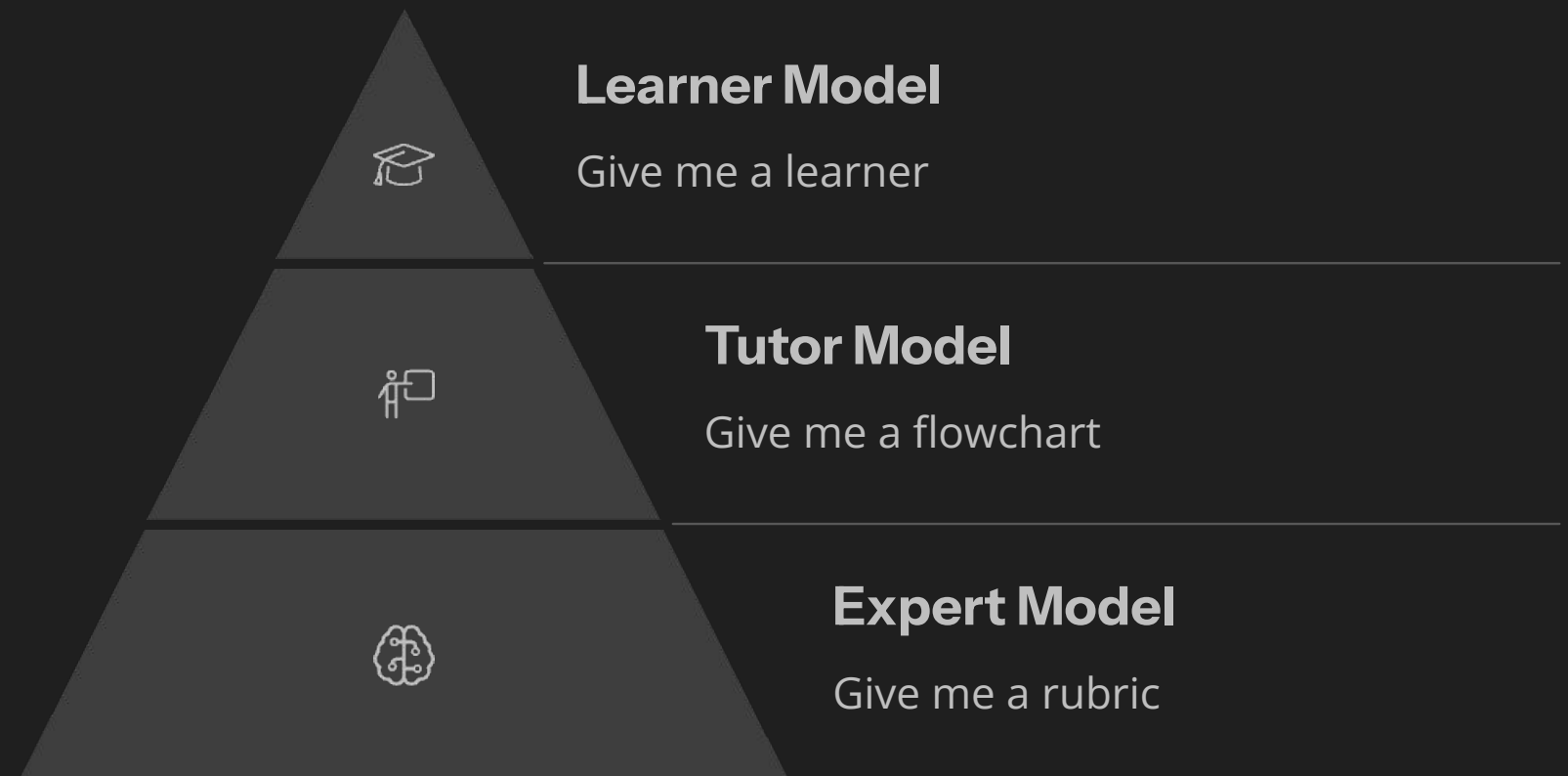
What you
need?

Tell me in
the chat!

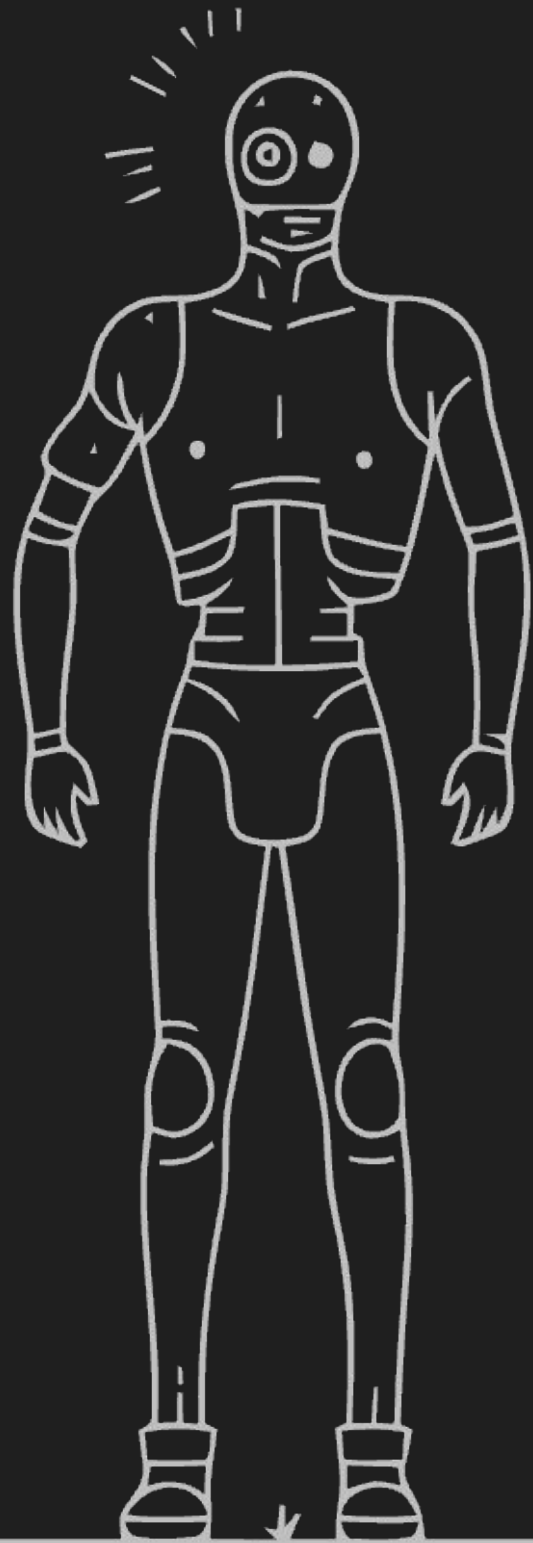


Intelligent Tutoring Systems

The development of the Critical Reader is a model for conversation-based instruction in LLMs



Fin



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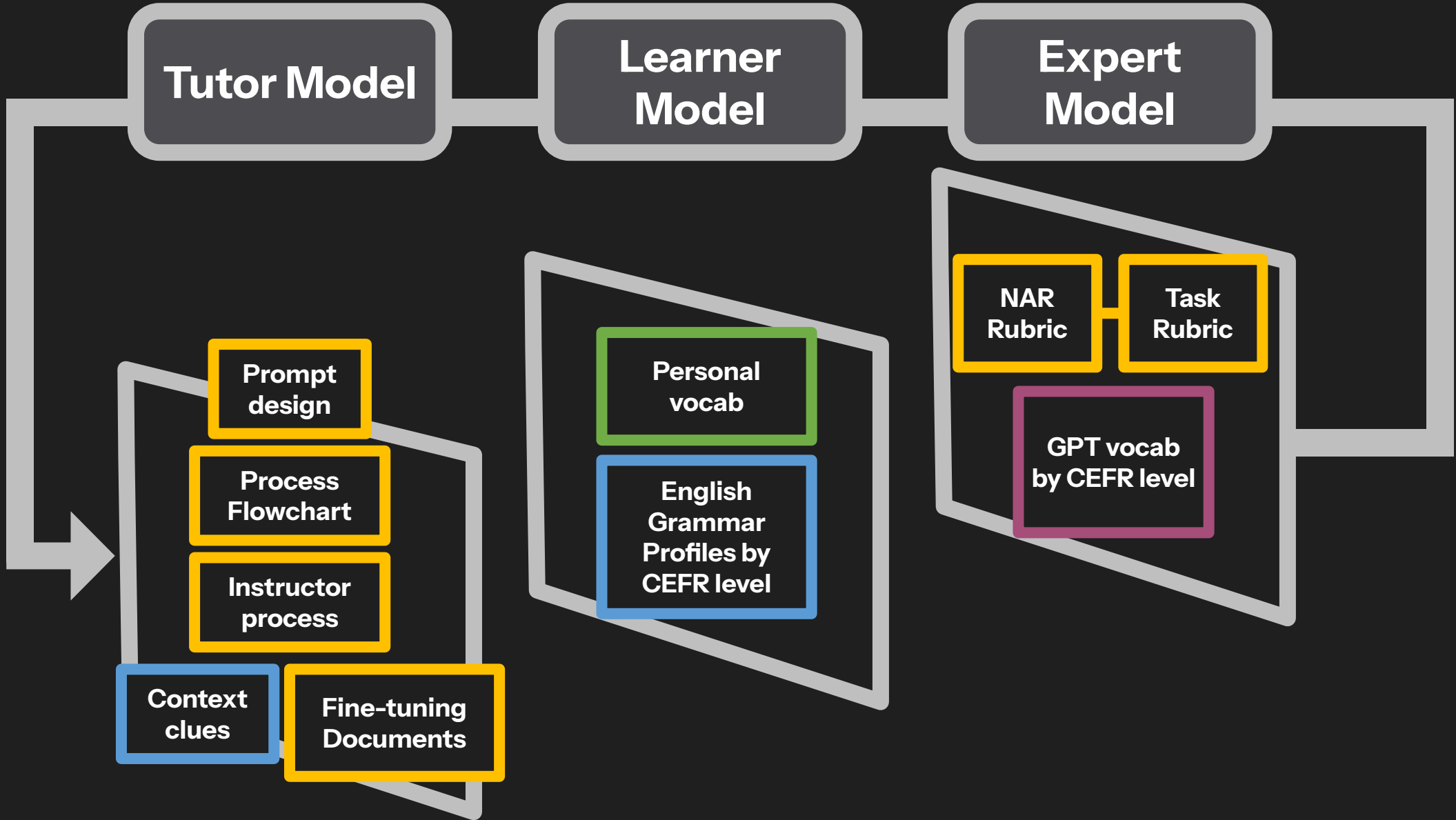
LTEC 690: Spring 2025

University of Hawaii- Manoa

Not going down the rabbit hole today...

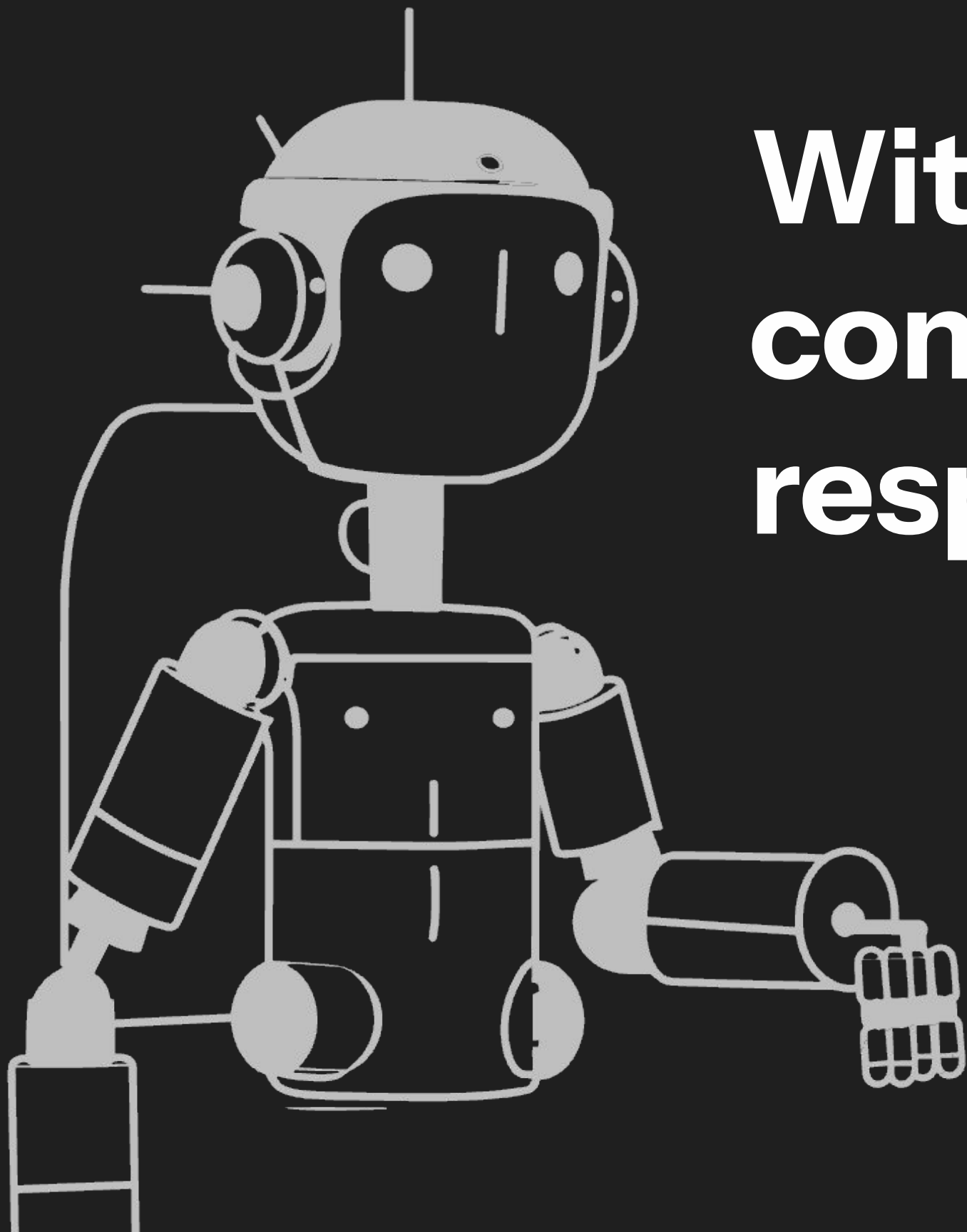
Key

- Custom designed
- Sourced data
- GPT native data
- Collected data

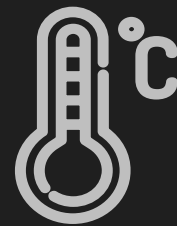
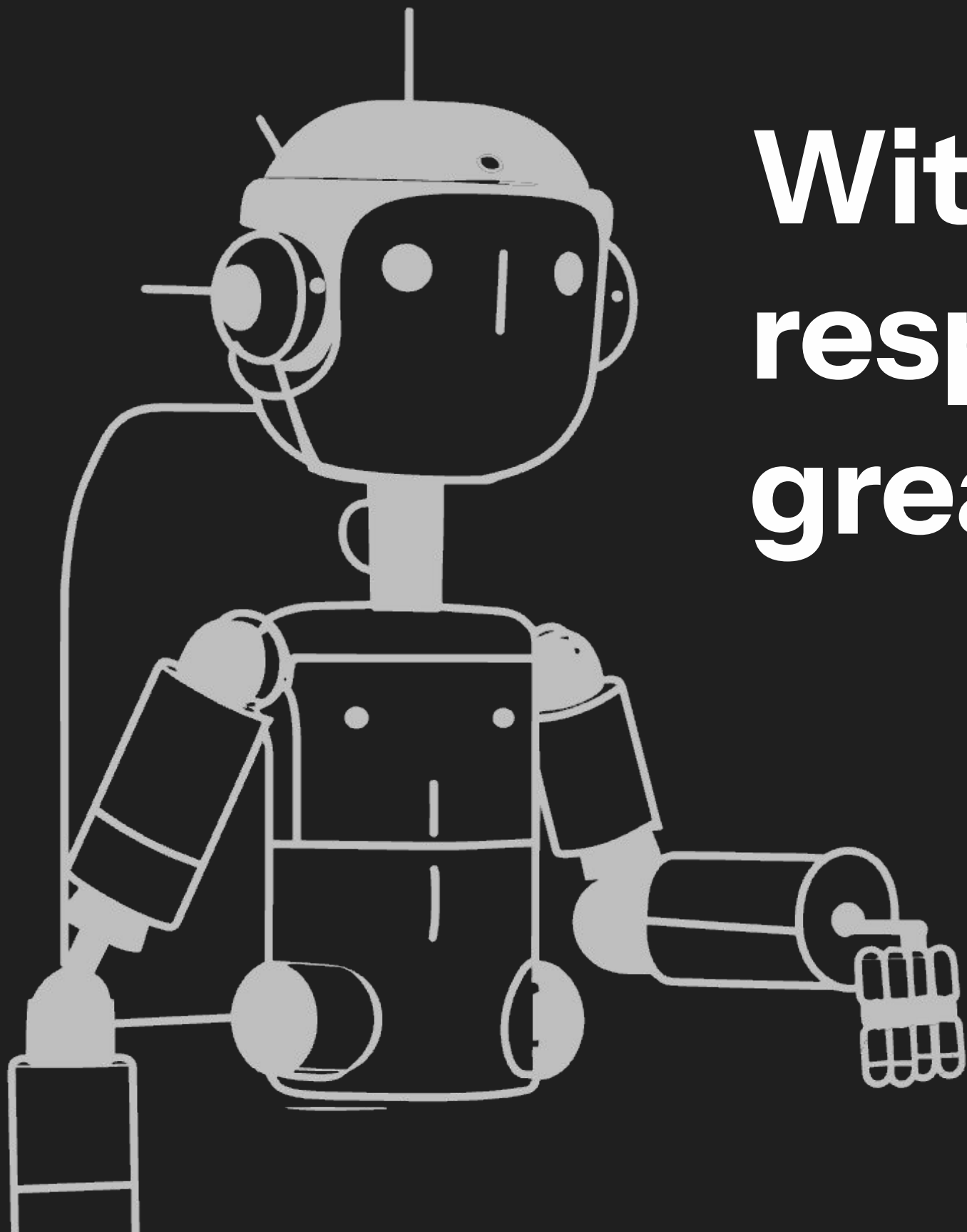


With great power comes great responsibility

- *Voltaire & Spiderman*



**With great
responsibility comes
great power?**





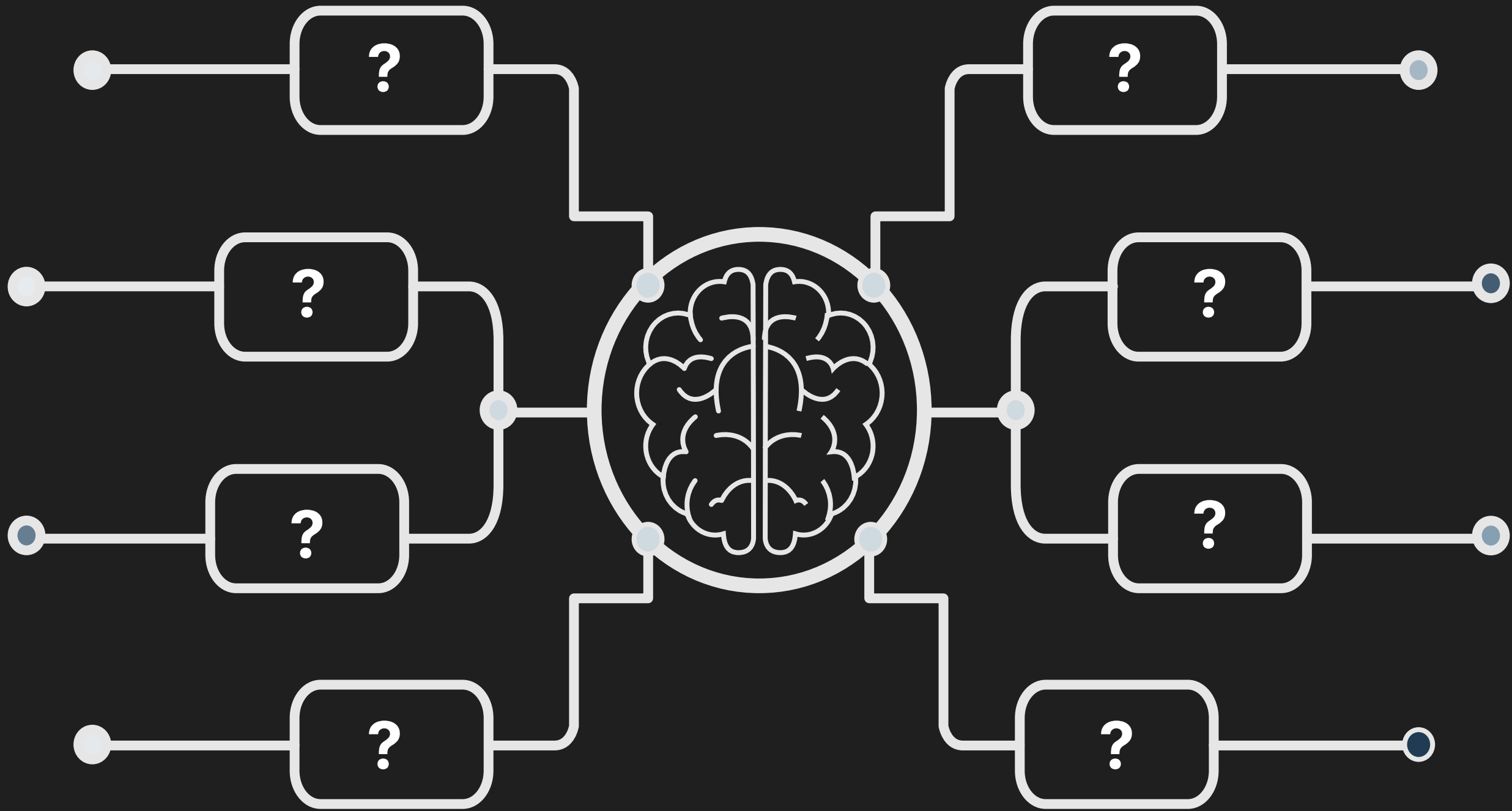
**Not a great
outcome...**

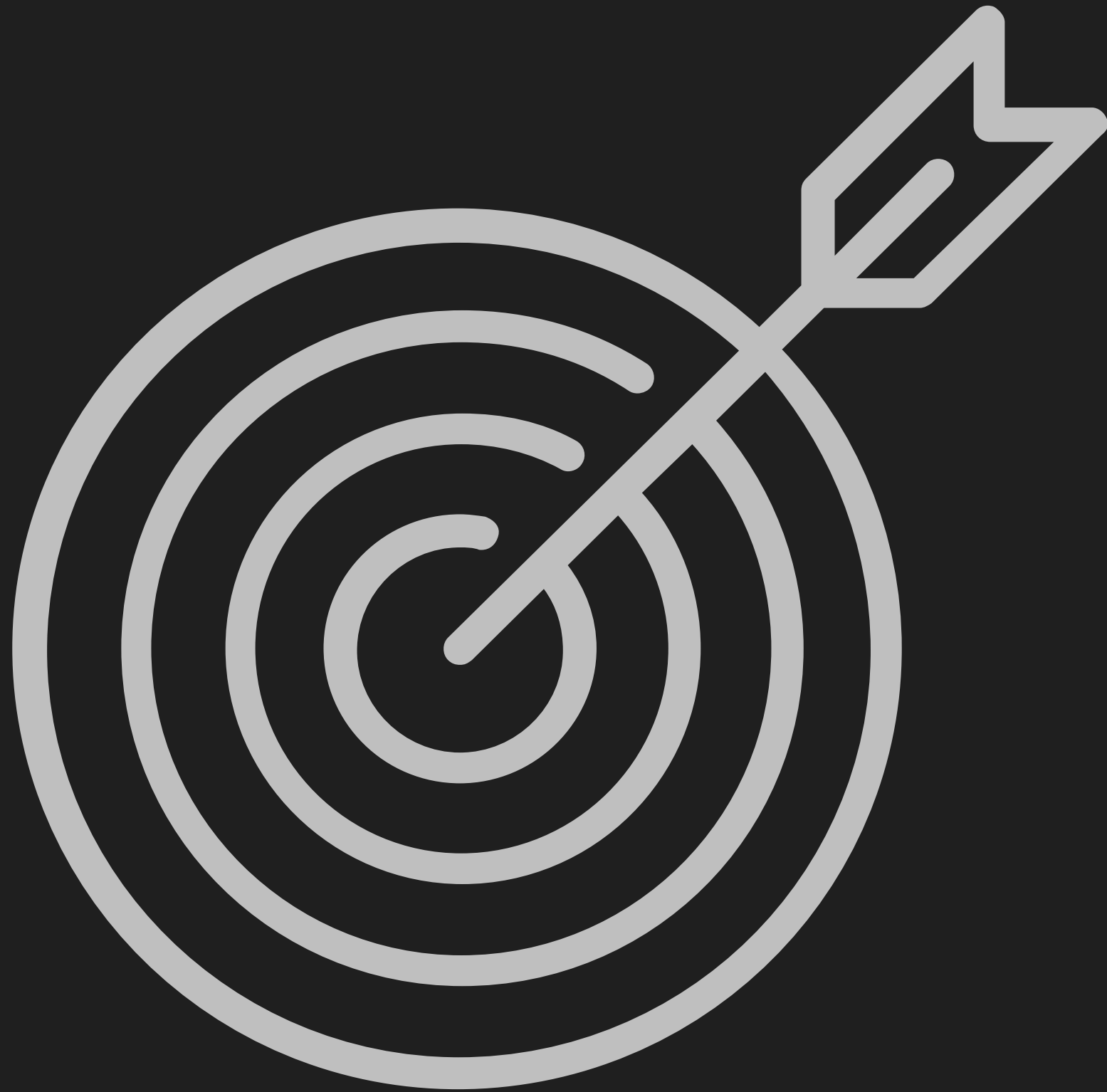


**On
second
thought...**



**“Learnin’ is
feelin’ more
easier now”**

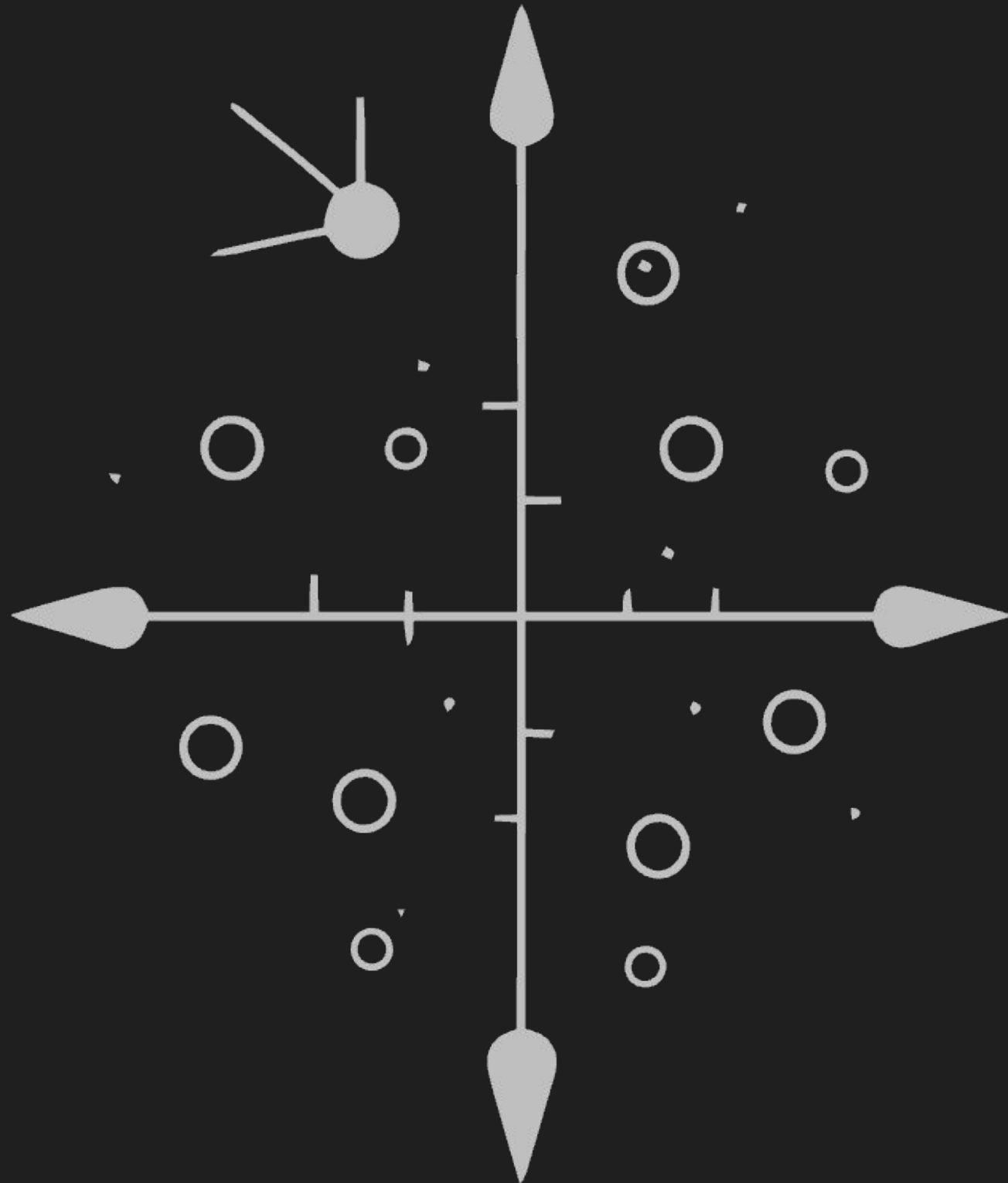




**Everyone is
on target**



**Core strategy
developed...**



**What's
next?**