

# Humanizing Language Learning in the Age of AI: Strategies for Linguistic Dexterity, Agency, and Justice

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# Rhetorical Thinking

Helping students make their own choices as readers, writers, and thinkers

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Home

A watercolor illustration at the bottom of the page depicts a row of books. The spines of the books are rendered in various shades of blue, purple, and grey, with a soft, painterly texture. They are set against a light beige background.

**Jennifer Fletcher**—Teacher, Author, and Speaker

# Students' Language Rights

"We need to ask ourselves whether the rejection of students who do not adopt the dialect most familiar to us is based on any real merit in our dialect or whether we are actually rejecting the students themselves, rejecting them because of their racial, social, and cultural origins."

– Students' *Right to Their Own Language*, Conference on College Composition & Communication

In what year do you think this statement was first published?

1. 2024
2. 2018
3. 1996
4. 1974

# What's New & What's Not

To what extent do schools **today** affirm students' right to "their own patterns and varieties of language—the dialects of their nurture or whatever dialects in which they find their own identity and style" (CCCC)?

Please turn and talk with someone near you.

# What gets in the way of linguistic dexterity and justice?



# How should I start an argument essay?

## ◆ 1. Hook the Reader

Begin with a **hook** that draws interest. Choose a strategy based on your topic:

- **A surprising fact or statistic**  
*"Over 70% of high school students report feeling stressed daily—a silent epidemic affecting academic performance."*
- **A thought-provoking question**  
*"What happens when schools prioritize test scores over student well-being?"*
- **A brief anecdote or scenario**  
*"Imagine a teenager, buried in homework and anxiety, falling asleep at 2 a.m.—only to wake up exhausted for another day of school."*
- **A bold statement or claim**  
*"America's public school system is failing its students by ignoring their mental health."*

## ◆ 2. Provide Background Context

Briefly explain the issue or debate you're addressing. Include:

- Key terms or concepts the reader should know.
- The broader **context** or **significance** of the issue.

**Example:**

*In recent years, mental health in education has become a hot-button issue, with students, parents, and educators calling for reform in school policies.*

## ◆ 3. State Your Thesis

End your introduction with a **clear, arguable thesis**—the central claim of your essay. This should:

- Take a **definitive position**.
- Preview the main **reasons** you will develop in the body.

**Example:**

*Schools must incorporate mental health education and resources into their curriculum because it promotes emotional well-being, improves academic outcomes, and reduces stigma around mental illness.*

# “Mechanized Convergence”

Microsoft research found that the tendency for “mechanized convergence”--i.e., **homogenized outputs**--in AI-assisted knowledge work “reflects a lack of personal, contextualized, critical and reflective judgement of AI output and thus can be interpreted as a deterioration of critical thinking” (Lee et al.).

## The Impact of Generative AI on Critical Thinking: Self-Reported Reductions in Cognitive Effort and Confidence Effects From a Survey of Knowledge Workers

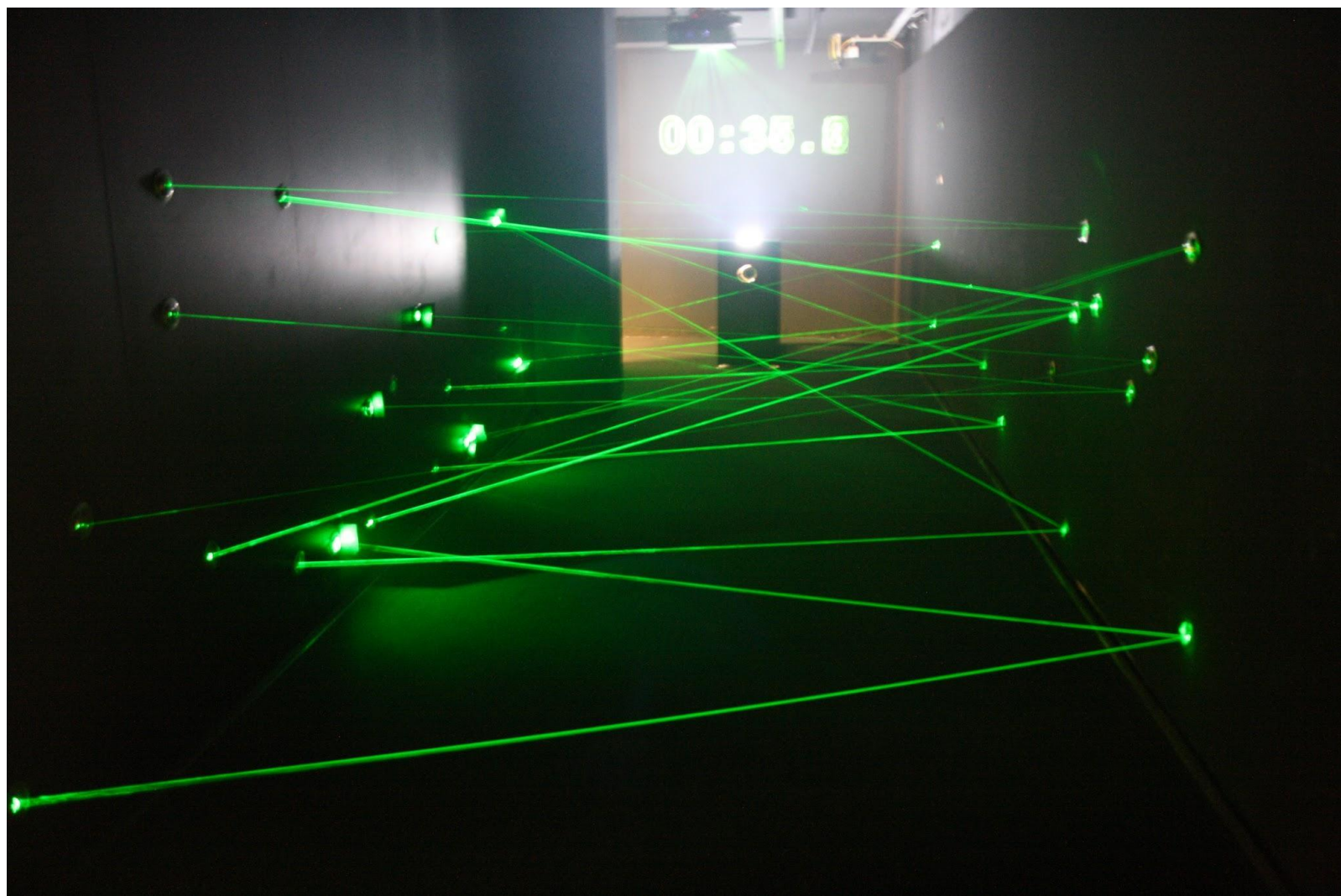
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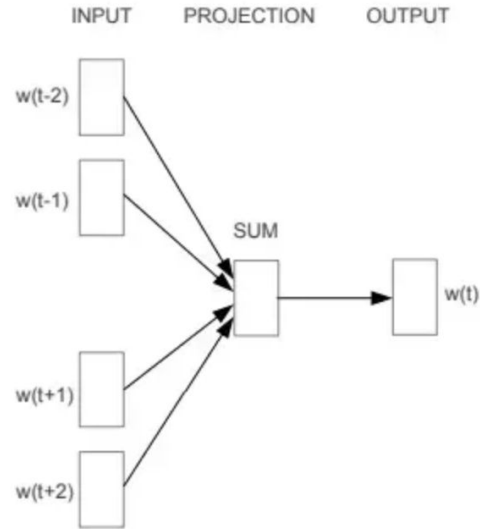




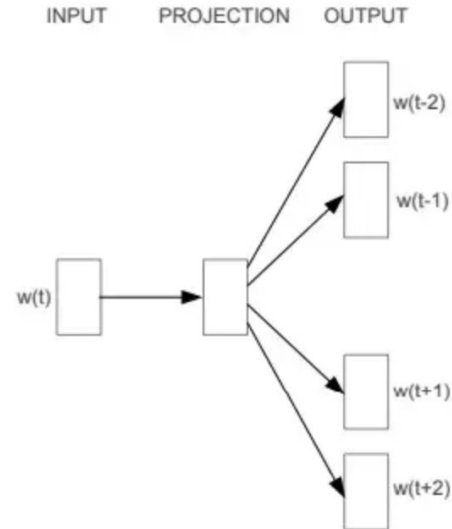




“You Can’t Understand ChatGPT If You Don’t Understand Word2Vec”

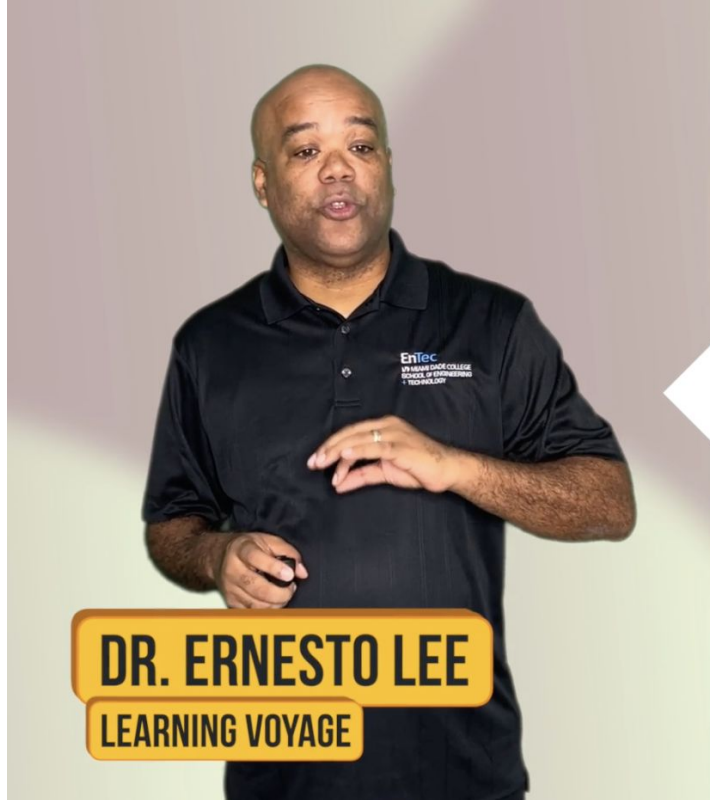


**CBOW**



**Skip-gram**

# Word2Vec



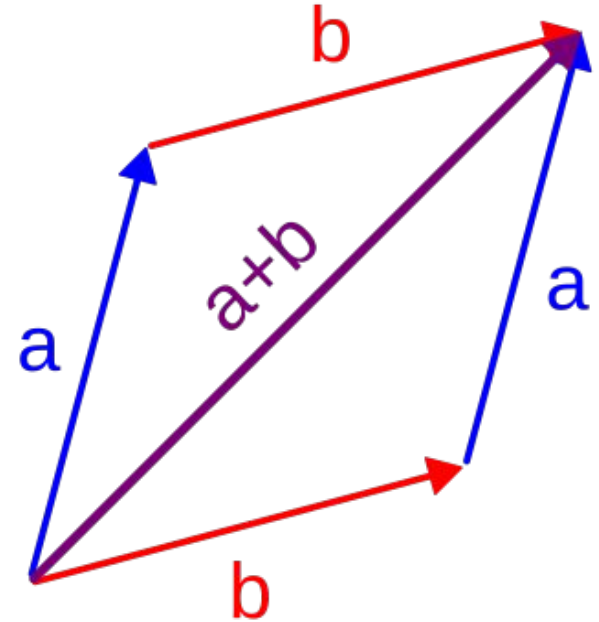
## WORD2VEC



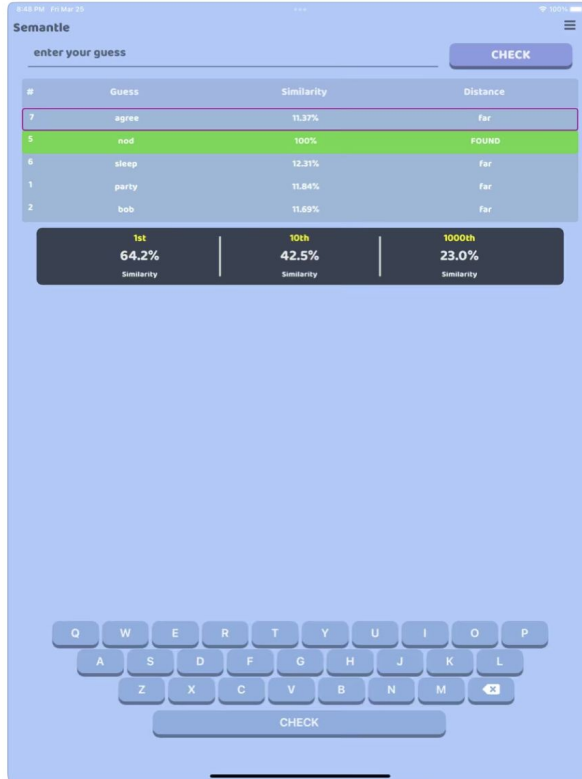
IT'S A TOOL THAT  
TRANSFORMS WORDS  
INTO NUMERICAL FORM



**Vector:** a quantity having direction as well as magnitude, especially as determining the position of one point in space relative to another.



# A Peak Under the Hood of LLMs: Semantle (semantle.com)



## FAQ

### How to play?



The objective is to guess the secret word.

Each guess must be a single word. Semantle will inform you how semantically similar your guess is to the secret word.

Unlike other word games, this game is not about spelling; it's about meaning. We calculate this meaning using artificial intelligence (specifically word2vec technology).


In word2vec, each word has a measurable semantic distance from another, indicating their level of relatedness. Once you get within one thousand words of the secret word, we will tell you in the proximity column.

You have unlimited guesses! Good luck!

Finding it too hard? Try [Semantle Junior](#)

Secret Word:  
“helmet”

Proximate Words:  
“jersey,” “uniform,”  
and “shirt”

#	Guess	Similarity	Proximity
44	helmet	100.00	
Sort – Similarity			
37	jersey	46.50	983 / 1000
38	uniform	42.68	967 / 1000
21	shirt	39.38	944 / 1000
24	pants	37.57	898 / 1000
29	vest	36.28	869 / 1000
32	sweatshirt	35.48	845 / 1000
33	collar	34.84	815 / 1000
36	pullover	33.46	754 / 1000
28	sweater	32.84	713 / 1000
34	pocket	32.28	668 / 1000
27	coat	31.75	630 / 1000
22	dress	28.25	190 / 1000
43	logo	28.00	147 / 1000

# Tepid Words: “orange” and “red”

The nearest word has a similarity of **76.58**, the tenth-nearest has a similarity of **47.6** and the thousandth nearest word has a similarity of **27.35**

## Game #1205

 Guess

#	Guess	Similarity	Proximity
38	uniform	42.68	967 / 1000
Sort - Similarity			
37	jersey	46.50	983 / 1000
21	shirt	39.38	944 / 1000
24	pants	37.57	898 / 1000
29	vest	36.28	869 / 1000
32	sweatshirt	35.48	845 / 1000
33	collar	34.84	815 / 1000
36	pullover	33.46	754 / 1000
28	sweater	32.84	713 / 1000
34	pocket	32.28	668 / 1000
27	coat	31.75	630 / 1000
22	dress	28.25	190 / 1000
35	sleeve	27.73	83 / 1000
7	orange	26.13	(tepid)
30	waistcoat	25.78	(tepid)
4	red	23.10	(tepid)



## Cold Words: team, sports, merchandise, & green

39	team	17.84	(cold)
11	green	17.16	(cold)
9	sun	17.06	(cold)
41	merchandise	14.78	(cold)
1	growl	14.74	(cold)
25	tie	14.33	(cold)
40	sports	14.19	(cold)



Secret Word:  
“Well”

#	Guess	Similarity	Proximity
111	well	100.00	🚩
Sort - Similarity			
104	as💡	61.41	999 / 1000
103	poorly💡	55.81	998 / 1000
97	nicely💡	54.84	997 / 1000
91	excellently💡	51.51	996 / 1000
84	decently💡	49.78	995 / 1000
76	good💡	47.78	994 / 1000
70	reasonably💡	46.82	993 / 1000
23	much	44.59	991 / 1000
98	fantastically	44.01	989 / 1000
86	properly	42.64	986 / 1000
93	superbly	42.31	985 / 1000
92	outstandingly	41.77	983 / 1000
85	appropriately	37.47	957 / 1000
24	many	36.82	950 / 1000
38	so	36.77	948 / 1000
78	smartly	36.39	946 / 1000
99	best	35.48	933 / 1000

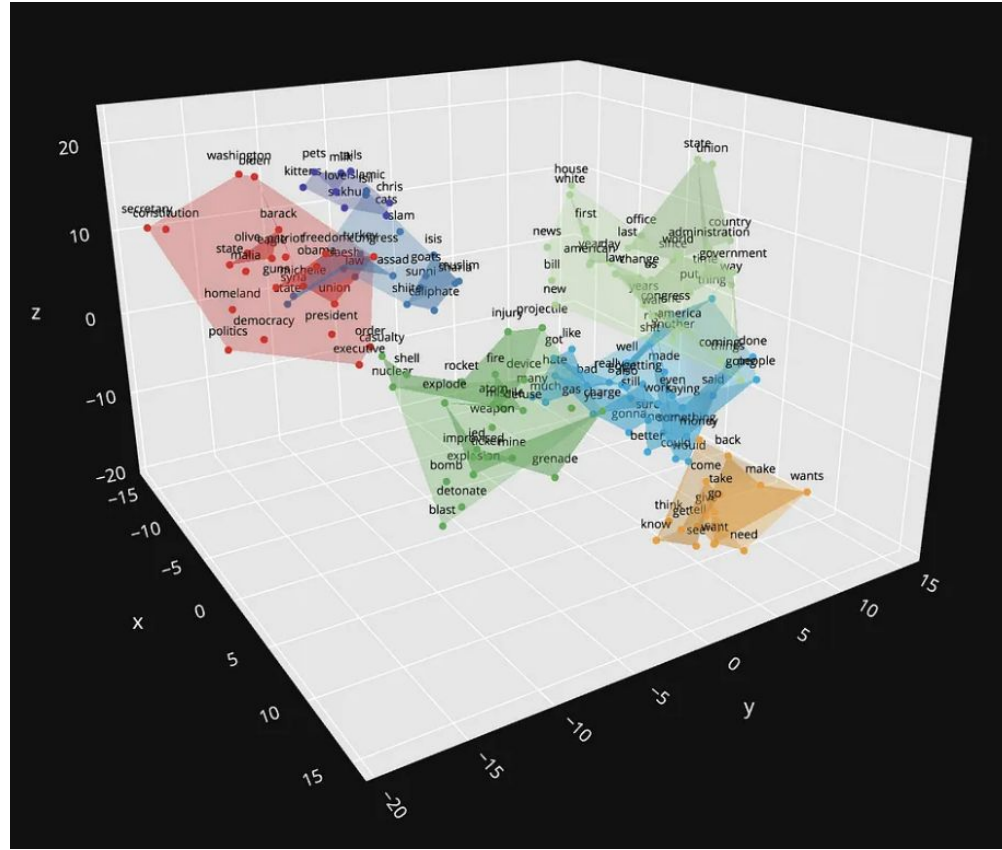
The nearest word has a similarity of **61.41**, the tenth-nearest has a similarity of **44.47** and the thousandth nearest word has a similarity of **21.84**

### Game #1210

Guess

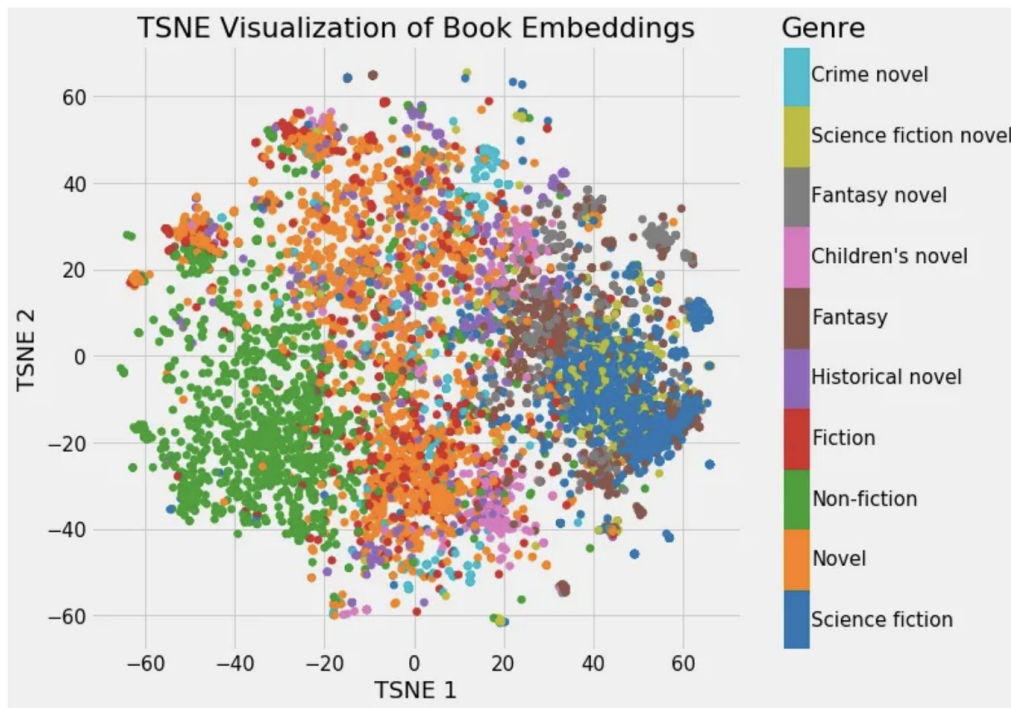
#	Guess	Similarity	Proximity
101	super	15.18	(cold)
<a href="#">Sort</a> - Similarity			
97	nicely 💡	54.84	997 / 1000
91	excellently 💡	51.51	996 / 1000
84	decently 💡	49.78	995 / 1000
76	good 💡	47.78	994 / 1000
70	reasonably 💡	46.82	993 / 1000
23	much	44.59	991 / 1000
98	fantastically	44.01	989 / 1000
86	properly	42.64	986 / 1000
93	superbly	42.31	985 / 1000
92	outstandingly	41.77	983 / 1000
85	appropriately	37.47	957 / 1000
24	many	36.82	950 / 1000

ChatGPT produces strings of syntax through the word relationships created by Word2Vec.



What does “nearest” mean in mathematical contexts?  
What does “nearest” mean in socio-linguistic contexts?

Semantle

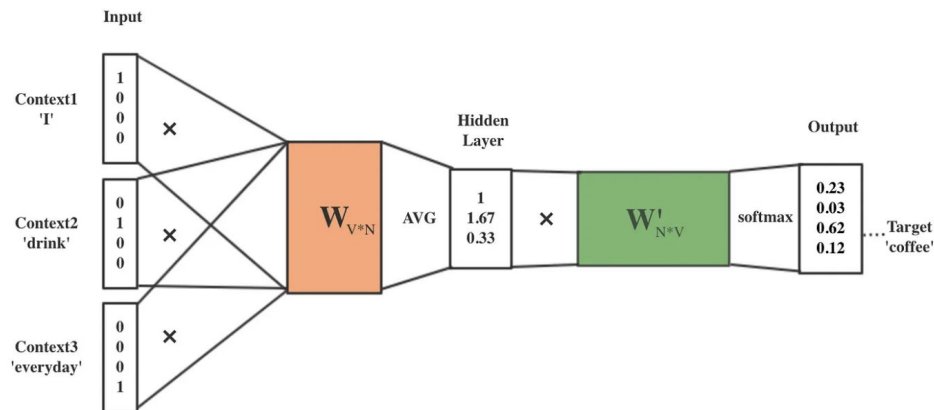


“Prediction, by definition,  
is not certainty.”

—Matteo Wong, staff writer  
for *The Atlantic*

## The Essence of Context: CBOW

The Continuous Bag of Words (CBOW) model is like a word game where you guess a word based on hints. Consider the sentence, “The cat sat on the \_\_\_\_.” Your mind might quickly suggest “mat,” “couch,” or “lap.” Why? Because you’ve learned over time that these words often fill such gaps.



**CBOW Working Principle:** This model takes the surrounding words (the hints) and predicts the missing word (the guess). It's like having blanks in a sentence and asking someone to fill them in, except this 'someone' is an algorithm trained on a massive text corpus.



How do machines recognize “similar” words?

How do human brains recognize “similar” words?

# Word Collocations:

*Naturally occurring combinations of verb, noun, adjective, preposition, etc.*

“brackish water”

“fast food”

“quick service”

“pay attention”

“round of applause”

“plane took off”



“When ChatGPT generates the words *cinnamon rolls*, it goes looking for some words that will fulfill a sense-making pattern following *cinnamon rolls*” (Warner 55)

1. Volcanic eruptions
2. Volcanic eruptions are
3. Volcanic eruptions have been

*Make a prediction about the next words in each sequence of words above.*



# Fetching Tokens

Volcanic eruptions are

Volcanic eruptions are natural geological events where molten rock (magma), gases, and other materials are expelled from beneath the Earth's surface through openings called volcanoes. These eruptions can range from slow lava flows to explosive blasts, depending on the type of volcano and the magma's composition.



Volcanic eruptions have been

Volcanic eruptions have been among the most powerful natural events in Earth's history, shaping landscapes, influencing climate, and impacting civilizations. These eruptions occur when magma, gases, and other materials are expelled from beneath the Earth's surface due to geological forces.



## Volcanic eruptions

Volcanic eruptions occur when magma, gases, and other materials escape from a volcano, reaching the surface. These eruptions can range from gentle lava flows to massive explosions, depending on the volcano's type, magma composition, and pressure buildup.





# Languaging vs. Assembling “Strings of Syntax”

“Fetching tokens based on weighted probabilities is not the same process as what happens when humans write” (Warner 51).

$$L^{CLIP}(\theta) = \hat{E}_t[\min(r_t(\theta))\hat{A}_t, \text{clip}(r_t(\theta), 1 - \varepsilon, 1 + \varepsilon)\hat{A}_t)]$$

**Languaging: “Doing language” to make meaning, build relationships, and construct identities**

# Strategies for Human-Centered Language Learning

# ERWC Toolkit of High Impact Strategies

- **Connotation Cross-Out**
- Sentence Unpacking
- Blackout Templates
- Collaborative Text Reconstruction

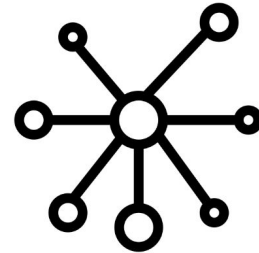


Integrating Reading, Writing, & Rhetoric

# Connotation Cross-Out (Adapted from Meline Akashian)

## STEP ONE:

1. Write a word you would like to analyze in a cluster or at the top of a list.
2. Work together (whole-class or small groups) to generate a list of connotations, or emotional and cultural associations.
3. Add synonyms and examples, too, if you like.



# ERWC Module: Language, Gender, & Culture

## **Language, Gender, and Culture**

*Developed by Nelson R. Graff and Mira-Lisa Katz*

**MODULE: TEACHER VERSION**

**Grade 12, 4 to 5 weeks**

**The Transformation of Silence into Language and Action\***

By Audre Lorde

# Embodied Language Knowledge

**How does the word “silence” feel to you?**

It feels big.

It feels scary.

It feels sad.

It feels soothing.

It feels...

# What are the connotations of the word silence?

- Quiet
- Peaceful
- Calm
- Stillness
- Loneliness
- Reflection
- Meditation
- Repression
- Secrecy
- Ghosting
- ?
- ?
- ?



# ChatGPT Prompt:

What are the connotations of the word “silence”?



## Positive Connotations

1. **Peacefulness** – Silence often evokes a sense of serenity, calm, or tranquility, such as in a quiet forest or meditative space.
2. **Contemplation** – It may suggest thoughtfulness or introspection, as when one reflects in silence.
3. **Respect** – In memorials or solemn moments, silence can be a sign of honor or reverence (e.g., a moment of silence).



## Neutral or Ambiguous Connotations

1. **Stillness** – In a descriptive context, silence may simply mean an undisturbed state, as in a silent room or night.
2. **Privacy** – Silence might indicate discretion or withholding for appropriate reasons.



## Negative Connotations

1. **Oppression or Fear** – Silence can suggest fear of speaking out, often in authoritarian settings or abusive relationships.
2. **Alienation** – It may indicate emotional distance, rejection, or lack of communication in relationships.
3. **Secrecy or Guilt** – Silence can imply someone is hiding the truth or avoiding responsibility.
4. **Tension** – In narratives, silence can build suspense, anxiety, or discomfort—e.g., the "tense silence" before a dramatic revelation.

## Connotation Cross-Out: “Silence”

- 18 We can learn to work and speak when we are afraid in the same way we have learned to work and speak when we are tired. For we have been socialized to respect fear more than our own needs for language and definition, and while we wait in silence for that final luxury of fearlessness, the weight of that silence will choke us.
- 19 The fact that we are here and that I speak now these words is an attempt to break that silence and bridge some of those differences between us, for it is not difference which immobilizes us, but silence. And there are so many silences to be broken.

\* Originally given as a speech, December 28, 1977, at the Lesbian and Literature Panel of the Modern Language Association.

# Semantic Negotiation: Connotation Cross-Out:

## **STEP TWO:**

1. Revisit your cluster or list of word connotations.
2. Add new connotations for the word based on your understanding of the poem.
3. Test each word in your cluster/list against the poem's meaning. Ask yourself, "Does this word capture what the Lorde is saying?"
4. Cross out connotations in the original cluster or list that do not apply to the word's use in the poem.

What are the connotations of the word “silence” in Lorde’s speech?

- Quiet
- ~~Peaceful~~
- ~~Calm~~
- ~~Stillness~~
- ~~Loneliness~~
- ~~Reflection~~
- ~~Meditation~~
- Repression
- Secrecy
- ~~Ghosting~~
- Oppression
- Erasure
- Intimidation
- ?
- ?
- ?

# Understanding a Text on Its Own Terms

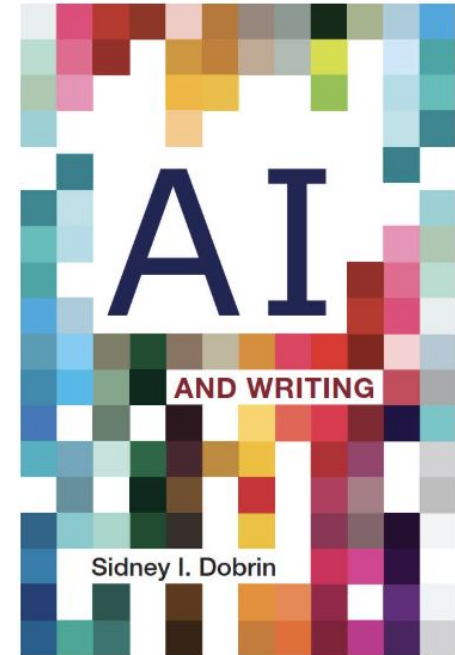
<b>My sense of “silence”</b>	<b>Lorde’s meanings of “silence”</b>
Quiet Peace Alone time Calm Soothing Rest Focus	Oppression Suppression Erasure Censorship Dehumanization Tyranny Despair

# Resisting the Anthropomorphization of AI

# Troubling the Idea of Human-Machine Collaboration

“Human-machine collaboration can free a writer from the mundane tasks of writing, allowing them to focus on ideas, critical thinking, and problem solving”  
(Dobrin 9-10)

“both the human and the AI provide expertise and labor in order to successfully complete the task at hand”  
(Dobrin 9)



# Several Obvious Points

Humans experience emotions. Machines don't.

Humans have free will and live one day at a time. Machines don't.

Humans have the capacity to love. Machines don't.

Humans have bodies with physical needs and responses. Machines don't.

Humans are accountable for our choices and actions. Machines aren't.





# Anthropomorphizing GenAI


- “Thought partner”
- “Writing partner”
- “Collaborator”
- “Voice in the conversation”
- “Different perspective”
- “Contributor”
- “Assistant”
- “Reader”
- “Extra pair of eyes”
- “Smart kid”
- “Ally”
- “Copilot”
- “Companion”



# Thinking Critically About Our Language Choices

“To put it bluntly, the language we use to talk about generative technologies is just plain bad. We’ve accepted the terminology that humanizes and familiarizes algorithmic processes with little protest or critical analysis.” —Marc Watkins

**Marc Watkins**  
@MARCWATKINS



Assistant Director of Academic Innovation,  
Director of the Mississippi AI Institute, Lecturer  
of Writing and Rhetoric at the University of...

Follow



“The humanization of machines isn’t a by-product here—it’s part of the package.”

—Marc Watkins



**Omni**



“Generative AI is complicated. How we talk about it should be, too. When AI makes errors they’re often subtle and buried in language that is confident. The gist we get reading such outputs: **Trust me. I know what I’m doing. I’m artificial intelligence.** But a large language model is no more intelligent than a toaster. Why do we want to believe otherwise?”

—Marc Watkins

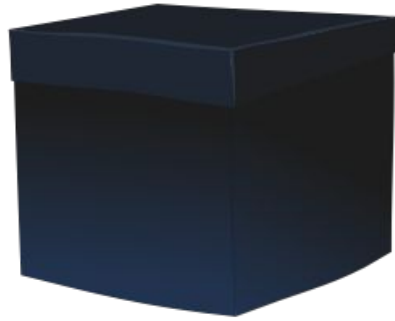


# Patterns & Probability: AI as Guessing Machine



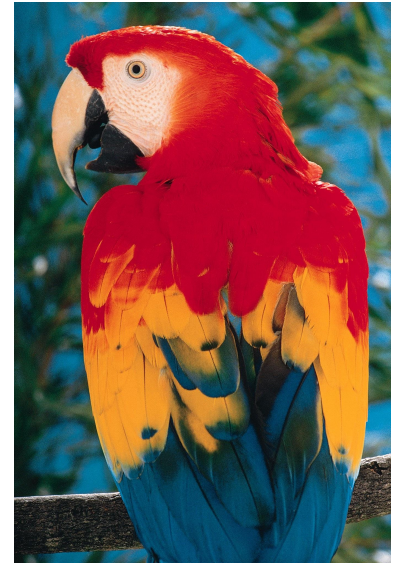
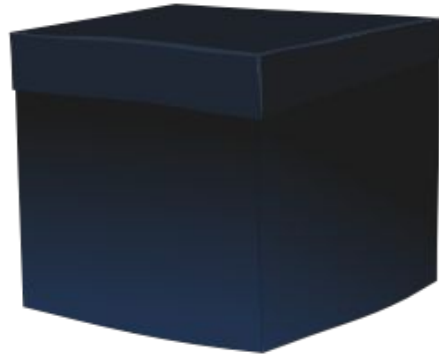
# The Bot in the Black Box

“LLMs are a mathematical model of language tokens. You give a LLM text, and it will give you a mathematically plausible response to that text” (Bjarnason).



“Just as environmental impact scales with model size, so does the difficulty of understanding what is in the training data” (Bender et al.).

# Better Metaphors for GenAI



**Stochastic:** randomly determined; having a random probability distribution or pattern that may be analyzed statistically but may not be predicted precisely.

# “On the Dangers of Stochastic Parrots”

“The problem is, if one side of the communication does not have meaning, then the comprehension of the implicit meaning is an illusion arising from our singular human understanding of language (independent of the model). Contrary to how it may seem when we observe its output, an LM is a system for haphazardly stitching together sequences of linguistic forms it has observed in its vast training data, according to probabilistic information about how they combine, but without any reference to meaning: a stochastic parrot.” (Bender et al. 616-617)

“We call on the field to recognize that applications that aim to believably mimic humans bring risk of extreme harms” (Bender et al. 619)



# Exposing the Machinery: Watkins's Suggestions

<b>Instead of...</b>	<b>Try</b>
“reasoning traces”	“predictive pathways”
“hallucinations”	“errors”

# Cultivating Expert Learners

## NOVICE

- Depends on rules and formulas
- Substitutes easier tasks for more complex ones
- Needs step-by-step instructions
- Uses mimicry as a coping strategy

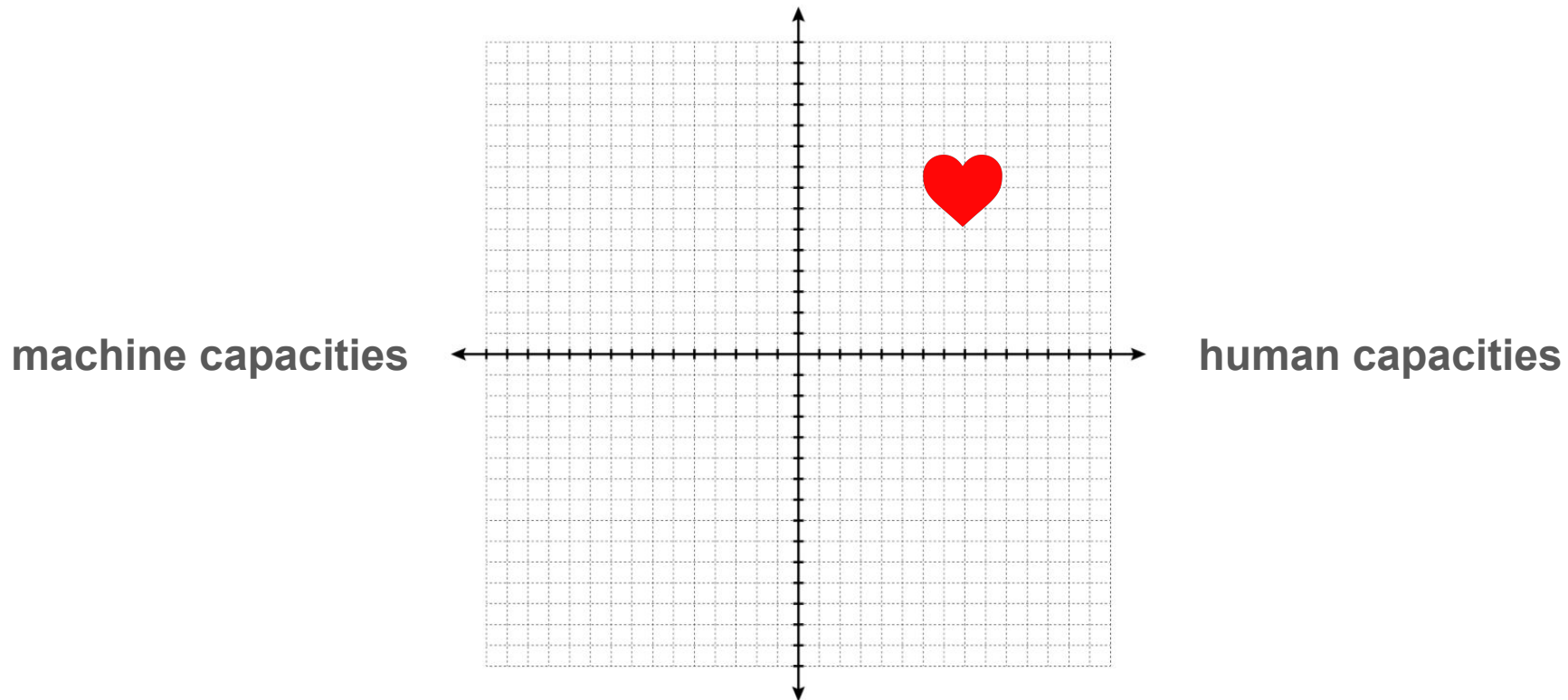
## EXPERT

- Retrieves learning relevant to a particular task or context
- Draws on deep conditional knowledge to respond to unfamiliar situations
- Practices independent problem solving
- Adapts and transforms learning for new purpose

Experts with high  
self-confidence are best  
able to think critically  
while using AI.



**high confidence**



**low confidence**

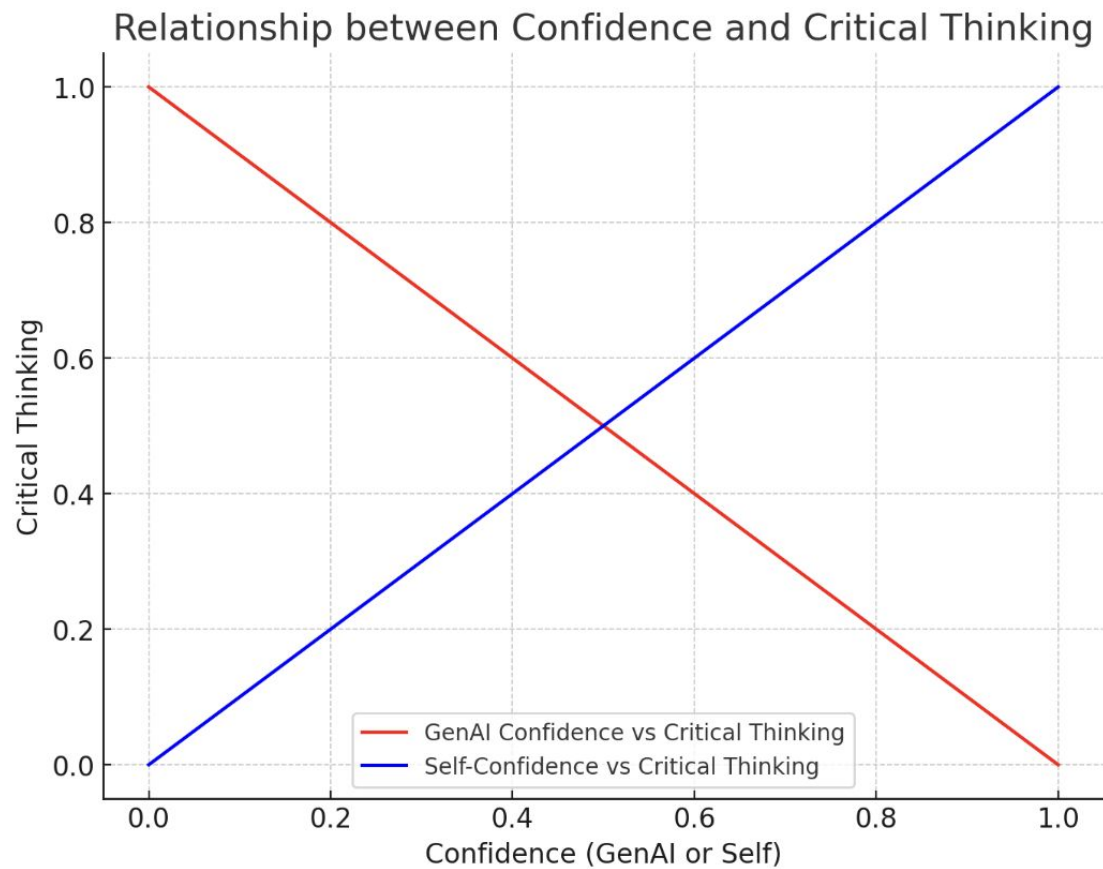
**machine capacities**

**human capacities**

According to researchers at Microsoft, “higher confidence in GenAI is associated with less critical thinking, while higher self-confidence is associated with more critical thinking” (Lee et al.).



## Response 2



“Surprisingly, while AI can improve efficiency, **it may also reduce critical engagement, particularly in routine tasks in which users simply rely on AI**, raising concerns about long-term reliance and diminished independent problem-solving” (Lee et al.).

# Takeaways

- LLMs are good at predicting the next word in a string of syntax based on established patterns.
- GenAI chatbots are NOT able to analyze social contexts (they can only make calculated predictions based on the written record of those contexts), audience needs and values, or real-world exigencies.
- GenAI chatbots function at the level of novice learners; they use rules and protocols to produce formulaic responses. They cannot produce sophisticated, contextualized, or conditionalized arguments.
- Frequent use of GenAI can interfere with the development of critical thinking and rhetorical literacy skills, such as genre awareness and analysis skills.
- Reliance on GenAI undermines student autonomy.
- Mechanized convergence is an obstacle to linguistic justice, diversity, and dexterity.



Thank you!

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