

# From Chalkboards to Chatbots

*Will AI Claim Our Language Classrooms?*

Remy Decorte 

21 May 2024

CLUB Conference



# 3 scenarios for the future

---

A. The dystopian  
outcome

B. The denial  
outcome

C. The  
harmonious  
outcome

“The best way to predict the future is to create it” - Peter Drucker

# What to expect from this presentation

## Introduction

- I. Demystifying AI
- II. Technological revolutions in language learning
- III. Benefits and challenges of AI in language education
- IV. Shaping a harmonious future with AI



A futuristic digital environment with a glowing brain and data visualizations. The scene is set in a dark space with a large, glowing blue brain in the center, composed of circuitry and data points. The brain is surrounded by various data visualizations, including circular patterns and abstract shapes. Four people are standing in the foreground, interacting with the digital environment. A woman on the left is looking at the brain. A man in the center is pointing at the brain. A woman on the right is also pointing at the brain. A man on the far right is pointing at the brain. The overall atmosphere is high-tech and futuristic.

# I. Demystifying AI



Before we start writing our future, let's learn some vocabulary



What if AI were a restaurant and Large Language Models the kitchen?

A close-up photograph of a person's hands in a blue long-sleeved shirt, using a large kitchen knife to chop green onions on a wooden cutting board. The background is softly blurred, showing a kitchen setting. The text is overlaid on the left side of the image.

## Natural Language Processing (NLP)

---

*The culinary arts:* the entire field that encompasses all human techniques, methods, and practices for preparing, cooking, and presenting food.

# Data and algorithms?

---

Data = ingredients



Algorithms = recipes

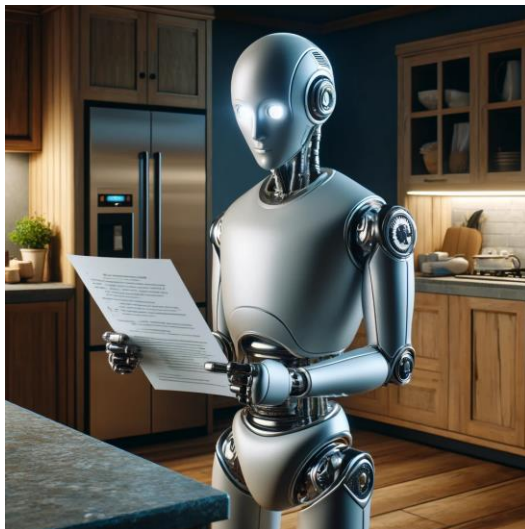




# Machine Learning and Deep Learning

**Machine learning = *Recipe-based cooking***

Following set recipes (algorithms) to make dishes (predictions/decisions).



**Deep learning = *Using knowledge of ingredients and their properties to experiment***

Cooking (make predictions/decisions) by experimenting and adjusting based on feedback





## Predictive AI: The seasoned Sous-Chef

Uses past data and trends to predict future demand and ingredient needs.

Helps plan menus and stock supplies.

Ensures the restaurant stays ahead of trends and customer preferences.





## Generative AI: The innovative chef



Creates entirely new culinary experiences (content), combining ingredients (data) in novel ways and adapting to preferences.

Constantly innovates and surprises with unique dishes (outputs).

In this specific kitchen, its name is often synonymous with GPT, but there are others.





## Chatbots: the friendly waitstaff



Interact with diners (users) to take orders, answer questions, and provide recommendations.

Use their knowledge of the menu (data and algorithms) to offer personalized and efficient service.





And humans?

Owners, head chefs, and diners

Oversee the kitchen operation (AI development), ensure quality, provide creativity and direction, and ultimately enjoy and evaluate the final product (AI outcomes)



# The March of Progress of AI

**1950s - Early AI concepts:** theories around neural networks and rule-based systems

**1965 - Moore's Law:** computing power would double every two years

**1980s - AI Winter:** A period of reduced funding and interest in AI due to disillusionment.

**1990s - Revival and Machine Learning:** Adoption of machine learning techniques.

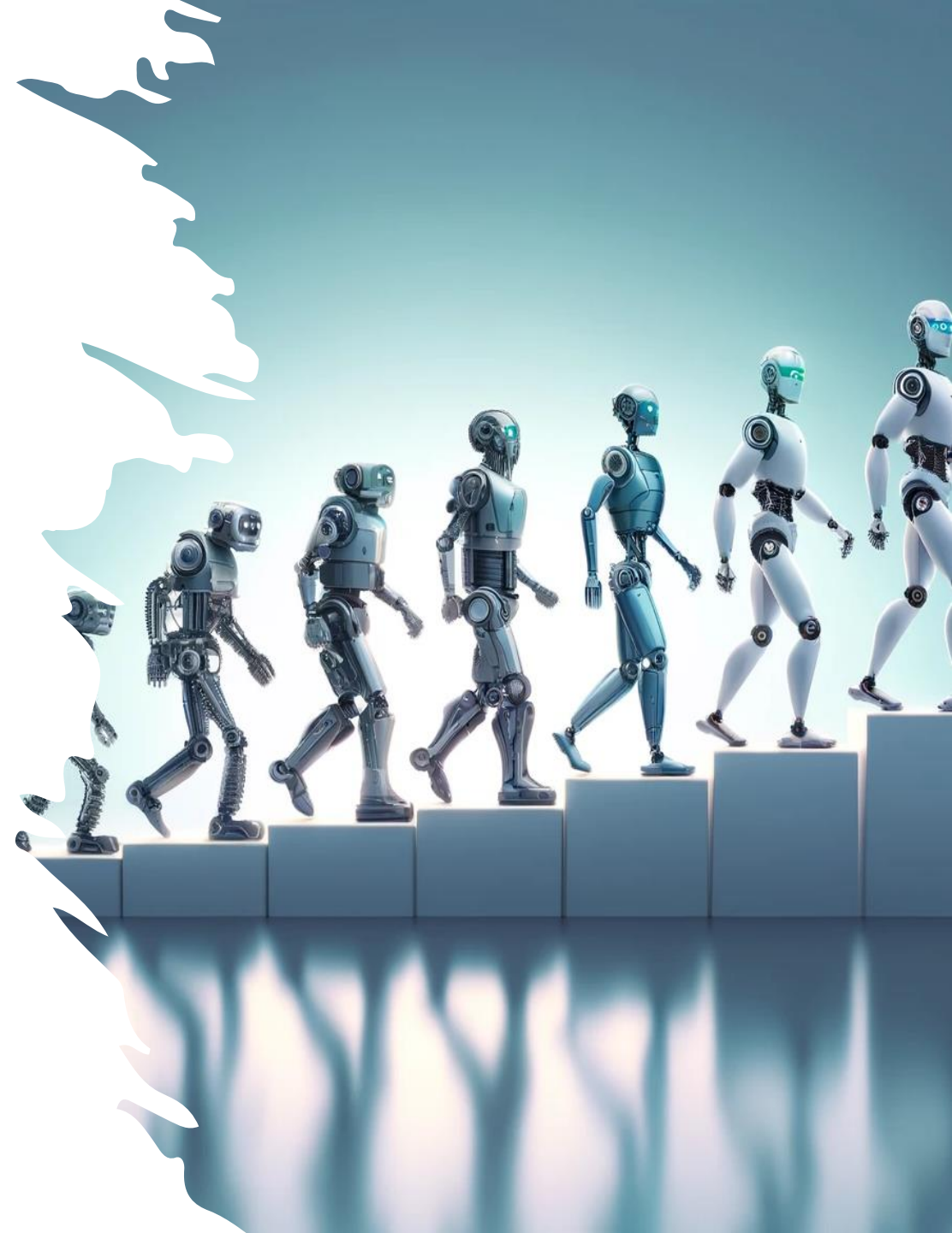
**2010s - Deep Learning and Big Data:** Significant improvements in AI capabilities, including speech and image recognition.

**2016 - AlphaGo:** AI defeats world champion Lee Sedol in the game of Go

**2017 - Introduction of the transformer model** (Vaswani et al., 2017) by Google

**2020s - AI integration into daily life:** ethical debates concerning privacy, autonomy, and the role of AI in decision-making.

**Near future - Emergence of Artificial General Intelligence?**





## II. Technological revolutions in language learning

# Technological revolutions in language learning

## 1960s-1970s

Early adoption and media influence

- Language labs (Roby, 2004)
- Broadcast media

## 1990s- Early 2000s

The Internet revolution

- Internet and multimedia
- Data-driven Learning (Johns, 1991): corpus linguistics

## 2010s

Advanced technologies and networks

- Platforms (Blattner & Fiori, 2009)
- MALL (Burston, 2014)
- MOOCs

Computer-Assisted Language Learning

- Early CALL Systems (Levy, 1997)
- Computer-based training: interactive language learning programs on personal computers.

1980s

Virtual worlds and gamification

- Gamification (Reinhardt, & Sykes, 2012)
- Interactive whiteboards (Smith, 2009)

Mid 2000s

Immersive and adaptive technologies

- VR, AR (Karacan & Akoglu, 2021)
- AI and personalized learning (Pokrivcakova, 2019)
- Chatbots (Dokukina & Gumanova, 2020)

2020s



# Some famous AI-powered applications that can support language learning and teaching today

---



Quizlet



Kahoot!



mondly  
languages

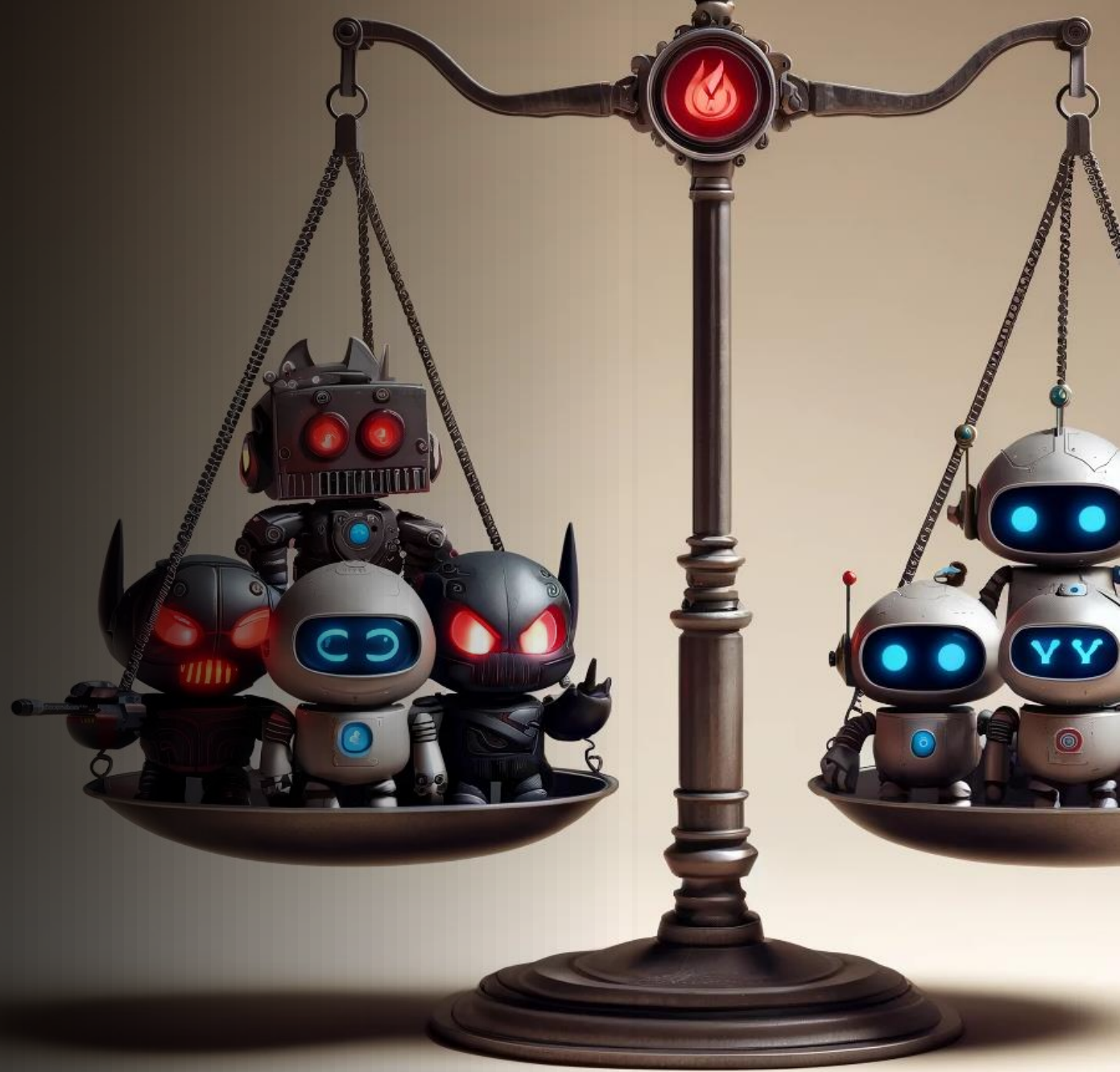


ImmerseMe



ElevenLabs

III. Benefits and challenges of (Gen)AI in Language Education



# (Gen)AI and long-standing issues in language teaching

**PARADIGM SHIFT** in language education, but **NOT AN OVERHAUL**, required to address **EXISTING pedagogical PRIORITIES**  
(Meunier & Decorte, *accepted*)

Time-poverty  
(Creagh et al.,  
2023)

Materials  
development  
(Tomlinson, 2012)

Individual  
differences  
(Dörnyei & Skehan,  
2003)

Motivation  
(Ushioda, 2011)

Language anxiety  
(Horwitz, 2001)

Feedback and  
assessment (Hattie  
& Timperley, 2007)

Cultural  
competence  
(Byram, 1997)

...



CONSORTIUM LANGUES  
MODERNES

# Main challenges of (Gen)AI integration in education

**Ethical considerations**  
(Selwyn, 2019)

**Accuracy and reliability**  
(Liu et al, 2021)

**Bias**  
(Caliskan et al., 2017)

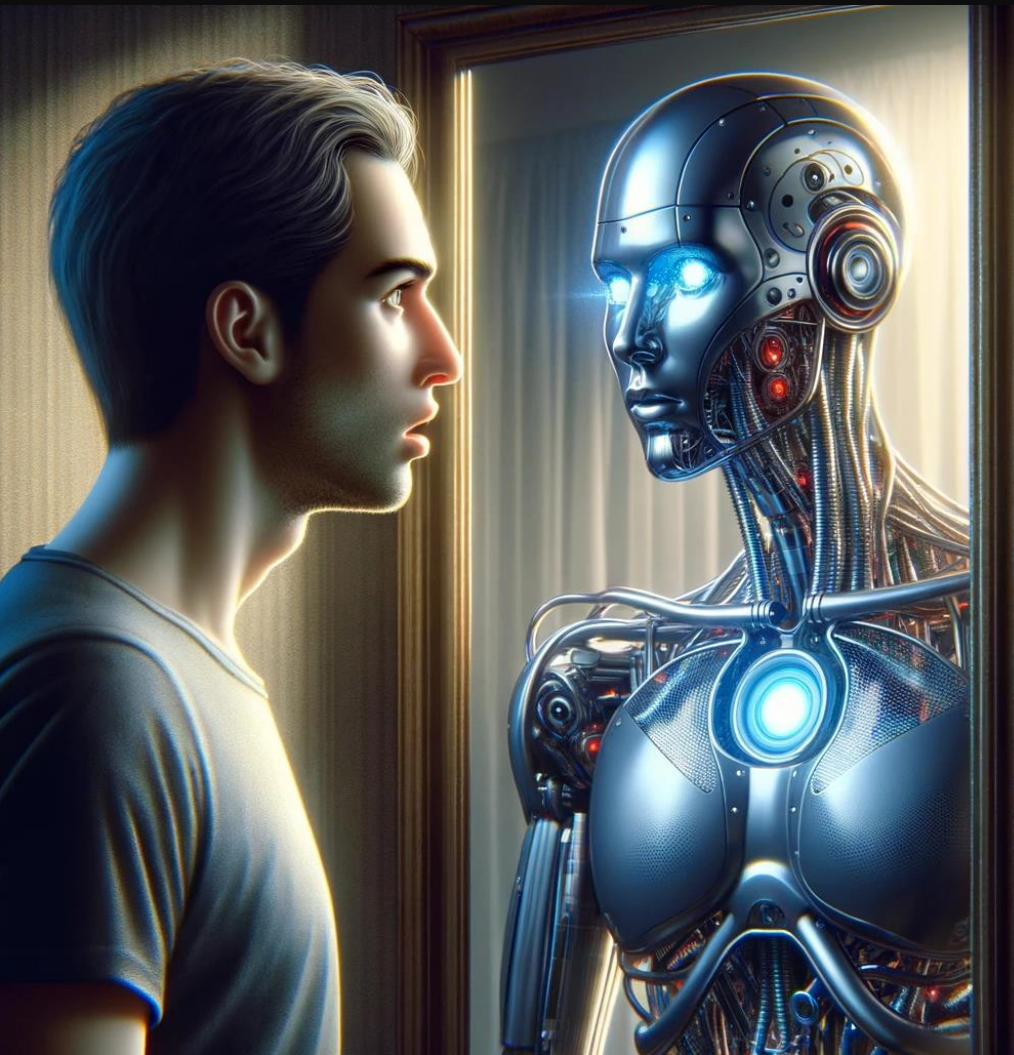
**Data privacy**  
(Brundage et al., 2020)

**Dependency on technology**  
(Carr, 2020)

**The 'black box' nature of AI**  
(Lipton, 2018)

A close-up photograph showing a human hand on the right, firmly grasping a futuristic, glowing blue robotic hand on the left. The robotic hand has a metallic, segmented appearance with bright blue light emanating from its joints and fingers. The background is dark and slightly hazy, suggesting a high-tech or futuristic environment. In the top left corner, there is a small orange horizontal bar.

Shaping a harmonious  
future with AI



# What makes us 'human'

---

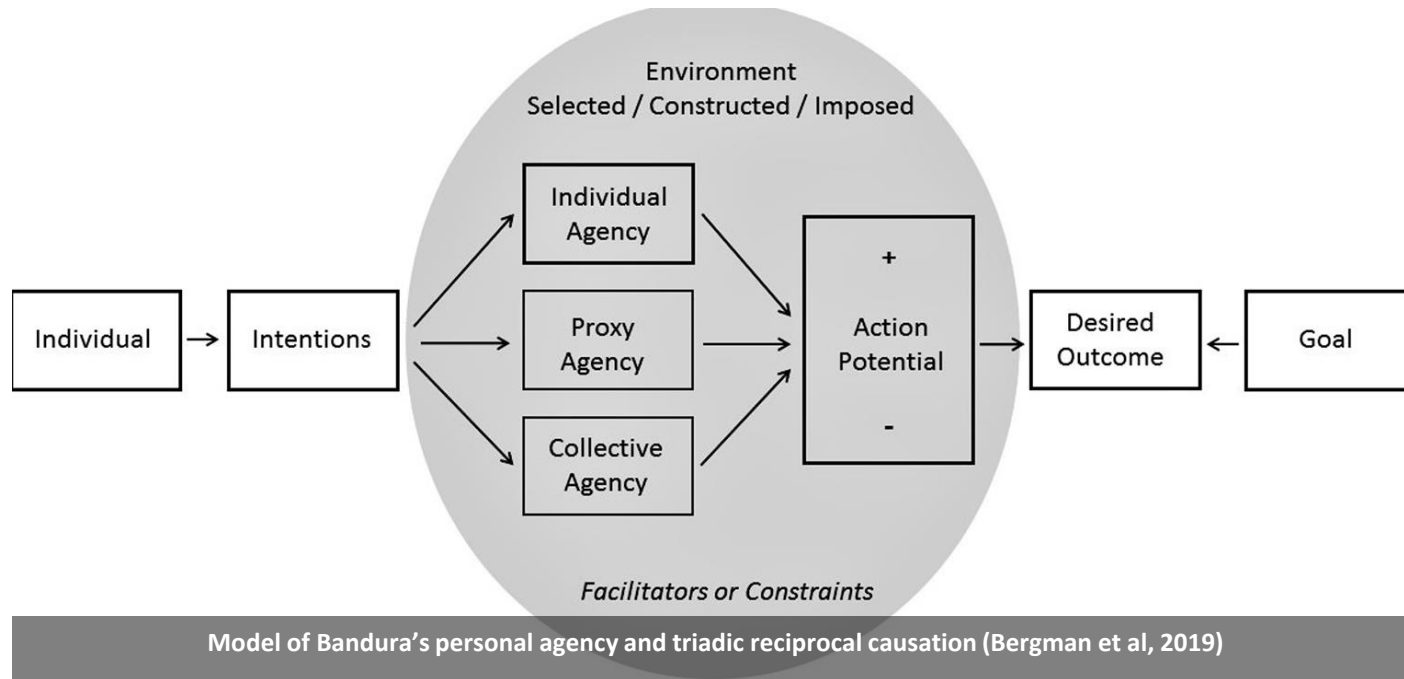
- **Our 'feeling brain' vs. 'thinking brain'** (Mark Manson)
    - Accountability and moral reasoning
    - Decision-making
    - Adaptability to unforeseen situations
  - **Our intentions**
  - **Our sense of agency** : the experience of controlling one's actions and the course of events in the outside world, is a central feature of human experience and underpins the concept of responsibility in human societies. (Haggard, 2017)
-

# Agency in language education \*

- **Teacher agency:** teachers' “active contribution to shaping their work and its conditions” (Priestley et al., 2015, p. 1)
- **Learner agency:** optimizing conditions for one's own learning (or not) and choosing to use languages and other communication tools to act in a multilingual world (Larsen-Freeman, 2019)

\* Meunier, F. (2024) *Inclusion and agency seen through the lens of multilingualism*. VLIR-CREF CONFERENCE. EUROPEAN UNIVERSITY ALLIANCES: Divers of Change and Innovation in Higher Education. Brussels, 30.04.2024.

# 3 modes of agency (Bandura, 2001)



**Direct personal agency:** This refers to an individual's ability to influence their own life and environment through their own actions and decisions.

**Proxy agency:** This occurs when individuals influence their lives by relying on others to act on their behalf to achieve desired outcomes.

**Collective agency:** This involves people working together in a group or collective to achieve common goals and exert influence over their shared environment.



# Shaping a harmonious future with AI



## Direct personal agency

Use AI to test its **potential** and discover its **limits**.

Learn about AI to **understand its functioning**

**Gain knowledge** to make informed decisions about AI



## Proxy agency

**AI as proxy:** make informed decisions as to what to delegate to AI

**Policymakers and institutions as proxy:** asking for clear policies and guidelines regarding AI

**Use knowledge** to make informed decisions



## Collective agency

Educate citizens about AI so they can **make informed decisions**

**Conduct research** on AI to inform users

**Spread knowledge** and good practices

# More research needed on the potential/limits of (Gen)AI in language education

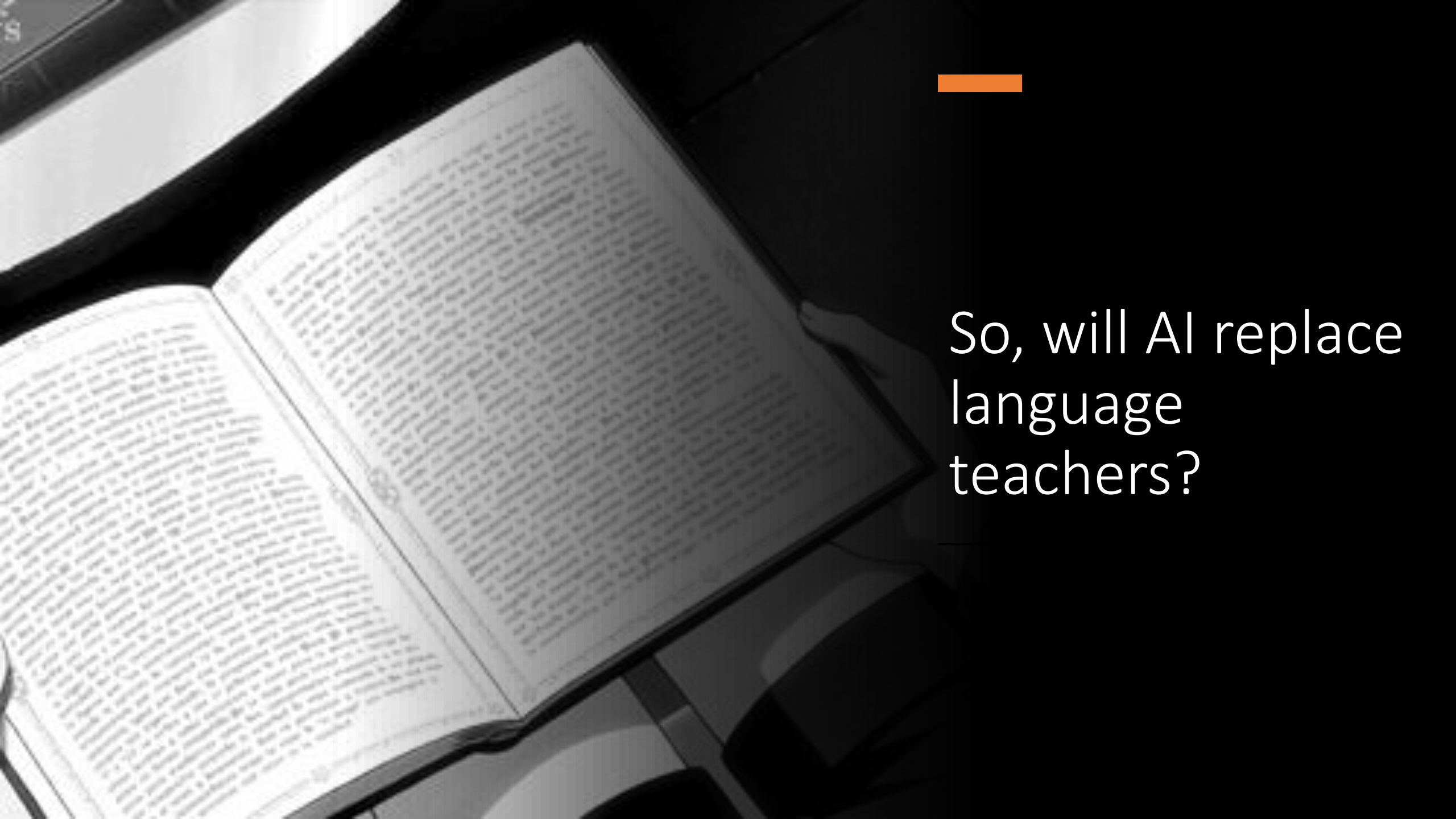
- Not only **isolated interventions in 'lab settings'**
- But also **more ecological methodologies** that consider process, person, context, and time (Vélez-Agosto et al., 2017), such as:

**Practice-Based Research** (Sato & Loewen, 2022)

**Action Research** (Mills, 2000)

**Participatory Action Research** (Whyte, 1991)

**Design-based Research** (The DBR Collective, 2003)



So, will AI replace language teachers?

# What does ChatGPT4o say about it?



AI can certainly complement language teaching, but it's unlikely to fully replace human language teachers due to several factors:

- 1. Emotional Intelligence and Rapport:** Human teachers can build strong, empathetic relationships with students, which is crucial for motivation and engagement in language learning. AI currently lacks the depth of emotional intelligence needed to connect with students on a personal level.
- 2. Cultural Nuances:** Language is deeply intertwined with culture, and human teachers can impart cultural context, nuances, and subtleties of language that AI might miss or simplify excessively.
- 3. Adaptability in Teaching:** While AI can adjust its methods based on data, human teachers can make intuitive adjustments in their teaching style to suit the dynamic needs of individual students or groups, often based on subtle cues that AI might not fully interpret.
- 4. Ethical and Social Implications:** There are ethical concerns around relying solely on AI for education, including privacy issues, data security, and the need for human judgment in sensitive situations.
- 5. Complex Feedback:** Human teachers can provide complex, nuanced feedback on a student's progress, including areas like pronunciation, writing style, and creative use of language, which are areas where AI tools may still lack depth.

However, AI can be a powerful tool to aid language learning by providing:

- Automated, immediate corrections and feedback.
- Personalized learning experiences through adaptive learning platforms.
- Additional practice opportunities outside of the classroom.
- Access to language learning tools for people who might not otherwise have access to human teachers.

In summary, AI is best seen as a supplement to human teaching, enhancing language education rather than replacing it.



# What does Consensus say about it?



Will AI replace language teachers?



## Summary beta

10 papers analyzed

Some studies suggest AI can significantly enhance language education and reduce teachers' workload, while other studies indicate that AI cannot replace the unique human qualities and expertise of language teachers.

## Consensus Meter beta



9 papers analyzed



# Towards a **humAIne** language classroom

---



So, will AI claim our language classrooms? AI should 'supplement rather than supplant language teachers' (Meunier & Decorte, *forthcoming*)



If we want a harmonious scenario, we need...

- to position ourselves towards AI
- to become agents of change
- engage in research



This is the purpose of today's discussions and workshops, so we're definitely going in the right direction to shape a **humAIne future** for language education together.



Thank you for  
your attention!

Time for your prompts!

 Ask RemyGPT

