

From Chalkboards to Chatbots

Will AI Claim Our Language Classrooms?

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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





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, wearing a blue long-sleeved shirt, chopping green onions on a wooden cutting board. The person is using a large kitchen knife. The background is blurred, showing a kitchen setting. The text "Natural Language Processing (NLP)" 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



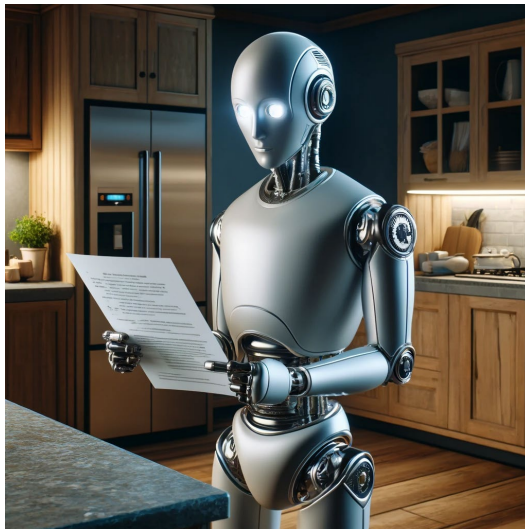
Algorithms = recipes



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.

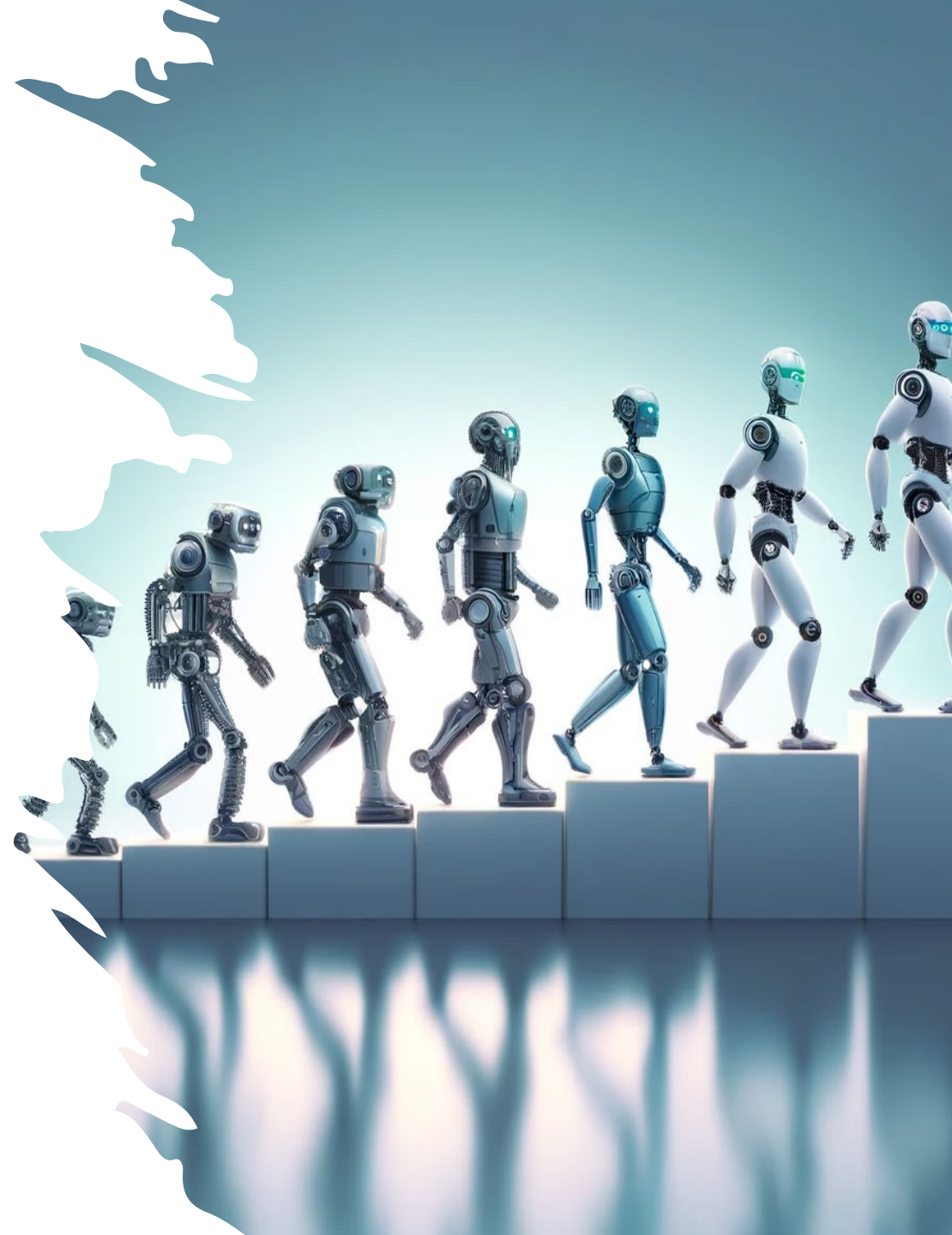
2010s - Deep Learning and Big Data: Significant improvements in AI capabilities, including speech and image recognition.

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.

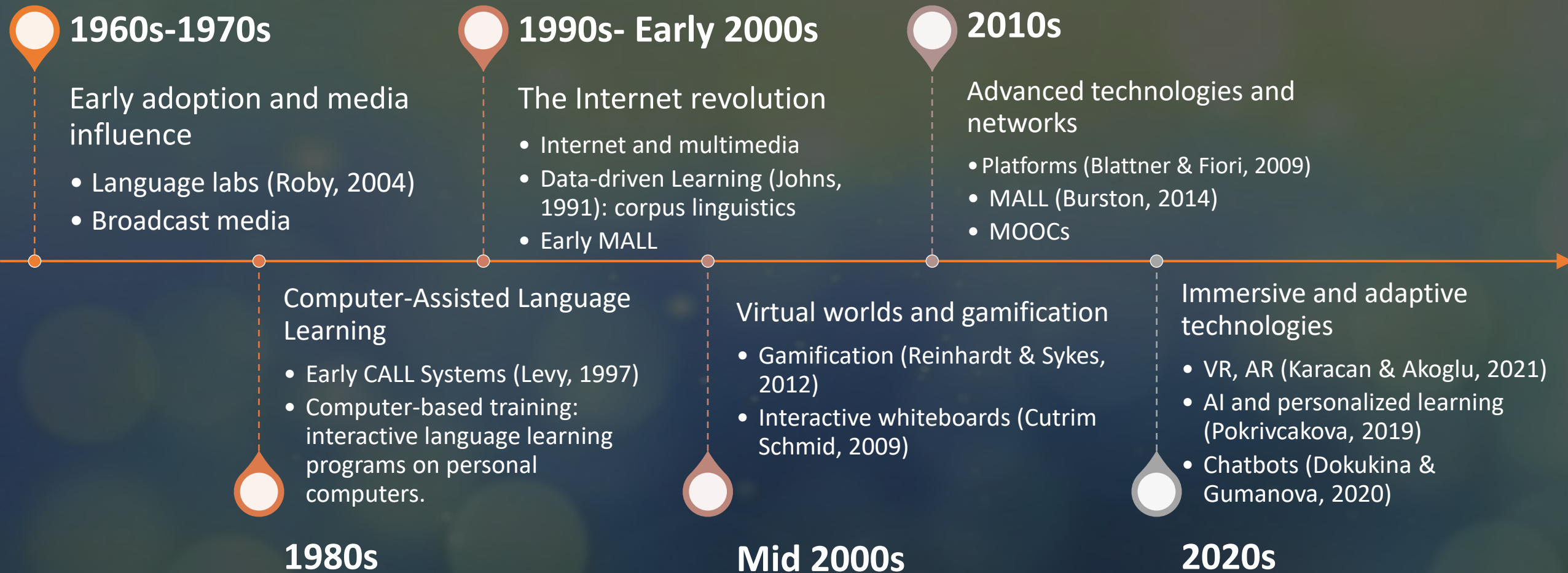
Near future - Emergence of Artificial General Intelligence?





II. Technological revolutions in language learning

Technological revolutions in language learning



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



Quizlet



Kahoot!



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)

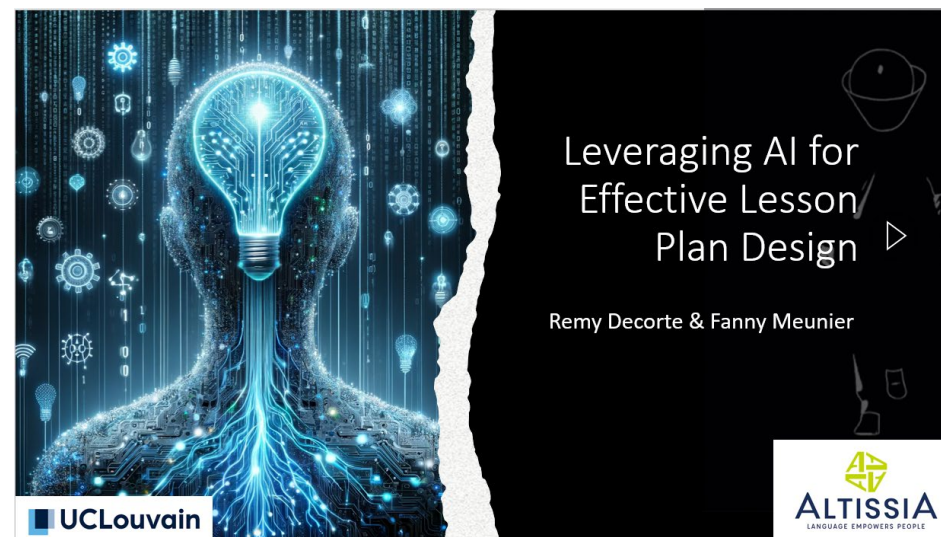
Motivation
(Ushioda, 2011)

Language anxiety
(Horwitz, 2001)

Feedback and
assessment (Hattie
& Timperley, 2007)

Cultural
competence
(Byram, 1997)

...



CONSORTIUM **m** LANGUES
ODERNES

Main challenges of (Gen)AI integration in education

Ethical considerations
(Selwyn, 2019)

Accuracy and reliability
(Amaro et al, 2023)

Bias
(Caliskan et al., 2017)

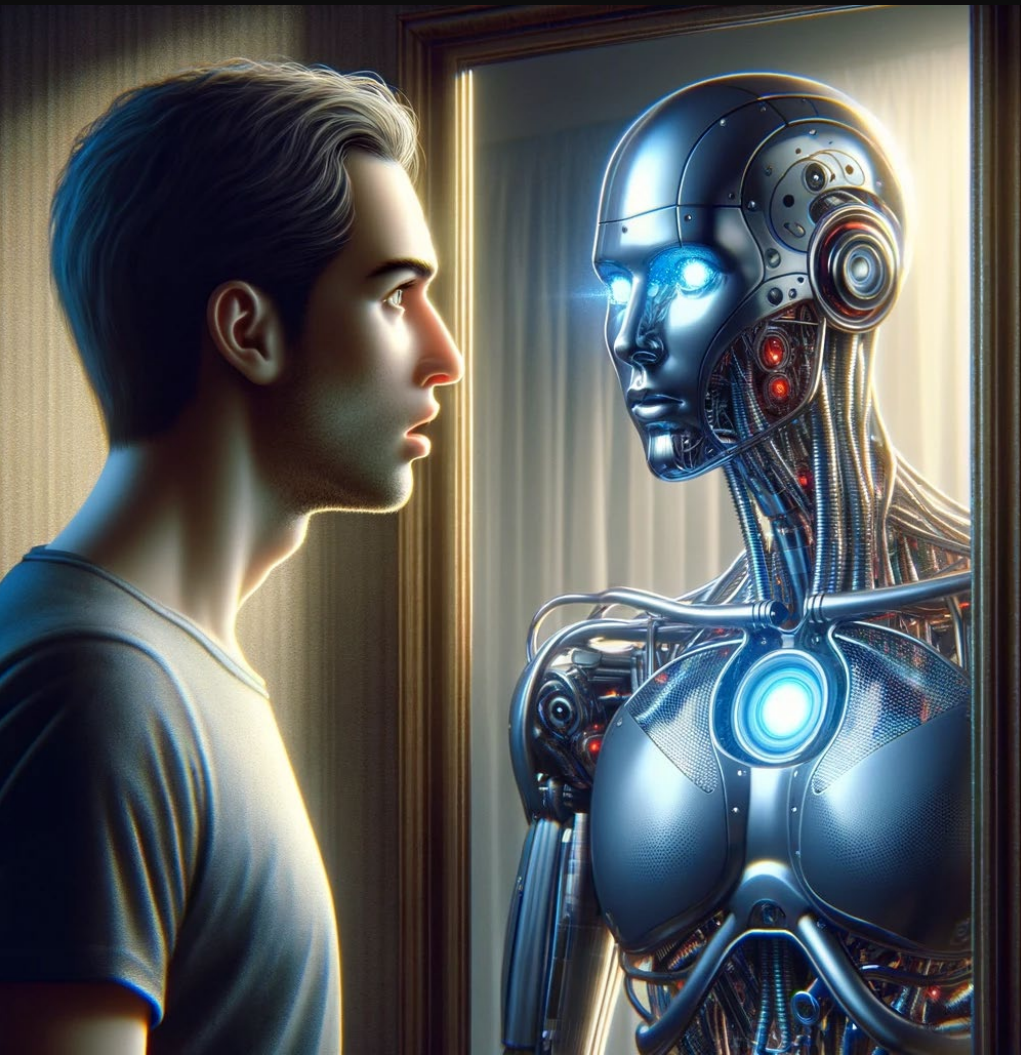
Data privacy
(Brundage et al., 2020)

Dependency on technology
(Carr, 2020)

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



Shaping a harmonious
future with AI



What makes us 'human'

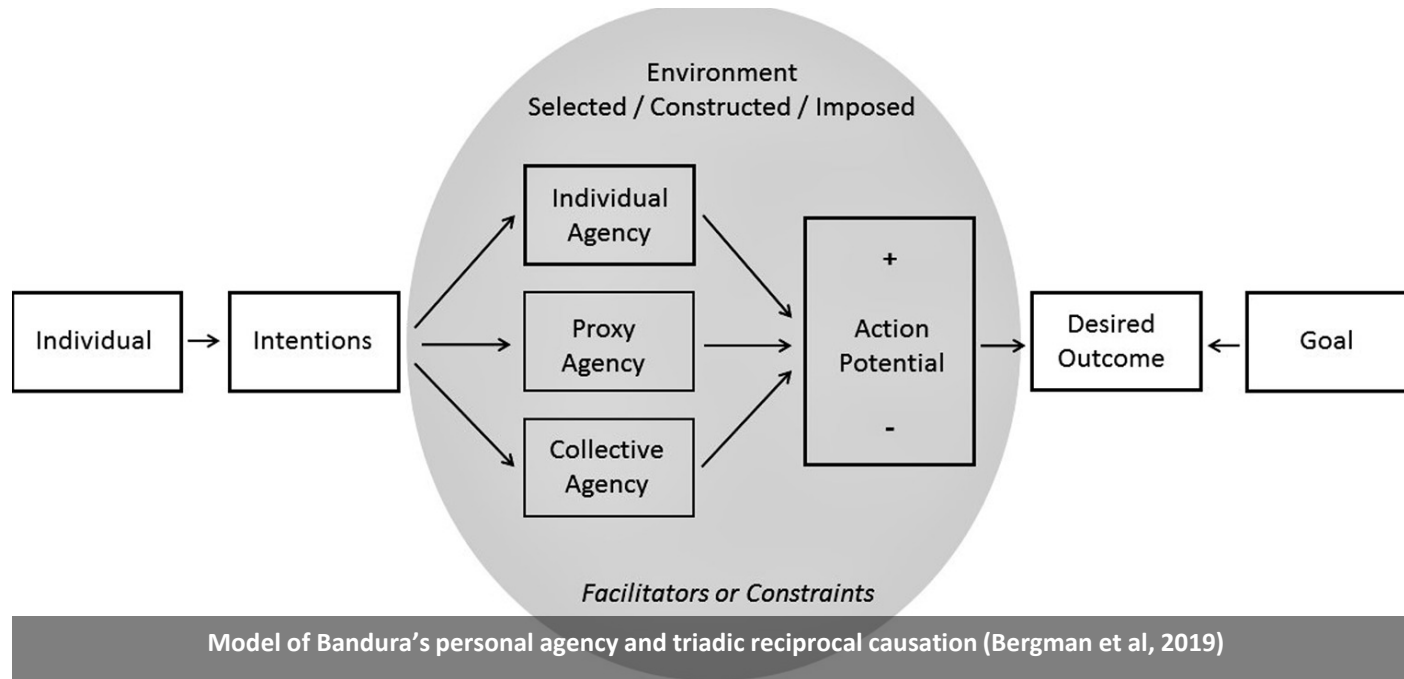
- **Our 'feeling brain' vs. 'thinking brain'** (Mark Manson)
 - Accountability and moral reasoning
 - Decision-making
 - Adaptability to unforeseen situations
 - **Our intentions**
 - **Our sense of agency:** the experience of controlling one's actions and the course of events in the outside world, is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



Individual 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

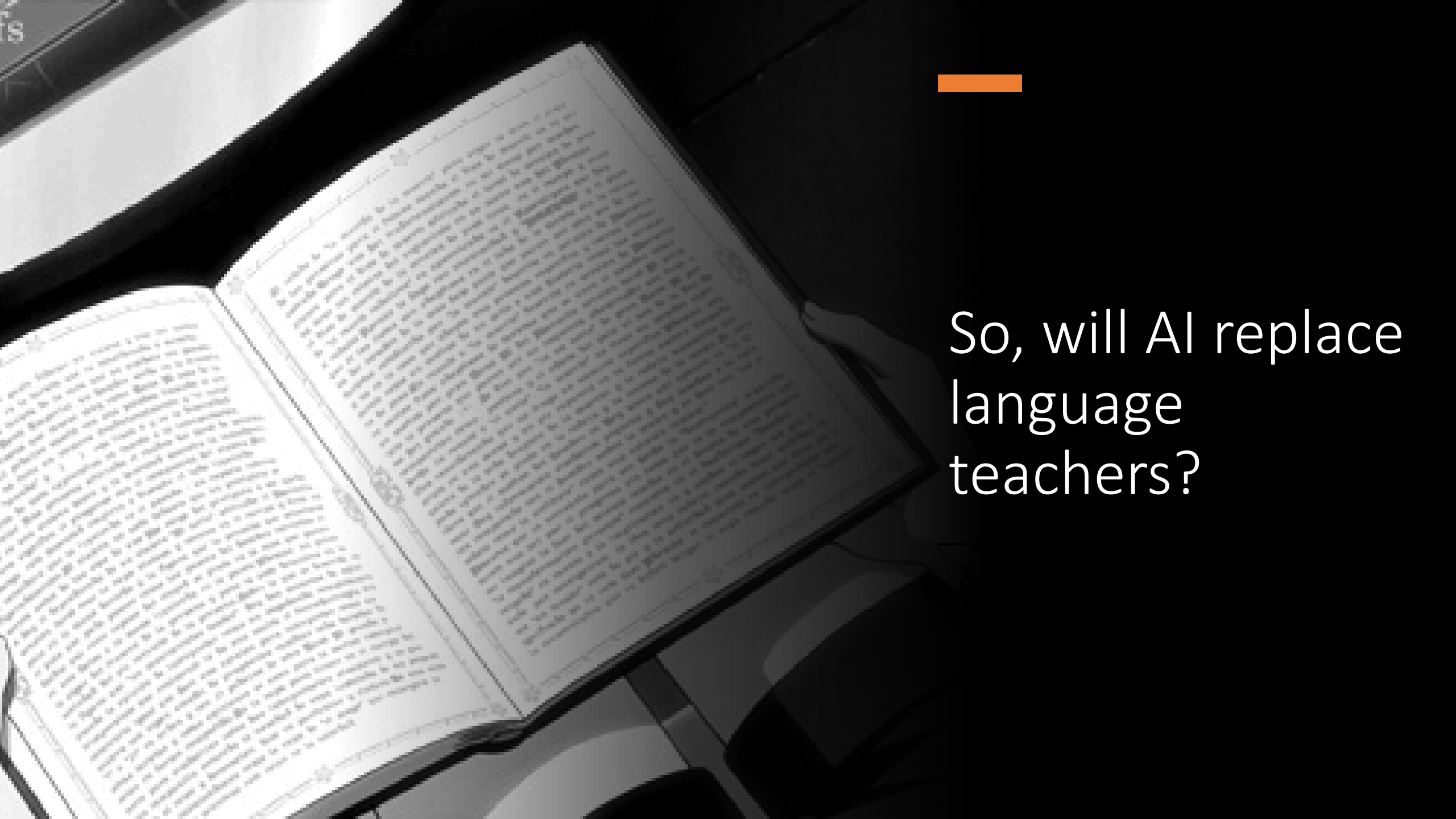
- Not only **isolated interventions in 'lab settings'**
- But also **more ecological methodologies** that consider process, person, context, and time (Vélez-Agosto et al., 2017), such as:

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.

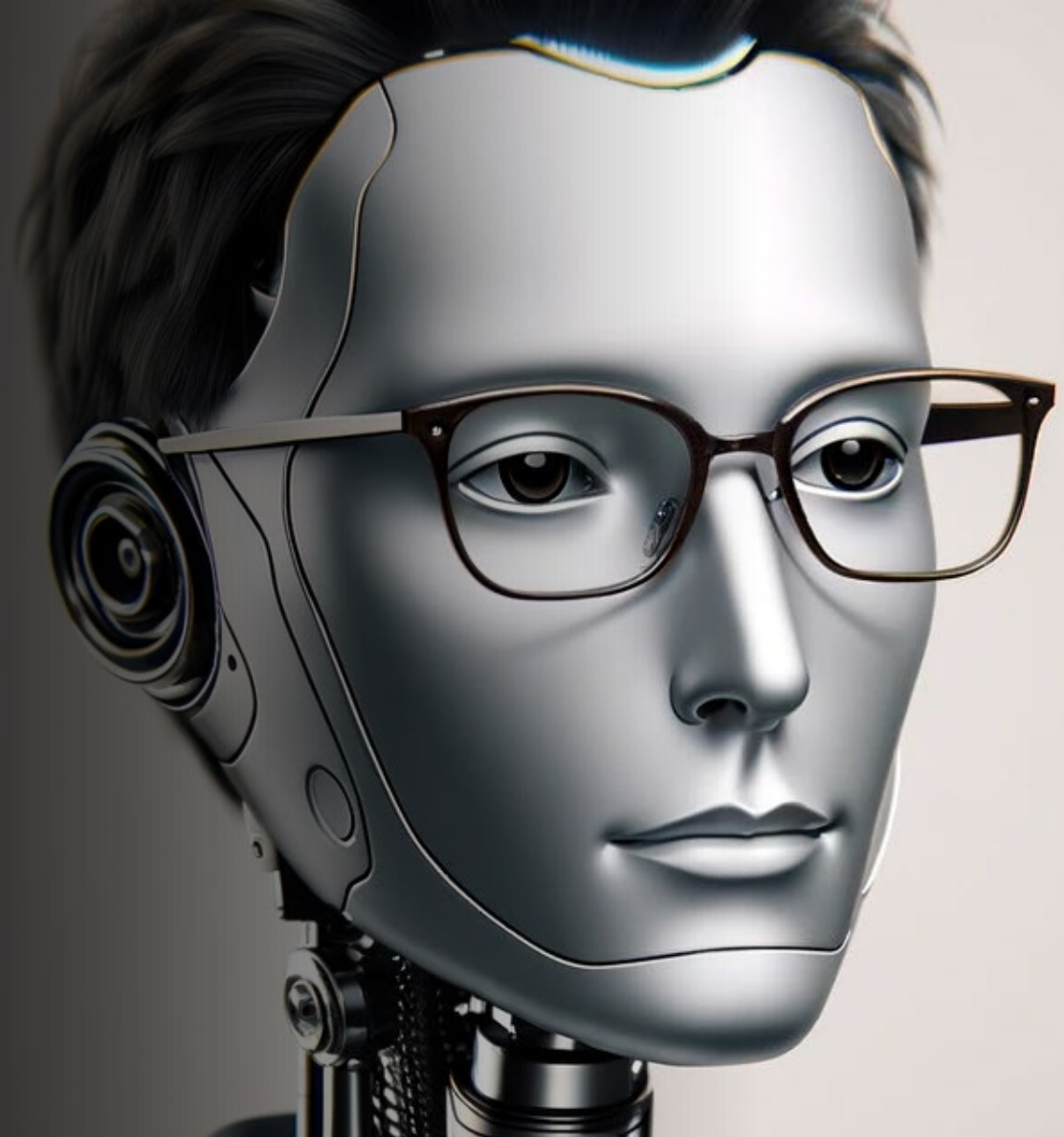


Thank you for your attention!

Time for your prompts!



Ask RemyGPT



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Note: All the illustrations used in this presentation were generated with Dall-E (ChatGPT4)

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