Harnessing AI and Translanguaging in Language Teaching and Assessment

Opportunities and Quality Control

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Translanguaging and AI

Outline

Translanguaging in an ideal world

Current conceptualizations

Opportunities for pedagogy and assessment

Translanguaging in the real world

Challenges in operationalization

Need for sustainable quality control

Conclusions

The phenomena

- The rapid expansion of globalization and internationalization has extensively promoted multilingualism and multiculturalism (Xin et al., 2024).

- The innovations of AI technologies has transformed the ways of communication across languages and cultures (Samantray et al., 2024).

Translanguaging

Artificial intelligence (AI)
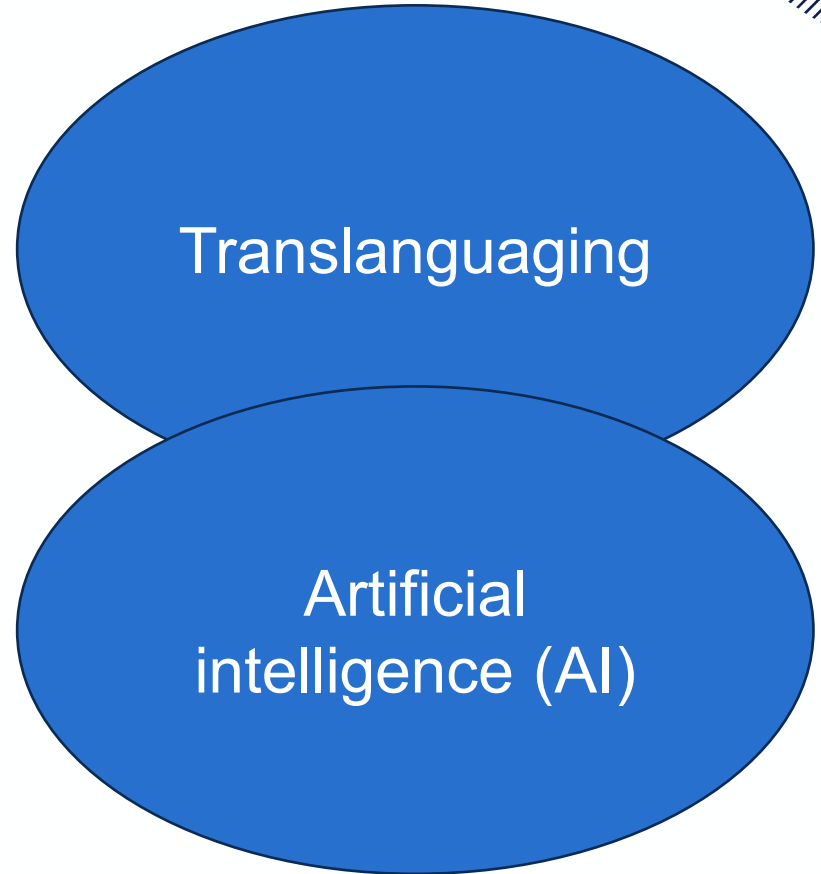
The ideal world:
Multilingual classroom in a diverse community school

A linguistically diverse middle school has students who speak multiple languages, such as Spanish, Mandarin, Arabic, and English.

- Before class
  - The teacher uses ChatGPT to generate instructional materials and DeepL to translate them into multiple home languages for students.
- During class
  - Students collaborate in pairs or groups and use Google Translate or Otter.ai to communicate when their home languages differ.
- After class
  - The teacher uses AI-based grading tools to analyze students' multilingual compositions and identify their strengths and areas for improvement in both content and language use.
  - Students use AI-based grading tools to help provide peer feedback.

What is translanguaging?

- First coined by Cen Williams (1994)
  - "the ability of multilingual speakers to shuttle between languages, treating the diverse languages that form their repertoire as an integrated system" (as cited in Canagarajah, 2011, p. 401)

- A theoretical perspective to language, and especially multilingualism
  - Language as action
  - language as a united bank of resources
  - Language as more than fragmented linguistic skills

(García & Li, 2014; Garcia & Lin, 2016; Lewis, Jones & Baker, 2012)

What is translanguaging?

- Similar terms
  - polylingual languaging (Jørgensen, 2008)

  - heteroglossia (Creese & Blackledge, 2014)

  - metrolingualism (Pennycook & Otsuji, 2015)

  - code-switching (Auer, 1990; Azuma, 1998; Verschueren, 1999)

  - code meshing (Canagarajah, 2011)

What is translanguaging?

- Garcia (2009): "multiple discursive practices in which bilinguals engage in order to make sense of their bilingual worlds" (p.112).
  - To liberate language practices of bilingual minoritized populations
  - To transform the hierarchical inequalities in schools.

- Otheguy et al. (2015): "the deployment of a speaker's full linguistic repertoire without regard for watchful adherence to the socially and politically defined boundaries of named (and usually national and state) languages" (p. 281).
  - All kinds of communication resources used coordinately by bilinguals or multilinguals to satisfy communicative purposes are stored in this translanguaging linguistic repertoire.

- Li (2018): Translanguaging "transcend[s] the traditional divides between linguistic and nonlinguistic cognitive and semiotic systems."

Why translanguaging?

- Enhances learning and comprehension

- Empowers multilingual identity and practices

- Boosts motivation and engagement

- Supports teaching and collaboration

- Promotes diversity, equity, and inclusion

(Baker, 2001, 2006, 2011; Creese & Blackdedge, 2010; Li, 2018; Mazak et al., 2016)

Challenges of translanguaging in practice

- Most academic discussion still at the theoretical level

- Despite empirical explorations in translanguaging pedagogy, challenges remain in practice:
  - Policy and curricular constraints
  - Teacher preparation and training
  - Resources, time, and management issues
  - **Assessment and evaluation**
  - **Technological limitations**
  - Equity, diversity, fairness

(Cenoz & Gorter 2021; Lau & van Viegen 2020; Xin et al., 2024)

Explosion of AI-related technologies
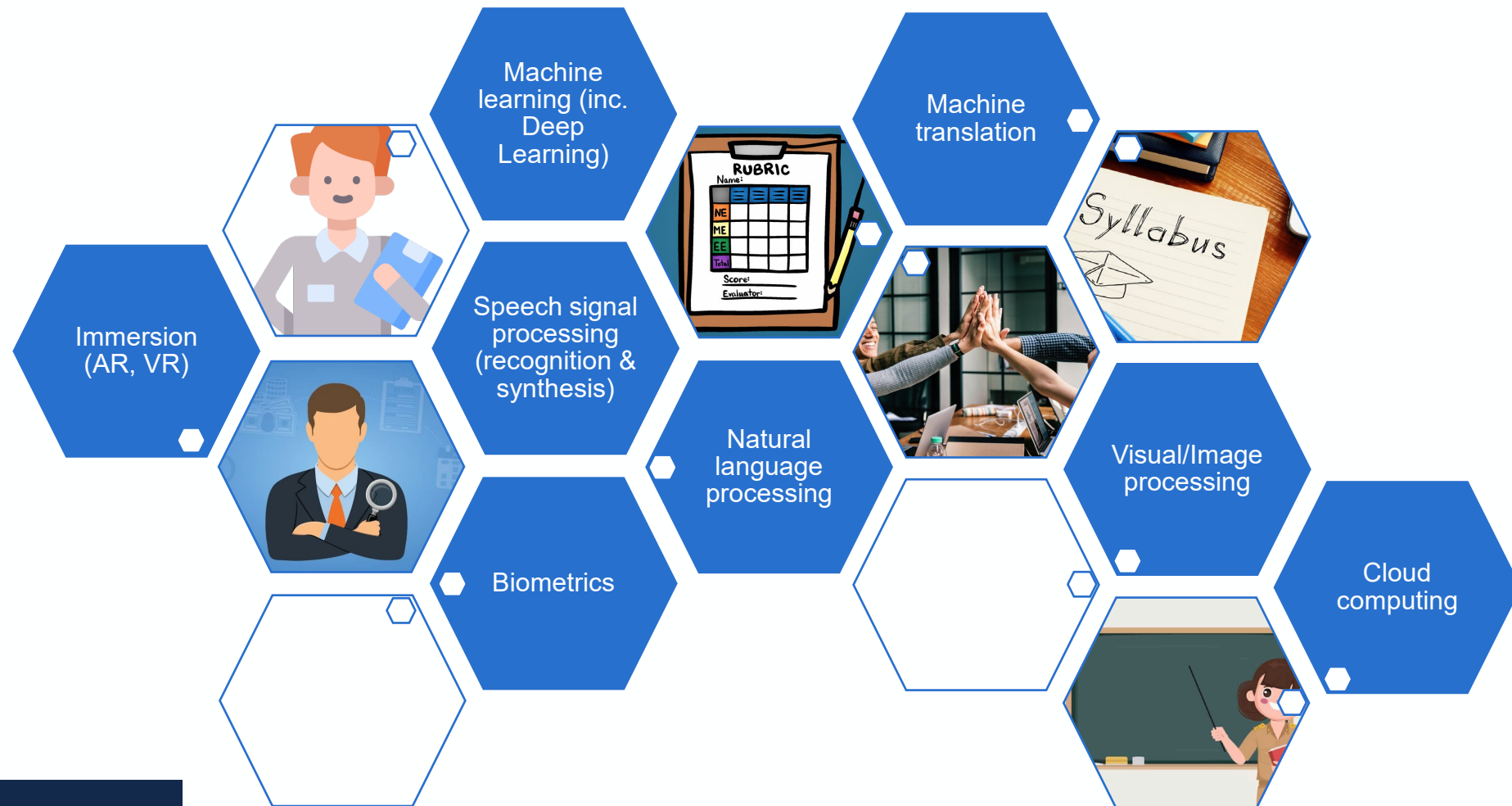
AI in language education

Affordances of (gen)AI
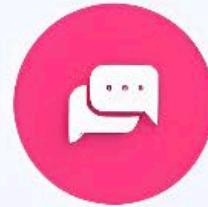
- **Facilitating multilingual communication**
  - **Machine translation** tools can support translanguaging by providing real-time translations, enabling students to switch between languages for comprehension and communication.
- **Enhancing multilingual learning resources**
  - **Generative AI tools** can generate customized, multilingual-multimodal educational materials tailored to students' linguistic backgrounds.
- **Scaffolding learning across languages**
  - **AI-based adaptive systems** can enhance personalized pedagogical and assessment materials.
- **Promoting collaborative learning and peer feedback**
  - **AI learning management platforms** can empower students to be autonomous learners and users of languages and provide collaborative peer feedback without barriers of language.
- **Assessing translanguaging practices**
  - **Spoken Dialogue Systems** allows teaching and assessment to simulate translanguaging practices

Machine translation in translanguaging pedagogy

Content

Language

Heugh et al. (2022)

Academic integrity, inclusivity, and knowledge exchange in higher education

Benefits
Machine translation tools, such as Google Translate, support multilingual students by improving vocabulary, critical thinking, and confidence while facilitating collaboration and access to diverse knowledge.

Challenges
- Difficulty in accessing multilingual resources and inconsistent integration of transknowledging practices.
- Limited understanding of machine translation among faculty and its misuse by students due to lack of formal instruction.

Kelly & Hou (2022)

Daily and academic communication in K-12 contexts

Benefit
- Machine translation permeates various learning and communicative aspects across multilingual development.
- Learners view machine translation as a legitimate multimodal tool within their semiotic repertoires.

Challenges
- Accuracy and over-reliance: Teachers worried that MT might hinder English proficiency if used excessively.
- Limited usage for advanced learners: Teachers often stopped promoting MT as students became more proficient.

Lessons learned from pedagogical practices

- Need for AI literacy in teacher preparation and training
- Focused (narrow) purposes of translanguaging and goal
- Priority of content or language learning

- What is still missing? ➔ **Assessment**

Translanguaging in assessment contexts

Formative assessment

Lopez et al. (2017)

Integrating translanguaging into content assessments for bilingual students
Challenges
- Teacher proficiency in both languages and subject-specific content
- Stakeholder buyin
- Logistical/technical challenges in scoring

Schissel et al. (2021)

Teacher perception and practice of translanguaging in classroom assessments
Challenges
- Pressure to pass monolingual tests
- Translanguaging is peripheral to assessment

Informal assessment

Wang & East (2024)

A translanguaging-based, integrated writing test for L2 Mandarin beginners

Assessment design
- Feature a digital, multimodal composition test
- Respond in a mix of Mandarin and English

Findings
- Translanguaging enhanced task completion and performance.
- Translanguaging reduced test anxiety and allowed students to better express identity.
- Some concerns about the necessity and authenticity of using English.

Local standardized tests

Baker & Hope (2019)

A translanguaged listening test for university professors at a bilingual Canadian institution

Test design
- Simulate a bilingual departmental meeting
- Use English strategically alongside French
- Respond in French, English, or a mix of both

Pilot findings
- Translanguaging was common and reduced test anxiety.
- Decision-makers showed mixed support for translanguaging.

The real world:
Practical constraints and competing priorities

- Conceptualization vs. operationalization
  - Reduction in construct representation
  - More control in implementation of translanguaging activities
  - Fixed language pairing in translanguaging practice

- It is important for tests to consider authenticity, but any kind of practice, be it teaching or assessment, will never be truly authentic.
  - Sacrificing authenticity (messiness) to leave room for quality control and standardization
  - Competing priorities in implementations on translanguaging

- Authenticity
  - Situation authenticity (Bachman, 1991)
  - Processing authenticity ((Widdowson, 1979; Buck, 2001)
  - Developmental authenticity (Yan et al., 2023)
    - Scaffolding
    - Allowing teaching and assessment to be less but appropriate for the target developmental stage

Quality control

- Despite earlier explorations, no systematic quality control framework has been developed for AI-assisted assessment for translanguaging.
    - Development
    - Validity
    - Reliability
    - Fairness
    - Washback

Assessment purpose and development

- What is the **purpose of translanguaging**?
    - **How many languages** are allowed?
    - **Adaptive algorithms** in selecting language pairs

- What is the **purpose of AI** assistance?
    - **Expansion of construct** ➔ AI literacy as part of the construct
    - **Bias for best** ➔ AI literacy not as part of the construct

Validity

- How to define and **operationalize** the construct of translanguaging?

  - **Scalability of translanguaging**: How to define different levels of translanguaging practice?

  - **Scalability of AI use**: does the use of AI influence the distinction across performance levels?

- Does the test account for test-taker **proficiency in both languages**?

- How do scores compare with scores of **other proficiency measures**?

Reliability

- Does the test provide **clear instructions** on how to use multiple languages?

- Are **scoring rubrics** designed to evaluate translanguaging?

- Does the test allow diverse **translanguaging strategies**?

- Would translanguaging create challenges in **inter-rater reliability**?

- Does translanguaging create challenges in **rater training**?

Fairness and social justice

- Does the use of AI exacerbate **equity and accessibility issues**?
    - Do all students have equitable access to the languages and tools involved in the assessment?
    - Does the use of assistive tools (e.g., machine translation, dictionaries) create an uneven playing field?
- Does the assessment accommodate students with **diverse linguistic backgrounds and abilities**?
- Does the assessment account for **linguistic variation within and across languages**?
- Does the assessment account for potential **biases in machine translation**?

Washback: Teaching and learning

- Does translanguaging promote content or language learning?

- Does the assessment prompt over reliance on AI tools?

- Do all students have equal opportunities to learn how to translanguage through the assessment?

Ethical and responsible use of AI tools

- Inaccuracy and inconsistency in AI-produced outcomes

- Copyright of content fed to AI tools

- Privacy and protection of personal information

Recommendations

- Advocate for policy changes that embrace multilingualism and provide teacher training on translanguaging practices.

- Create curriculums and materials that encourage students to draw on their linguistic resources collaboratively.

- Design assessments that value linguistic diversity and align with translanguaging pedagogies.

- Maintain a quality control system for assessments that integrate translanguaging in the digital era.

- Communicate with stakeholders about the benefits of translanguaging to build acceptance and reduce stigma.

Conclusions

- Translanguaging practices are increasingly recognized as a core construct in bi/multilingualism with increasing globalization and internationalization.

- Translanguaging pedagogy is as much a way to support students in their language development as it is a to promote equity and social justice.

- Advancements in AI technology has enabled (and will continue to do so) the operationalization of translanguaging in teaching and assessment contexts.

- That said, conceptual and philosophical discussions should also take into account the sustainability and practicality of teaching and assessment.

"Technology is neither good nor bad; nor is it neutral."

-Melvin Kranzberg, Georgia Institute of Technology

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THANK YOU!

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