

AI Frameworks for Language Teaching and Assessment

Virak Chan, Ph.D.

Purdue University

Opportunities & concerns about AI



Enhanced Efficiency and Productivity



Personalized and Adaptive Learning



Professional Learning and Reflective Practice



Risk of Bias and Validity Issues



Over-Reliance and Reduced Professional Judgment



Quality and Contextual Relevance Limitations

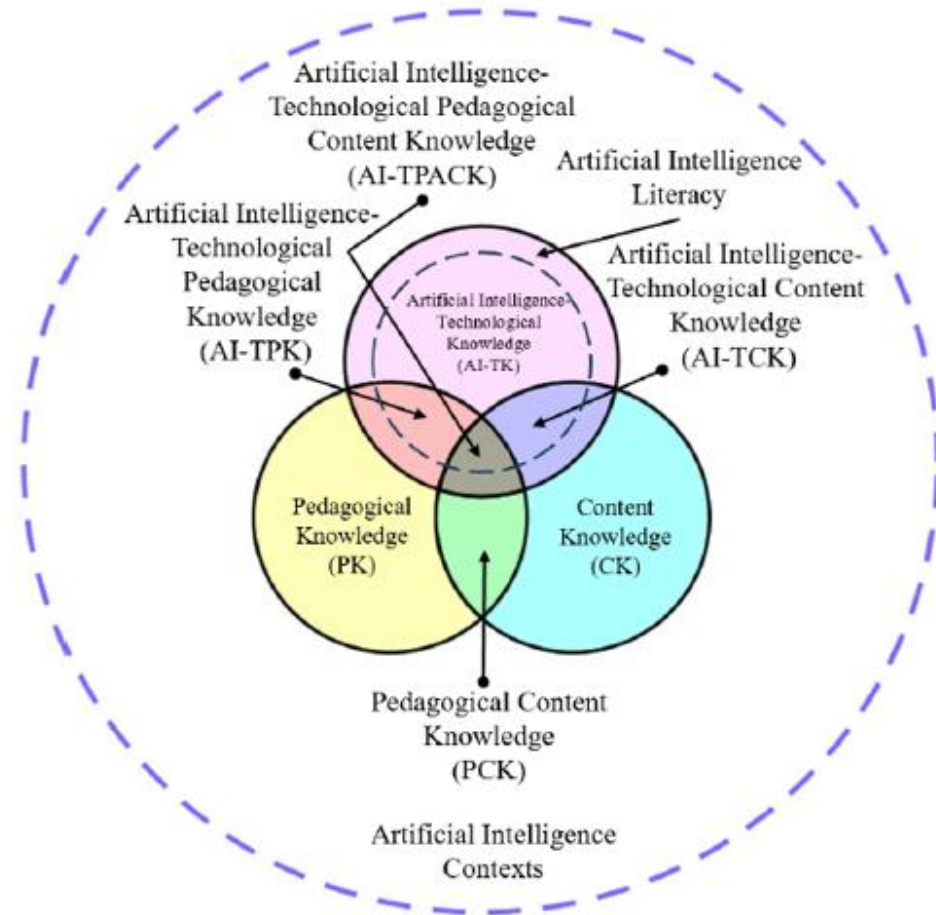


Co-Pilot – “Give me several images of Cambodian Homes to choose from.”

AI-TPACK Framework (Ning et al., 2024)

Revised TPACK (Mishra & Koehler, 2006)

**Technological,
Pedagogical, and
Content Knowledge
(TPACK)**



Research on Pre-Service Teachers' AI Literacy for English Language Learner (ELL) Instruction

Article

Investigating pre-service teachers' AI literacy for ELL instruction: A mixed-methods study

Ali Kushki 
Purdue University, USA

Anne Garcia 
Purdue University, USA

Victoria L Lowell 
Purdue University, USA

Wayne E Wright 
Purdue University, USA

LANGUAGE
TEACHING
RESEARCH

Language Teaching Research
1–28
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Pre-Service Teachers (n=90) Familiarity with AI

	N	%
Not familiar at all	5	5.6%
Slightly familiar	35	38.9%
Moderately familiar	33	36.7%
Very familiar	14	15.6%
Extremely familiar	3	3.3%

Research on Pre-Service Teachers' AI Literacy for English Language Learner (ELL) Instruction

- Pre-service teachers (n=90) showed awareness of the pedagogical value of ChatGPT for English Language Learner (ELL) instruction
- They expressed concerns related to ethical use of AI
- They emphasized the irreplaceable role of human connections in teaching.
- They advocated for teacher education programs to incorporate AI literacy and hands-on experimentation with AI.
- More robust and targeted interventions are needed to foster meaningful advances in PSTs' understanding of AI's benefits.
- More preparation is needed to harness the potential of AI for addressing the needs of English language learners.

Article

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Ali Kushki 
Purdue University, USA

Anne Garcia 
Purdue University, USA

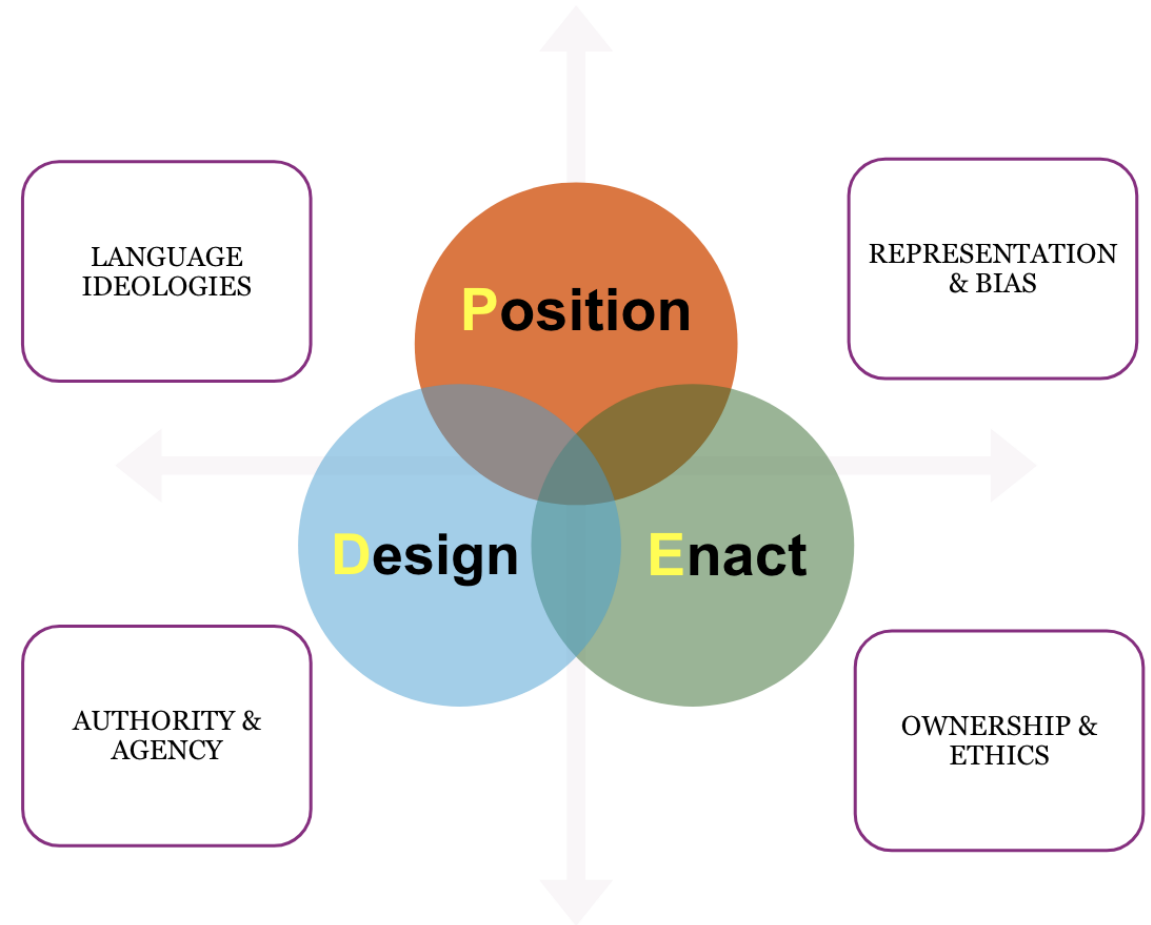
Victoria L Lowell 
Purdue University, USA

Wayne E Wright 
Purdue University, USA

A P-D-E Centered Critical GenAI Pedagogy for Language Teaching

- ***A Framework for AI Implementation that Focuses on Human Agency and Judgment***

- Tian & Lu (2026, May). When AI Meets Language Class. *Language Magazine*

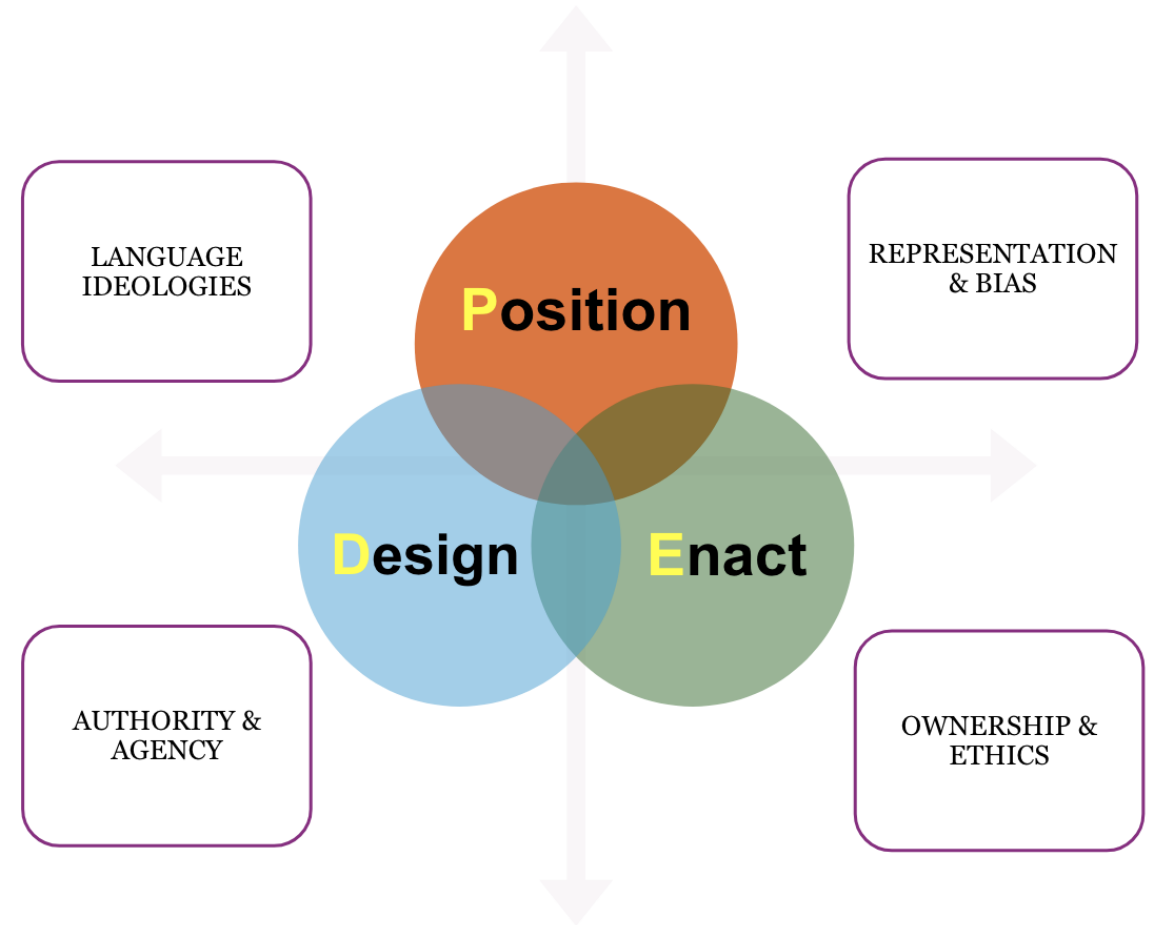


A P-D-E Centered Critical GenAI Pedagogy for Language Teaching

- **Position**

How Gen AI is situated within the classroom ecology. It's relation to students, teachers, and language learning goals.

- Tian & Lu (2026, May). When AI Meets Language Class. *Language Magazine*

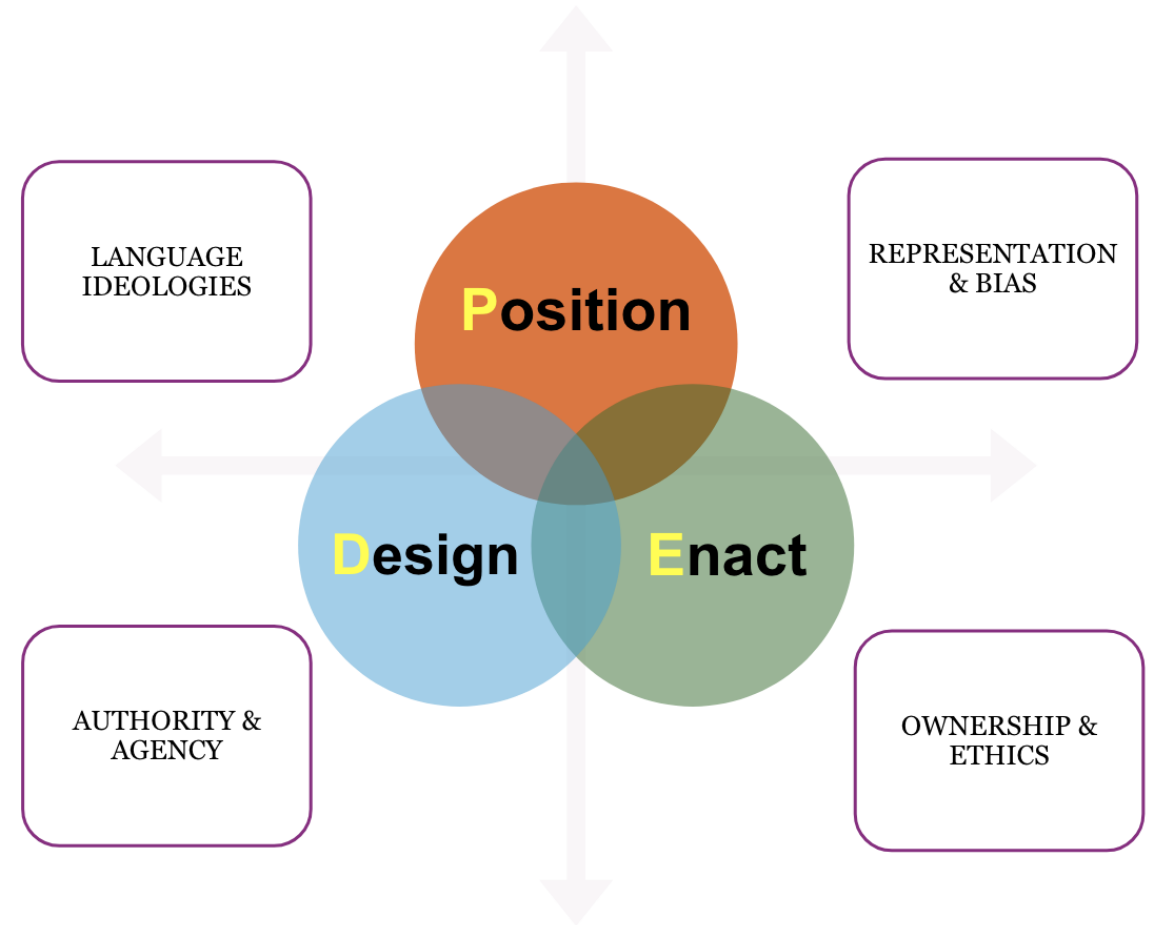


A P-D-E Centered Critical GenAI Pedagogy for Language Teaching

- **Design**

Intentional planning, including task structure, timing, and expectations for AI use.

- Tian & Lu (2026, May). When AI Meets Language Class. *Language Magazine*

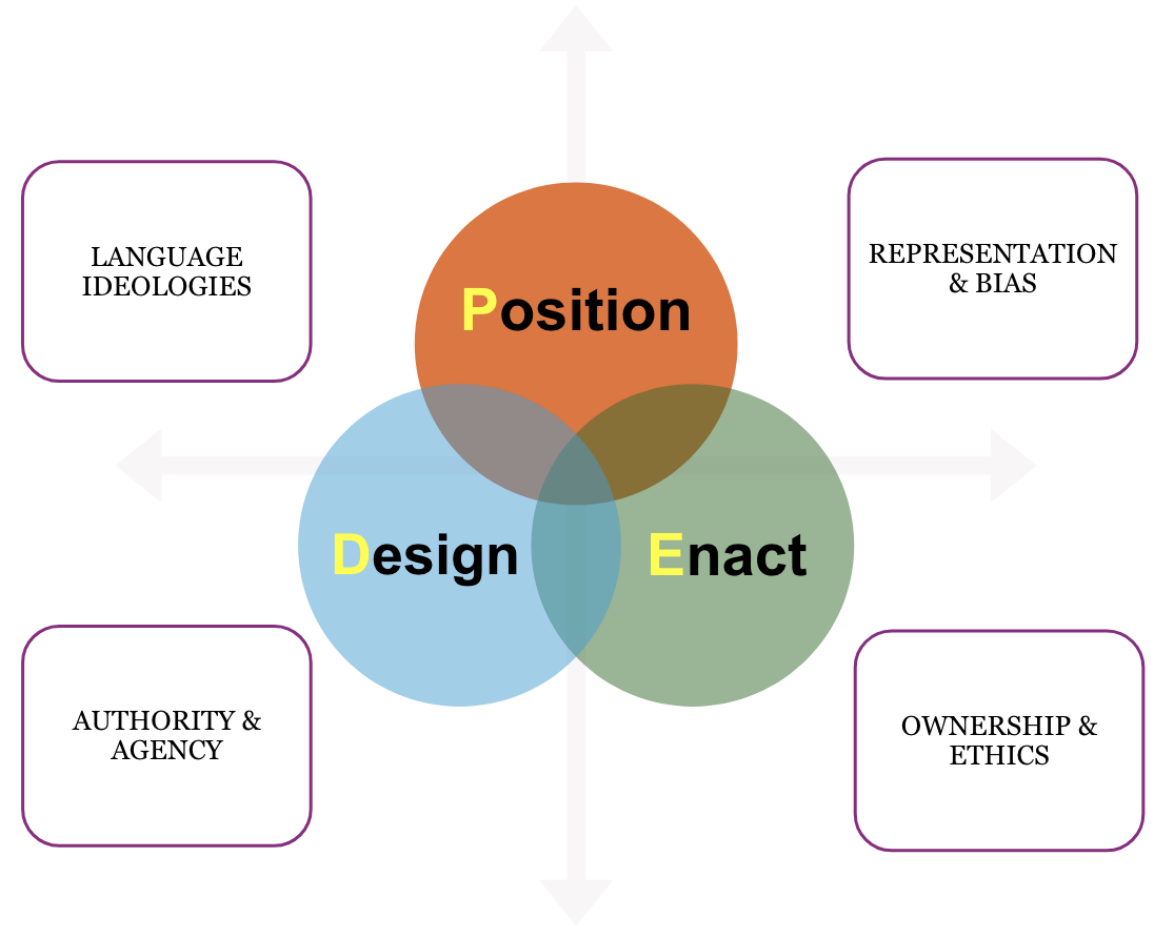


A P-D-E Centered Critical GenAI Pedagogy for Language Teaching

- **Enact**

What happens in practice as teachers and students interact with AI during instruction.

- Tian & Lu (2026, May). When AI Meets Language Class. *Language Magazine*

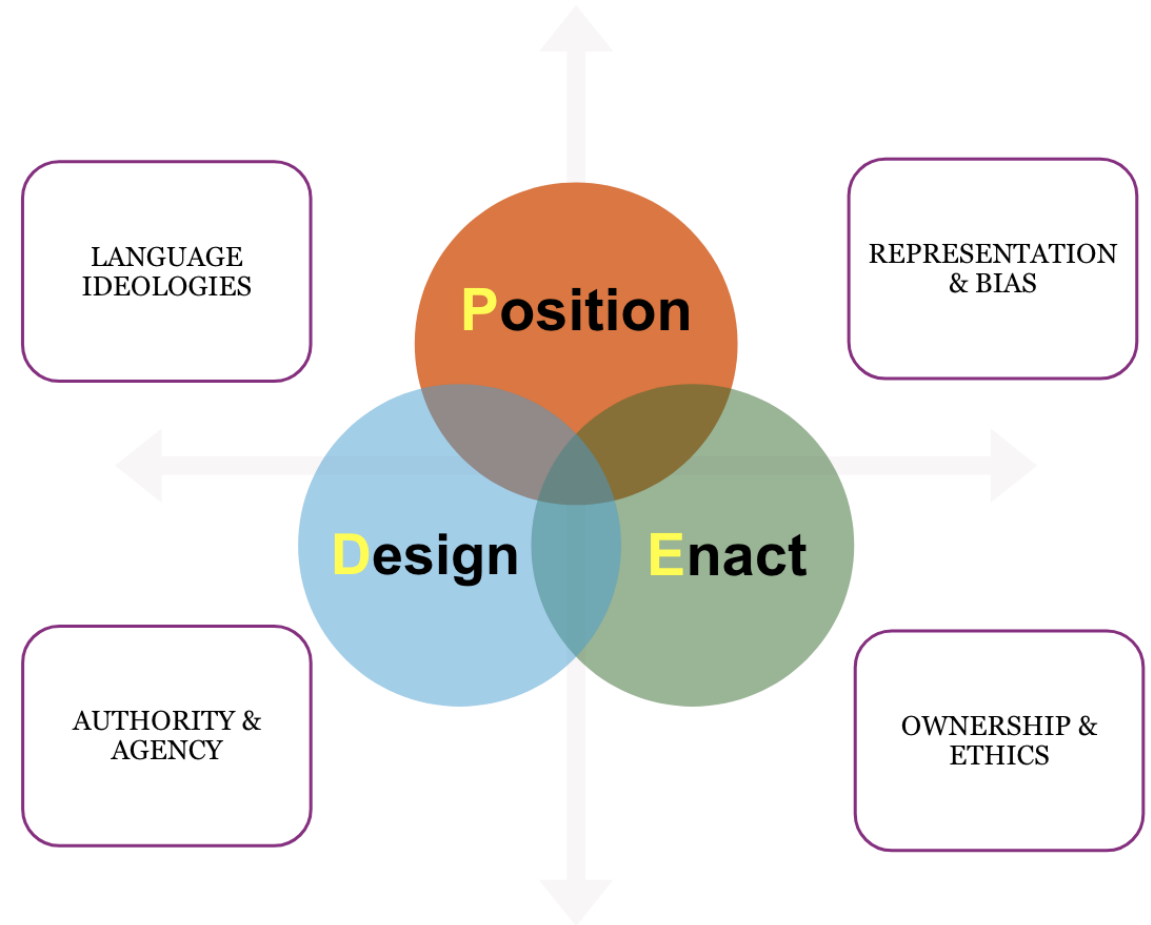


A P-D-E Centered Critical GenAI Pedagogy for Language Teaching

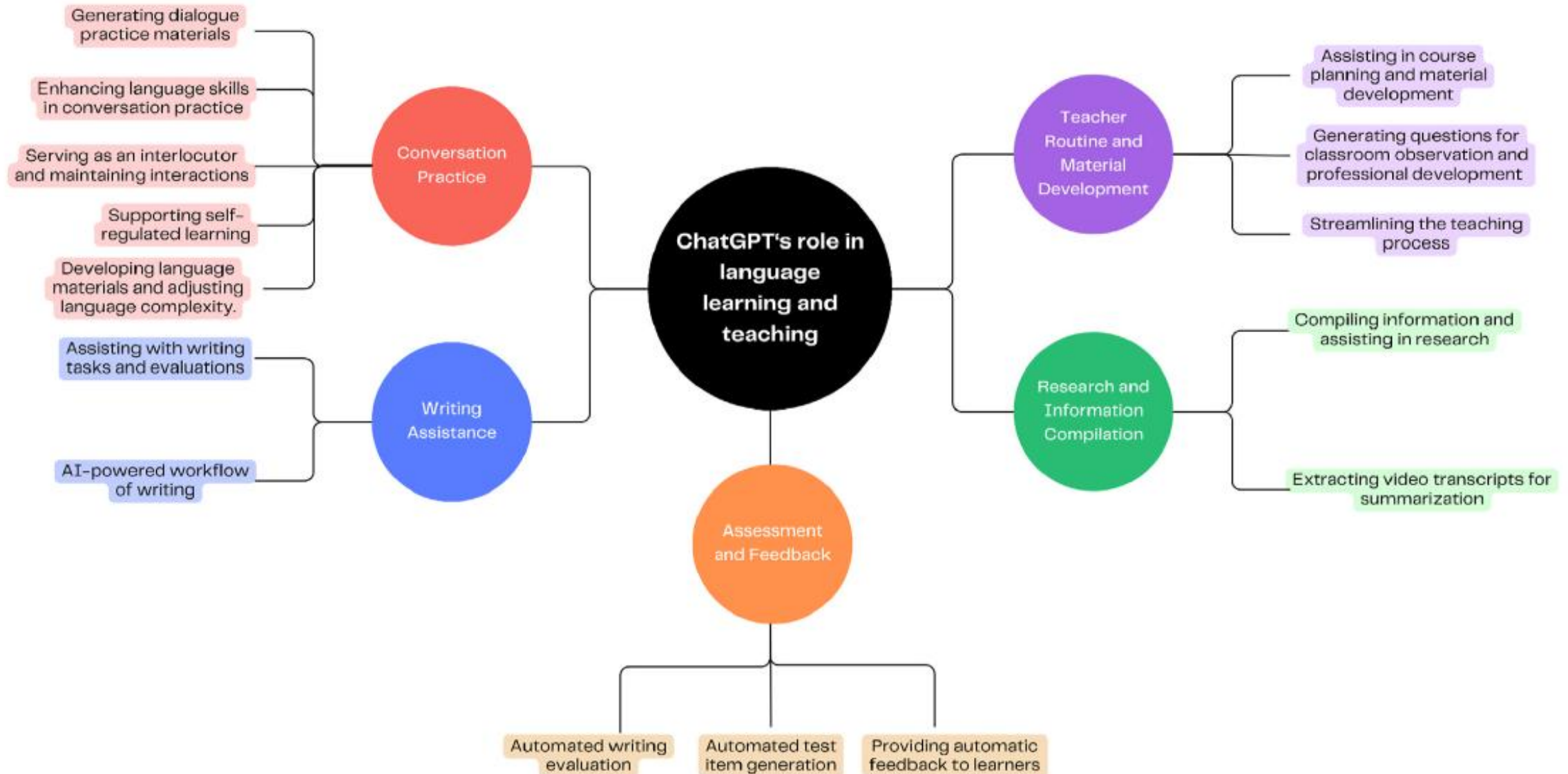
- **Criticality**

Sustained attention to issues that inform how AI is positioned, how tasks are designed, and how classroom interactions unfold.

- Tian & Lu (2026, May). When AI Meets Language Class. *Language Magazine*



Li et al. (2024) – Systematic Review of ChatGPT & Language Learning Publications



Prompt Engineering

Three Components

- **Give a role to your Colleague AI**
 - e.g., You are a third-grade expert teacher and instructional designer in a K-12 education program in Phnom Penh, skilled in creating engaging educational content that effectively achieves learning objectives and differentiate the instructions based on students' English proficiency levels.
- **Instructions to the task you want AI to perform + Contextual information**
 - e.g, You need to create an assessment based on the following standard: 3. CA. 2. Solve real-world problems involving addition and subtraction of multi-digit whole numbers.
- **Specify the output**
 - e.g, The assessment must have 3 selected-response items and 1 performance assessment task. Make sure to include an analytic rubric in a table for the performance task.

AI for Lesson Planning

- Use AI to help you plan a lesson
- Remember to give role to your AI, instruction to the task you want AI to perform, and contextual information about your class and school

Example prompt:

You are my teaching assistant in a 6th grade class in a private K-12 school in Phnom Penh. Create an English lesson on word formation with suffixes for Cambodian students. Include objectives, activities, and differentiation for students at different English proficiency levels.

Participants refine:

- Adjust for local context
- Add Khmer cultural relevance if possible
- Simplify or scaffold tasks

AI prompt for classroom analysis

- Upload a classroom transcript
- Tweak the following prompt to fit your classroom context

You are an instructional coach and an expert in classroom data analyst in a K-12 sheltered-English content-area classroom in Indianapolis, skilled in analyzing classroom interaction and language use and making recommendations that effectively achieves learning objectives and differentiate the instructions based on students' English proficiency levels. Based on the uploaded transcript of a 30-minute 3rd grade math class with standard: 3. CA. 2. Solve real-world problems involving addition and subtraction of multi-digit whole numbers, create a list of instructional feedbacks focusing on 1. identify patterns in teacher talk and student talk, with specific attention to how often multilingual learners are invited to speak and how their contributions are taken up 2. Identify examples of language scaffolding in this transcript and suggest additional scaffolds that could support multilingual learners at different proficiency levels 3. Analyze how the teacher responds to multilingual learners' answers and describe the kinds of feedback provided, including strengths and missed opportunities and 4. Identify moments in the transcript where students use or could be encouraged to use academic language, and suggest ways to increase productive language use. This class has 5 multilingual learners: 2 at a level 1 WIDA English proficiency and 3 at level 4.

Using AI to Generate a Classroom Assessment

Prompt to Co-Pilot:

Create a vocabulary quiz based on the book Oliver Twist for English language learners in a high school ESL class at a public high school in Cambodia. The students are at the A2 CEFR level of English proficiency. Please include multiple choice, fill in the blank, and matching items.

Co-Pilot Response



Copilot

Reasoning completed in 1 step >

Absolutely — here is a **high-school ESL vocabulary quiz based on *Oliver Twist*** designed for **A2 CEFR English language learners** in a **public high school in Cambodia**. I've kept the language accessible, used common high-frequency vocabulary from the story, and included the three item types you requested: **multiple choice, fill in the blank, and matching**.

You can use this as a **class quiz, homework, or review worksheet**.

Choose the best answer.

(1 point each)

1. Oliver is an **orphan**. What is an orphan?

- a) A child with no parents
- b) A very rich child
- c) A child with many brothers
- d) A teacher's child

2. Fagin tells the boys to **steal**. What does **steal** mean?

- a) To give something away
- b) To take something that is not yours
- c) To buy something
- d) To clean something

3. Oliver is often very **hungry**. What does **hungry** mean

- a) Wanting to sleep
- b) Wanting food
- c) Wanting money
- d) Wanting to run

4. Mr. Brownlow is a **kind** man. What does **kind** mean?

- a) Mean and angry
- b) Friendly and helpful
- c) Loud and rude
- d) Weak and sick

5. Nancy tries to **protect** Oliver. What does **protect** mean?

- a) To keep someone safe
- b) To laugh at someone
- c) To follow someone
- d) To forget someone

6. A **thief** is a person who...

- a) teaches students
- b) helps sick people
- c) steals things
- d) sells food

7. Oliver is **afraid** of the criminals. What does **afraid** mean?

- a) Happy
- b) Scared
- c) Tired
- d) Proud

8. The boys live in a poor and dirty **house**. Which word is closest in meaning to **house**?

- a) home
- b) school
- c) market
- d) road

Part B: Fill in the Blank

Use the words in the box to complete the sentences.

(1 point each)

Word Box

orphan - hungry - kind - steal - thief - safe - afraid - poor - help - truth

1. Oliver has no parents, so he is an _____.
2. When people do not have enough money, they are _____.
3. A person who takes things that are not theirs is a _____.
4. Oliver was very _____ because he did not have enough food.
5. Mr. Brownlow was _____ and gave Oliver care.
6. Fagin wanted the boys to _____ from other people.
7. Nancy wanted to _____ Oliver escape danger.
8. Oliver was _____ when he was with the criminals.
9. Mr. Brownlow's home was a _____ place for Oliver.
10. In the end, people learn the _____ about Oliver's life.

Part C: Matching

Match the word to its meaning. Write the correct letter.

(1 point each)

Words		Meanings
1. orphan	—	a. not dangerous
2. steal	—	b. having little money
3. safe	—	c. to keep someone from danger
4. protect	—	d. a child with no parents
5. poor	—	e. to take something that is not yours

Part D: Bonus Short Sentence Practice (Optional)

Write one short sentence for each word.

(Teacher may use for extra practice instead of grading strictly.)

1. hungry → _____

2. kind → _____

3. thief → _____

4. safe → _____

5. afraid → _____

Ethical & Practical Considerations

What concerns do you have about using AI in your classroom?

- Student over-reliance on AI
- Accuracy and hallucinations
- Equity (access to devices/internet in Cambodia)
- Academic integrity
- Data privacy

Teacher Testimonials

*A challenge I encountered when creating the constructed-response assessment was that the site misunderstood my definition of “paper”. I asked for “paper”, assuming it would create a worksheet. Instead, it created an essay. While the essay seemed to be well-constructed, it was not what I intended. This shows that with AI, misunderstandings are inevitable. Because of this, it is **crucial that teachers review the output to ensure that it fits assessment needs**. Along with this, the first generated rubric was difficult to read. I knew that if I, as a native English speaker, struggled to follow it, it would be increasingly difficult for my ELLs to read it. After asking the platform to make it easier to read, it did, and I was satisfied with the results.*

(Thom, a P-12 teacher in the U.S.)

Teacher Testimonials (Cont.)

My final concern with collaborating with Colleague AI is that it seems very eager to agree with whatever input I provided, and seemed hesitant to challenge or disagree with my inputs. I understand that Colleague AI is a product created for profit by a company, and having a LLM which is argumentative or second-guessing is not likely to help it gather a larger share of the educational AI market. That being said, I am concerned that if there is some unconscious bias that I, or another person, might have, the LLM will do little to correct it. If, as it has been suggested in some quarters, one of the useful applications of LLMs in English language acquisition is to help content-area teachers adapt their instruction, then how will it reinforce or reproduce the biases that many content-area teachers already have towards ELL students?

(Eddie, a P-12 teacher in the U.S.)

Developing Critical AI Literacy

- **Question, verify, and reflect** on AI outputs
- Be aware of AI's limits
- Encourage human–AI collaboration, not replacement
- Model critical reflection as educators

Key Takeaways and Q&A

- AI offers creativity, engagement, and support in language teaching & assessment
- Choose tools intentionally and ethically
- Develop AI literacy for teachers and learners
- Balance innovation + reflection + responsibility

AI should amplify, not replace, human teaching.

Questions or reflections?

Resources to Explore



YouTube Channel



Blog

Read the latest articles about education and artificial intelligence.



Assessing Higher-Order Thinking with AI



Research Page

Learn more about our research on education and artificial intelligence.

[Colleague LLMs as Academic Collaborators](#)
April 2024

[Designing Equitable Classroom-Based Assessments with AI](#)
November 2023



2025
AI IN EDUCATION
A MICROSOFT
SPECIAL REPORT



Resources for Educators

Learn more about using ChatGPT in your classroom with these guides and resources.

[Browse](#)



Helping educators create transformative learning experiences with generative AI.



Resources to Explore

Colleague AI

- **YouTube Channel**
<https://www.youtube.com/@colleagueai>
- **Colleague AI Blog**
<https://www.colleague.ai/blog/>
- **Colleague AI Research Page**
<https://www.colleague.ai/research/>

Microsoft

- **2025 AI in Education: A Microsoft Special Report**
<https://www.microsoft.com/en-us/research/wp-content/uploads/2025/10/Microsoft-AI-Diffusion-Report.pdf>
- **Microsoft AI in Education Blog**
<https://www.microsoft.com/en-us/education/blog/topic/ai-in-education/>

OpenAI

- **AI for K–12 Educators (OpenAI Academy)**
<https://academy.openai.com/home/collections/ai-for-k-12-educators-2025-03-20>

AI in the K-12 Classroom: A New Era of Teaching & Learning



Google offers Gemini for Education.

- Provides AI tools to save time, personalize learning, and offers free educator certifications.



Microsoft integrates Copilot & AI into its education suite.

- Focuses on streamlining tasks, personalizing learning, and offering resources like 'Hour of AI'.

Major Platforms & Tools for Educators



Specialized EdTech platforms are emerging.

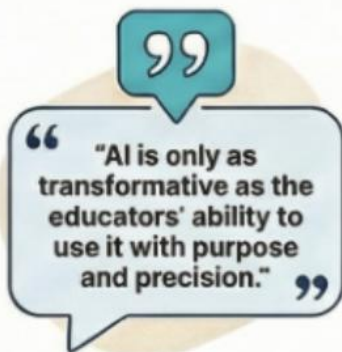
- Companies like Colleague AI offer tools for rubric generation and AI-assisted lesson planning.

Key Principles for AI Integration



Human oversight is essential for student trust.

Research shows teachers value AI feedback but stress the need for human review.



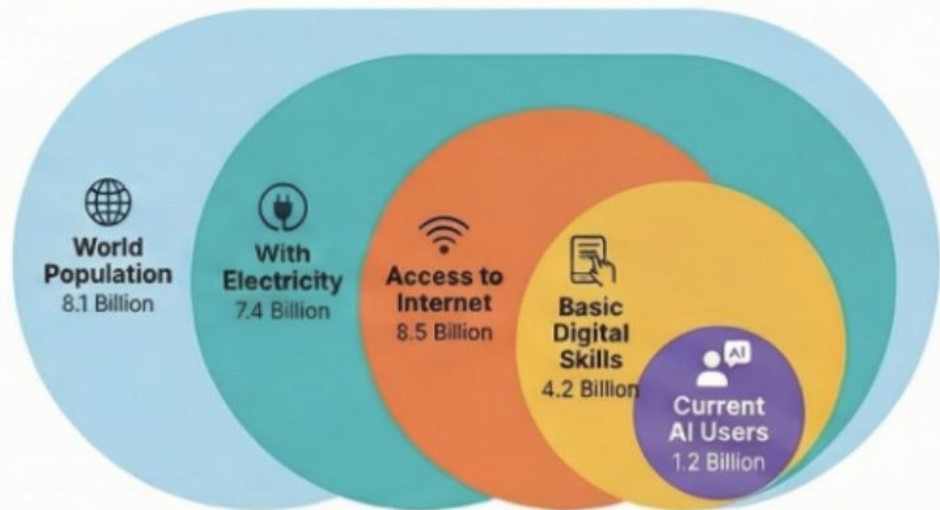
Highlights the critical need for frameworks that build practical AI competency in educators.



AI is best viewed as a collaborative assistant, not a replacement.

Studies show teachers prefer human lesson plans but find AI useful for specific tasks.

Global Technology Access



References

- Kushki, A., Garcia, A., Lowell, V. L., & Wright, W. E. (2026). Investigating pre-service teachers' AI literacy for ELL instruction: A mixed-methods study. *Language Teaching Research*. <https://doi.org/10.1177/13621688261426620>
- Li, B., Lowell, V., Wang, C., & Li, X. (2024c). A systematic review of the first year of publications on ChatGPT and language education: Examining research on ChatGPT's use in language learning and teaching. *Computers and Education: Artificial Intelligence*, 100, 100266. <https://doi.org/10.1016/j.caeai.2024.100266>
- Ning, Y., Zhang, C., Xu, B., Zhou, Y., & Wijaya, T. T. (2024). Teachers' AI-TPACK: Exploring the relationship between knowledge elements. *Sustainability*, 16(3), 978. <https://doi.org/10.3390/su16030978>
- Popham, W. J. (2025). *Classroom assessment: What teachers need to know* (10th ed.). Pearson Education, Inc.
- Tian & Wang (2025). *Rethinking language education in the age of AI*. Routledge
- Tian & Lu (2026, May). When AI Meets Language Class. *Language Magazine*
- Wright, W. E. (2025). *Foundations for teaching English language learners: Research, Theory, Policy, and Practice*. Brooks Publishing.