

# From Chalkboards to Chatbots: Empowering Language Educators in the Age of AI

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# Overview of Generative AI in Language Education



# Generative AI in (Language) Education

- Overview of AI's emergence in education
- Applications of generative AI in language education
- Benefits of generative AI in Language Learning
  - Personalized learning
  - Automated/Immediate feedback
  - Enhanced engagement
  - Increased inclusivity and accessibility
  - Efficient administrative support
  - Data-driven insights for language



# Research on Advantages of AI



Instant Feedback  
Gürbüz & Yılmaz (2024)



Increased Engagement  
Huang et al. (2023)



Reduced Teacher Burden  
Hashem et al. (2024)



Formative Assessment  
Zhai & Nehm (2023)



Metacognitive Skills  
Khan & Alamäki (2023)



Tailored Support  
Ezhilmathi (2024)



Sustainable Education  
Aggarwal et al. (2023)



Personalized Learning  
(Yenuri, 2025)



# Challenges Faced by In-Service Language Educators

# Technological Proficiency and Anxiety

- Educators may lack the tech skills needed to use AI in language teaching.
- This can cause anxiety and resistance to new technology.

Mananay (2024)







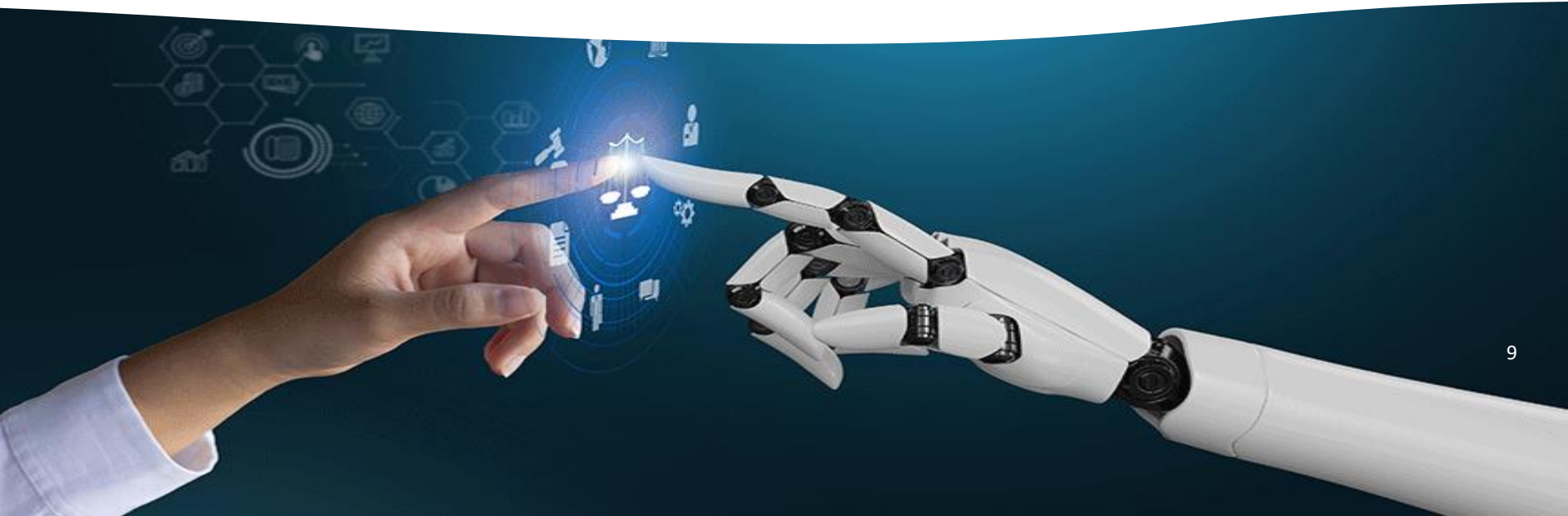
# Pedagogical Adjustments and Shifting Roles

- The integration of AI necessitates changes in teaching methodologies and educator roles.
- Educators must adapt to new pedagogical approaches that incorporate AI tools.



# Maintaining the Human Element

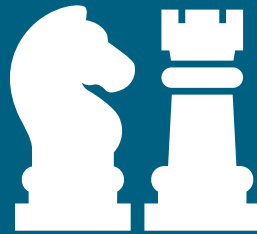
- Balancing AI integration with the preservation of human interaction in language education.
- Ensuring that AI tools complement rather than replace the educator's role.





# Ethical Considerations and Concerns

- AI integration raises ethical issues, including data privacy, algorithmic bias, and the potential for misuse.
- Educators must navigate these concerns to ensure responsible AI use.



# Strategies for Academic Leaders



## Strategy:

- Implement comprehensive professional development programs to enhance educators' skills and knowledge.

## Implementation:

- Organize workshops, seminars, working circles, and continuous learning opportunities focused on current educational methodologies and technologies.
- Encourage participation in collaborative learning communities to promote shared best practices.

## Professional Development Programs



# Building AI-Ready Infrastructure for Enhanced Learning

## Strategy:

- Develop and implement AI-friendly infrastructure to support innovative teaching and learning practices.

## Implementation:

- Invest in high-performance computing resources to support AI applications across various academic disciplines.

# Building a Culture of Innovation and Collaboration

## **Strategy:**

- Foster a culture that values innovation and collaboration among educators.

## **Implementation:**

- Encourage experimentation with new teaching methods and technologies.
- Create opportunities for collaborative planning and sharing of best practices.

# Addressing Ethical Considerations

A person in a white shirt and dark pants stands with their back to the camera, arms outstretched, positioned between two large, dark, textured arrows pointing in opposite directions (left and right). The background is a dark, textured gradient.

## Strategy:

- Develop and implement policies to address ethical issues in education.

## Implementation:

- Establish guidelines for data privacy and the ethical use of technology in the classroom.
- Provide training on ethical decision-making and cultural competence.



## AI Integration in Higher Education: Two Cases





## INNOVA: Pioneering AI-Ready Infrastructure for Francophone Education

- INNOVA is a cutting-edge facility
- Dedicated to the creation, training, collaboration, and research in support of French-language education in Ontario

# Facilities and Technologies

- AI-enabled Immersive Cylinder
- AI-incorporated 4K Holographic Touchscreen
- Augmented Reality Tools
- Collaborative Smart Rooms
- Multiple AI-friendly Interactive Classrooms



# Comparative Analysis of AI and Human Feedback on EAP Writing

## Study Setting and Demographics

Study on AI in academic assessments with **30 international EAP students** at a Canadian university. Students came from 12 different L1 backgrounds.

## Research Design and Data Collection

This **quasi-experimental** study used a **repeated measures design** in which students completed **two in-class writing assignments**, each graded by a human and AI (ChatGPT 3.5).



## Marking Methodology Comparison

This study uses a **dual assessment method** to compare human and AI grading and feedback on grammar, content, structure, and coherence.

## Theoretical Framework

The study applies a **socio-cognitive framework** to assess how feedback affects cognitive development in academic writing.

# Writing Sample 1: Evaluation Comparison

Evaluation Criteria	Lexical Accuracy and Range /2.5	Grammatical Accuracy and Range /2.5	Organization and Development of Topic /2.5	Overall Effectiveness in Conveying Message /2.5	Grade /10
Human Instructor	1.5	1.25	2	1.25	6
AI-assisted (ChatGPT 3.5)	1.25	1.25	2.25	1.5	5.75/10

*Comparison of evaluation results between human instructor grading and Ai-assisted grading*



# Guide for Error Correction

## GUIDE for CORRECTING WRITING ERRORS

**N.B.** Each example below represents an area of English usage where errors may occur in your writing. I will use these abbreviations and notations when marking to indicate that you have made an error. Please refer to this list, if necessary, to find out what kinds of errors you have made and then make the necessary corrections.

### WORD LEVEL ERRORS

sp	spelling
cap	capitalization
art	article/determiner use
pron	pronoun use
prep	preposition
w.c.	word choice
wf	word form
#	singular /plural

### Examples

He loves to go swiming on a hot day.  
I am studying english.  
He designed    better computer.  
They need to learn to help themsell more.  
It all depends of the weather and the place.  
I told that I was tired of thinking.  
I saw a beauty picture.  
There are many kind of dogs.

### SENTENCE LEVEL ERRORS

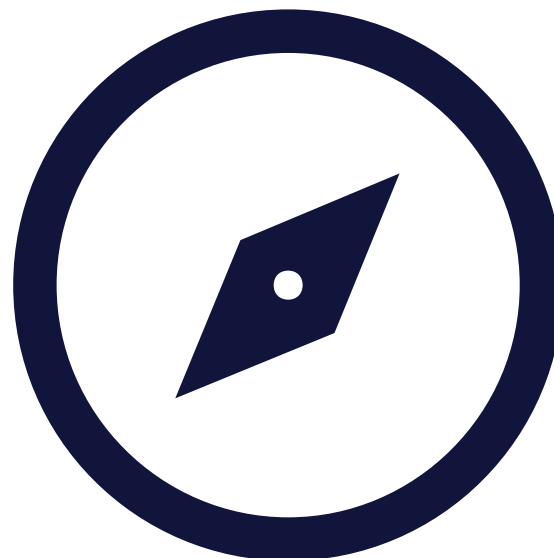
p	punctuation
s-v	subject-verb agreement
vt	verb tense
aux	auxiliary verb (have, are)
vf	verb form
g-i	gerund-infinitive form
wo	word order
^	word missing
omit	omit a word

However    Jasmine refused to come.  
She have five sisters.  
He is here since last January.  
I    not coming home early.  
I should gave you that. I am agree with you.  
I really enjoy to read long stories.  
We obtained often the same results.  
I want    go to the party.  
She entered to the university.

### DISCOURSE LEVEL ERRORS

frag	sentence fragment
R.O.	run-on sentence
SE	sentence error
parallel	(non-) parallel structure
?	meaning unclear
N.P.	need a new paragraph

I went to bed. Because I was tired.  
My roommate slept in today, she was late.  
Subject, verb, or object missing.  
He enjoys reading, writing, and to cook.  
He borrowed some more smoke.



# Writing Sample 1: AI-enhanced Formative Feedback

Original Sentences	Error Code
<i>For those <b>will</b> to dedicate their time to volunteer activities,</i>	WF
<i>this writing assignment will explore the <b>psotive</b> effects on both volunteers and the communities they <b>work^</b> and why volunteer work is a <b>postive choose</b> for a part of people.</i>	SP / Prep missing /WF
<i>They <b>considers</b> that volunteers work is another kind of <b>exploit</b>, but the benefits it <b>makes</b> to both the communities and the individuals <b>sould</b> not be ignored.</i>	S-v agree/ WW/SP
<i>One significant <b>advatage</b> for volunteers, especially young people, is that <b>volunteers servise</b> provides valuable opportunities for skill development.</i>	SP / WF or WC
<i>It can help <b>them^</b> their <b>competitiiveness</b> in <b>the</b> future work, and <b>also partcipating</b> volunteers <b>serve</b> is another way to explore potential career paths.</i>	WM/ SP / Prep /Omit /WF

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*An AI-assisted error correction table excerpt used to provide formative feedback*

# Formative Feedback Provided by ChatGPT 3.5



## **Lexical accuracy and range:**

The essay demonstrates a moderate to high range of vocabulary but could benefit from more diverse and precise terminology related to volunteer work and its impacts.

Example: Instead of repeatedly using "volunteer work," consider using synonyms like "volunteering," "community service," or "charitable activities" for variety.

## **Grammatical accuracy and range:**

While the essay generally communicates its ideas, there are some grammatical errors such as issues with subject-verb agreement and punctuation that could be addressed for clarity.

Example: "Pressure from communites or other groups could also end up bringing more volunteer workers together." Here, "communites" should be corrected to "communities," and a missing comma after "groups" could be added for clarity.

## **Organizational development of the topic:**

The essay would benefit from a clearer organizational structure to enhance coherence and flow. Smooth transitions between ideas and paragraphs could improve the overall readability.

Example: Consider providing clearer transitions between discussing motivations for volunteering and examples of volunteer work to improve the flow of the essay.

## **Overall effectiveness in conveying the message:**

While the essay attempts to highlight the motivations and benefits of volunteer work, it could be more cohesive and focused in conveying its message. Clarifying the main points and providing a stronger conclusion could strengthen the overall effectiveness of the essay.

In summary, the essay would benefit from clearer organization, improved grammatical accuracy, and more precise vocabulary to effectively convey its message about the importance of volunteer work.

# Formative Feedback Provided by Instructor



Thank for your essay, SAM!

Your essay reads well, and you can find detailed corrections on Brightspace. Here are some general comments to improve your essay further.

- You may want to expand and diversify vocabulary to include a wider range of terms related to volunteer work and its effects.
- Attention to grammatical details such as subject-verb agreement and punctuation would enhance clarity.
- I would use more transition words to connect ideas between sentences and break the extremely long paragraph into 4 shorter paragraphs to enhance coherence and flow of the ideas.
- Other than these comments, your essay most often communicates intended meaning.

Please make sure to consult my corrections on your paper in Brightspace to write a revised draft of the essay.

Keep up the good work!

R.



# AI vs. Human Feedback Comparison

Group	Sample Size	Mean	Standard Deviation (SD)	t-value	Degrees of Freedom	p-value	Effect Size (Cohen's d)
Human Teacher	60	74.23	4.50	1.47	118	0.104	0.27
ChatGPT 3.5	60	72.98	4.68				

*Descriptive statistics table comparing human and AI (ChatGPT 3.5) assessment of EAP writing*

# Research Findings



- The generative AI used in this study, ChatGPT 3.5, performs comparably to human teachers in terms of grading student essays.
- Although the overall differences are not statistically significant, the data revealed that AI tends to be slightly more stringent in scoring than human teachers.
- Language model generative (LMG) AI demonstrates a high level of consistency in scoring, which can be particularly beneficial in large-scale educational settings where uniform assessment standards are critical.

# Research Findings Cont'd

- LMG AI can augment the feedback process by providing immediate, actionable, and consistent feedback to students.



- The findings support the use of AI as a viable alternative to human assessors within educational settings
- The use of AI in assessing student writing can significantly scale educational resources, allowing human educators to devote more time to qualitative teaching efforts.



## Conclusion and Call to Action

# Conclusion

- AI enhances language learning.
- Human educators remain essential.
- Ethical concerns must be addressed.
- AI should augment, not replace.
- Ongoing research is needed.







# Call for Action

- Advance AI literacy through ongoing educator training
- Invest in AI-ready infrastructure for enhanced learning
- Develop ethical AI policies on privacy, bias, and fairness
- Encourage human-AI collaboration to support, not replace, teaching
- Support working circles and empirical research

# Contact Me

If you are interested in this topic or would like to collaborate on research, please feel free to contact me at: [rfarzi@uottawa.ca](mailto:rfarzi@uottawa.ca)

Or scan this QR code to access my website:



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