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ChatGPT in Language Writing Education: Reflections and a Research Agenda for a ChatGPT Feedback Engagement Framework

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Abstract

This personal reflection explores the ethical considerations surrounding the use of ChatGPT in ESL writing education. It begins by highlighting contrasting perspectives on the tool's impact, from skepticism to its potential as an empowering resource for students, particular with the immediate feedback ChatGPT provides. Then in reviewing existing models of feedback engagement, this paper identifies gaps that necessitate a more comprehensive ChatGPT feedback framework, one that incorporates ethical dimensions alongside cognitive and emotional aspects. The discussion concludes with a call for future research to investigate the complexities of engagement with AI tools like ChatGPT, emphasizing the importance of fostering ethical responsibility in student writers. Through this exploration, the paper aims to contribute to a more nuanced understanding of ChatGPT's role in language writing education, advocating for an informed and responsible integration of AI in the classroom.

Keywords: *ChatGPT, Artificial Intelligence, Second Language Writing, Feedback Engagement, Ethical Consideration*

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Introduction

The rapid evolution of artificial intelligence (AI) has brought tools like ChatGPT into the spotlight, sparking both excitement and concern (Thorpe, 2023). Developed by OpenAI,

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ChatGPT is a generative language model capable of producing human-like text responses (Ghumra, 2022). It has stirred global debates on its potential, especially in education (Schade, 2024). Tech visionary Bill Gates heralds ChatGPT as a revolutionary force, claiming it will “change the world” and increase efficiency in various job sectors (as cited in Bove, 2023). On the other hand, intellectual figures such as Noam Chomsky offer a more cautious view, criticizing ChatGPT as “high-tech plagiarism” and “a way of avoiding learning,” highlighting the ethical concerns surrounding the use of such technology in education (as cited in Chomsky & Mirfakhraie, 2023). These contrasting opinions underscore the ethical complexity of integrating AI like ChatGPT into educational contexts.

In English as a Second Language (ESL) education, ChatGPT has already made significant strides, especially in writing instruction (Kohnke et al., 2023). Its ability to provide immediate feedback and model coherent text has transformed how students engage with writing tasks, offering them personalized writing assistance that was once difficult to access (Marzuki et al., 2023). For ESL students, the promise of ChatGPT lies in its potential to help them overcome language barriers, practice fluency, and engage more actively in their learning processes (Dong, 2024).

My own perspective aligns with a more optimistic view of ChatGPT. First, it is undeniable that its arrival was not sudden or abrupt but rather the outcome of an ongoing negotiation between technology and society. As educators and learners, we have not prevented ChatGPT’s integration into classrooms, but the mere fact is that many of us remain uncertain about its role and how to interact with it. Rather than a passive recipient of technological change, education is an active participant, reshaping the tools and approaches at its disposal to enhance learning, as highlighted by the world-prestigious AI expert Fei-Fei Li (Li, 2023).

In this personal reflection, I will first explore the diverse opinions surrounding ChatGPT’s use in education, particularly focusing on the ethical considerations. I continue the reflection by discussing a crucial academic facet of ChatGPT’s role in language learning: how student writers engage with this tool in ESL writing contexts. Finally, I will propose a research agenda to guide future inquiry into ChatGPT’s feedback engagement framework research, with an emphasis on the ethical implications of this engagement for both educators and students.

Different Voices towards ChatGPT

The rise of the AI tool ChatGPT has prompted a wide array of responses, especially in educational settings (Kohnke et al., 2023). Warschauer and colleagues (2023) have delineated three primary and fundamental contradictions: firstly, the “imitation” contradiction, which encompasses the tension that arises between language learning and plagiarism (p.1); secondly, the “rich get richer” contradiction, emphasizing the risk that AI may amplify existing disparities (p.2); and thirdly, the “with or without” contradiction (p.3), which examines the potential reliance on AI for language progression. In the background of a mixed-feeling attitude towards ChatGPT, some institutions and educators have voiced strong concerns over its potential to encourage academic dishonesty, while others see it as a valuable tool that can revolutionize learning when used ethically.

On one side, numerous regions have imposed bans on ChatGPT, driven by fears of cheating, plagiarism, and a lack of transparency in student work. In the U.S., New York City and Seattle have banned the use of ChatGPT on school networks and devices, citing concerns

over academic integrity and student learning outcomes. Australia has followed suit, with states such as New South Wales, Queensland, Tasmania, and Western Australia prohibiting the use of ChatGPT on school campuses, reflecting a broader global concern. Similarly, in Europe, the Paris Institute of Political Studies has enforced a strict prohibition on the use of ChatGPT and other AI tools without transparent citations in academic work. In India, Bangalore University issued a ban on ChatGPT for academic activities, emphasizing the potential misuse of AI in exams and assignments. Even in China, the University of Hong Kong has barred the use of AI tools like ChatGPT in classrooms and assessments, underscoring concerns that students might use AI to bypass academic rigor².

However, not all voices are against the use of ChatGPT in education. Proponents argue that with proper ethical guidelines, ChatGPT can enhance learning. Bhaskar Vira, an academic leader at the University of Cambridge, suggests that ChatGPT should be seen as a useful new tool, urging educators to adjust teaching processes and examination norms accordingly, while maintaining academic integrity (as cited in Olsson, 2023). John Villasenor from University of California at Los Angeles echoes this sentiment, advocating for a balanced approach where students are taught to use ChatGPT ethically and efficiently rather than banning it entirely (Villasenor, 2023). The journal *Nature* also highlights ChatGPT's potential, suggesting that once its biases, provenance issues, and inaccuracies are addressed, it could greatly enhance research efforts (Van Dis et al., 2023).

These divergent voices highlight the ethical tension surrounding ChatGPT's role in education. On one hand, concerns about plagiarism and academic dishonesty persist, leading many institutions to impose bans. On the other hand, advocates see its potential to transform education when ethical guidelines are in place. In the context of ESL writing, where students often struggle with language fluency and accuracy, ChatGPT can offer critical support, but only if integrated thoughtfully and responsibly into learning environments.

I maintain a favorable view regarding the integration of ChatGPT into educational settings, with a particular emphasis on its application in writing instruction. Initially, as delineated in a research publication that I authored earlier this year (Dong, 2024), I underscored the pivotal role of human initiative in our interaction with ChatGPT. To avert a dystopian future reminiscent of Aldous Huxley's "Brave New World," it is imperative for educators to assume the mantle of responsibility in harnessing ChatGPT effectively and to guide our students through its advantages and potential pitfalls in the realm of writing. In this context, the significance of language educators in an era dominated by ChatGPT does not diminish; rather, it becomes increasingly vital to the field of language education. Furthermore, for students engaged in language acquisition, the cultivation of a literary mindset is essential. As Chen (2024) posits, the interaction with ChatGPT necessitates the crafting of prompts, which relies heavily on linguistic proficiency—a skill inherently rooted in the humanities. Future education must not only focus on the scientific and technical disciplines but also on the linguistic competencies of the humanities. It is crucial to foster the comprehension and expression abilities of individuals, which are, in fact, the most critical tools for human-AI communication. In general, my own perspective aligns with that of Fei-Fei Li, who shared her thoughts on ChatGPT during a 2023 conference in Canada. Drawing on her personal experience with her

² The summary of relevant online information in this paragraph was provided in Appendix A.

son, Li emphasized that children already view ChatGPT as an empowering tool, one that enables and enhances their learning. She argued that rather than shutting ChatGPT out of education, we should embrace it and update our educational practices to reflect the evolving relationship between humans and AI. “We need to educate humans so that they know how to use the tool to their benefit,” Fei-Fei Li stated (Li, 2023)³, a viewpoint on how we should approach ChatGPT in language education, which I am in favor with.

ChatGPT Feedback in Writing

I have come to realize that recent scholarly pursuits have not only identified the inherent contradictions but have also shifted their focus towards language learners. Specifically, these researchers have endeavored to underscore the examination of learners’ individual psychological states in response to the feedback offered by ChatGPT. They have delved into the efficacy of ChatGPT in the creation of educational material and the provision of feedback within the realm of ESL. This body of work, as exemplified by studies such as Guo and Wang (2024) and Young and Shishido (2023), seeks to understand how learners process and internalize the feedback from such an artificial intelligence tool, and how this interaction can be optimized for educational benefit.

One of the most significant advantages that ChatGPT offers to ESL student writers is the immediacy and accessibility of feedback (Jiang et al., 2023). Traditional feedback mechanisms, such as instructor comments or peer reviews, often involve time delays, limiting their effectiveness in real-time learning (Hyland, 2003). ChatGPT, by contrast, provides instant feedback on grammar, sentence structure, and content organization, which can be especially beneficial for ESL students who may struggle with language nuances (Dong, 2024). This instant support can serve as a scaffold, allowing students to practice writing with guidance and make immediate revisions (Tate et al., 2023). As students engage more with writing, ChatGPT’s ability to offer suggestions on word choice, coherence, and even topic development fosters a more interactive and responsive learning process (Warschauer et al., 2023).

This type of real-time feedback introduces a key area of writing research—student engagement. Engagement, especially in the context of feedback, is crucial for effective learning outcomes (Zhang & Hyland, 2018). The more students engage with the feedback they receive, the more likely they are to improve their writing skills (Zhang & Yu, 2018). Feedback engagement involves not only responding to corrections but also actively processing and internalizing the information, leading to behavioral changes in writing practices (Ellis, 2010). With ChatGPT’s unique mode of interaction, the nature of this engagement shifts, prompting new considerations for how student writers interact with feedback from AI sources (Else, 2023).

Models of Feedback Engagement in Writing

Engagement plays a critical role in understanding how students interact with learning tools and technologies, especially within writing contexts (Sulis, 2022). The emergence of AI tools like ChatGPT has expanded the concept of engagement, moving beyond traditional instructor feedback to include generative AI that offers instant responses, suggestions, and revisions in

³ Given that the resource was a conversation (online video), the page number was not specified.

real-time. In this framework, engagement refers to the degree to which students utilize, interact with, and gain benefits from AI tools like ChatGPT during their writing processes (Ellis, 2010). Fredricks et al. (2004) proposed a comprehensive engagement framework that conceptualizes engagement as a multifaceted construct consisting of three interrelated dimensions: behavioral, emotional (affective), and cognitive. This framework serves as a foundation for understanding student engagement in educational activities, including the integration of AI in writing (Cheng & Zhang, 2024). Behavioral engagement encompasses how students use tools like ChatGPT in their writing process, including the frequency of usage, specific purposes (such as idea generation or draft revision), and the incorporation of AI suggestions. Affective engagement pertains to students' emotional reactions to using AI, assessing whether they find the tool helpful, motivating, or frustrating. Cognitive engagement focuses on the depth of students' cognitive efforts in processing AI feedback and suggestions, highlighting whether they critically evaluate AI-generated content or passively accept it.

Writing is fundamentally a self-directed and self-sustained activity, and the engagement with AI tools like ChatGPT represents a new area for research in educational technology (Han & Hyland, 2015). Ellis (2010) explored engagement within feedback contexts, outlining behavioral, affective, and cognitive dimensions that can also be applied to the use of AI tools. For example, behavioral engagement involves how students utilize AI-generated feedback during revisions, while affective engagement relates to their emotional responses to that feedback, including feelings of satisfaction or frustration. Cognitive engagement focuses on the depth with which students process and understand AI-generated responses and whether they meaningfully incorporate these insights into their writing.

In AI writing contexts, the model proposed by Han and Hyland (2015) regarding engagement with written corrective feedback (WCF) offers valuable insights into how students might engage with AI feedback. Although their research centered on human feedback, the principles can be adapted to tools like ChatGPT (Han & Hyland, 2015). Behavioral engagement with ChatGPT could be assessed by the frequency with which students consult the AI, the extent to which they revise their work based on AI suggestions, and observable strategies such as rephrasing or restructuring. Cognitive engagement would involve how students process the outputs from ChatGPT, critically evaluating the relevance and appropriateness of the suggestions, and employing metacognitive strategies to self-regulate the integration of AI feedback. Finally, affective engagement could be reflected in students' immediate emotional responses to the AI's feedback, indicating whether they feel empowered or overwhelmed by the AI-generated recommendations.

What is Missing in a ChatGPT Feedback Engagement Model

However, these established models may not fully account for the unique nature of ChatGPT feedback engagement. First, ChatGPT's feedback, particularly in earlier versions before 3.5, has been known to be inaccurate or misleading (Thorp, 2023). As a generative AI, ChatGPT is not infallible—it can occasionally “hallucinate,” or fabricate information, which presents a significant challenge to its credibility as a feedback provider. This unreliability raises the need for student writers to engage more critically with its suggestions, rather than accepting or rejecting them at face value (Else, 2023).

Moreover, engaging with ChatGPT's feedback requires more than the typical emotional, behavioral, and cognitive efforts. Since ChatGPT is not an Automated Writing Evaluation (AWE) tool, which primarily focuses on linguistic accuracy (Guo et al., 2022), it introduces a broader set of interactions. ChatGPT operates with artificial intelligence and can provide suggestions on style, tone, and content development that may not always align with academic writing conventions (Else, 2023). As such, student writers, especially those in the early stages of ESL learning, must engage more rigorously with ChatGPT's feedback (Dong, 2024). They need to critically assess the transparency and accuracy of the feedback, carefully considering which suggestions to accept.

Most importantly, ethical engagement emerges as a critical layer in this interaction. One of the risks associated with ChatGPT is the temptation for students to use the tool as a shortcut, asking it to generate entire text segments rather than revising their own drafts based on feedback, as pointed out by extensive studies (e.g., Javier & Moorhouse, 2023; McCallum, 2023; Pack & Maloney, 2023; Vaccino-Salvadore, 2023). This bypasses the learning process and can raise serious ethical concerns about academic integrity. Indeed, Li (2023) emphasized the importance of teaching students to use ChatGPT responsibly, guiding them to treat it as a tool for learning rather than for completing assignments. This ethical dimension is crucial and distinguishes ChatGPT feedback engagement from other models of feedback interaction.

Towards a Comprehensive ChatGPT Feedback Engagement Framework

The limitations of current feedback models in addressing AI-generated feedback suggest the need for a new framework, one that integrates emotional, behavioral, cognitive, and ethical engagement, among others. While traditional models provide a foundation, they do not sufficiently account for the dynamic interaction between student writers and generative AI tools like ChatGPT (McCallum, 2023). Feedback engagement with ChatGPT is not simply about making corrections but also about critical thinking, responsible decision-making, and ethical judgment (Alexander et al., 2023; Wachter et al., 2021).

Therefore, this reflection calls for future research to extend existing models of feedback engagement by incorporating additional layers that address the ethical complexities of using AI tools, such as ChatGPT, in education. Investigating how students emotionally, behaviorally, cognitively, and ethically engage with ChatGPT's feedback is crucial for ensuring that the tool enhances learning without compromising academic integrity (Pack & Maloney, 2023). A comprehensive ChatGPT feedback engagement framework will guide educators and researchers in promoting responsible AI use, helping student writers develop not only linguistic proficiency but also critical and ethical awareness.

A comprehensive framework for engaging with feedback from ChatGPT indeed possesses both theoretical and practical significance, given the potential challenges in face of using ChatGPT ethically and critically in context: over-reliance, potential plagiarism, and whether students are truly developing critical thinking skills alongside their use of AI (Shin & Lee, 2023).

Over-reliance on ChatGPT

One of the primary challenges posed by ChatGPT in ESL writing is the risk of over-reliance (Jiang et al., 2023; McCallum, 2023). ESL students, especially those who struggle with

language proficiency, may be tempted to use ChatGPT as a crutch to generate ideas, correct grammar, or even produce entire passages of text (McCallum, 2023). While this may initially seem beneficial, it can lead to a dependency that hinders students' development of independent writing skills (Jiang et al., 2023). The danger lies in students relying on ChatGPT to solve writing problems instead of engaging deeply with the process of drafting, revising, and reflecting on their own work.

The ease of access to ChatGPT might encourage students to bypass important cognitive and emotional efforts necessary for learning, such as grappling with linguistic challenges, experimenting with sentence structures, or refining their argumentation (Jiang et al., 2023). As a result, their writing may become more polished on the surface but lack the depth and critical engagement that comes from independent problem-solving and revision.

Potential Plagiarism and Academic Integrity

Another significant ethical concern involves plagiarism (Warschauer et al., 2023). ChatGPT's ability to generate sophisticated text quickly may tempt some students to pass off AI-generated content as their own work. This raises questions about academic integrity, as students could misuse the tool to complete assignments with minimal effort, rather than using it to enhance their learning. The boundary between acceptable use of AI for feedback and unethical use for content generation can be blurry, especially for students unfamiliar with proper citation practices or academic honesty guidelines (Vaccino-Salvadore, 2023).

Institutions worldwide have taken varying stances on this issue. As previously discussed, cities like New York and Seattle in the U.S. have banned ChatGPT in schools, citing concerns about cheating. Similarly, academic institutions like the Paris Institute of Political Studies and the University of Hong Kong have implemented strict bans on the use of AI tools like ChatGPT without transparent citations. These measures highlight the ongoing struggle to define the appropriate role of ChatGPT in writing education and the need to maintain high standards of academic integrity.

Critical Thinking and Student Independence

A critical question that emerges from the integration of ChatGPT into ESL writing education is whether students are developing the necessary critical thinking skills (Javier & Moorhouse, 2023). Writing is not just about producing text; it is also an intellectual process that requires analysis, evaluation, and synthesis of ideas. When students overly depend on ChatGPT to suggest corrections or generate content, they may not engage in the deep thinking required to understand and apply feedback effectively (Javier & Moorhouse, 2023).

Li's (2023) viewpoint underscored the importance of framing ChatGPT as an empowering tool rather than a shortcut. She emphasized that while students can benefit from the tool, educators must guide them to use ChatGPT in ways that enhance their critical thinking and creativity, rather than merely relying on it for convenience. This approach ensures that students retain ownership of their learning process and continue to develop as independent writers.

Therefore, the challenges presented by ChatGPT highlight the need for a more nuanced understanding of feedback engagement in the context of AI tools. Traditional feedback models, which focus on behavioral, cognitive, and emotional engagement, may not be sufficient to address the specific challenges posed by AI in writing education. A key aspect missing from

these models is the ethical and critical dimension, which is increasingly critical as AI becomes more embedded in academic environments.

Future research must focus on developing and refining engagement frameworks that incorporate ethical considerations specific to AI-generated feedback. Researchers should investigate how students engage not only with the suggestions provided by ChatGPT but also with the ethical implications of using these suggestions. For example, how do students decide when it is appropriate to accept or reject feedback from ChatGPT? Are they able to critically evaluate the accuracy and relevance of AI-generated responses, or do they follow these suggestions uncritically? Moreover, how can educators encourage students to use ChatGPT responsibly, ensuring that it supports their learning without compromising academic integrity?

An expanded engagement framework for ChatGPT should include ethical, critical, emotional, cognitive, and behavioral dimensions, and future studies should explore how these layers interact. Such research could provide valuable insights into how AI tools can be integrated into ESL writing education in ways that promote critical thinking, student independence, and ethical responsibility.

In essence, while ChatGPT holds great promise for transforming ESL writing education, its integration must be approached thoughtfully. Educators and researchers must address the challenges posed by over-reliance, plagiarism, and the potential erosion of critical thinking. By developing comprehensive engagement frameworks that account for these concerns, we can ensure that AI enhances rather than diminishes the quality of writing instruction and learning outcomes.

Conclusion

In summary, the advent of ChatGPT in ESL writing education presents both opportunities and challenges that require careful consideration. While it offers significant benefits, such as providing instant feedback and fostering student engagement, the ethical implications of its use cannot be overlooked. Concerns about over-reliance, plagiarism, and the potential for diminished critical thinking skills necessitate a nuanced approach to integrating ChatGPT into writing pedagogy. This reflection has emphasized the importance of framing ChatGPT not merely as a tool for convenience but as a catalyst for deeper engagement in the writing process. As educators, we must guide students in utilizing this technology in a manner that enhances their learning while maintaining academic integrity. Furthermore, there is an urgent need for future research to develop robust engagement frameworks that incorporate ethical considerations alongside emotional, cognitive, and behavioral dimensions. By addressing these multifaceted challenges, we can harness the potential of ChatGPT to enrich ESL writing education while fostering responsible and independent learners.

Looking ahead, future research should prioritize the development of comprehensive frameworks that integrate ChatGPT into writing pedagogy while addressing its ethical, cognitive, and emotional dimensions. One key area for exploration is how ChatGPT affects students' cognitive engagement in writing tasks. While the tool provides instant feedback, it remains unclear how such immediate responses impact the deeper cognitive processes involved in revision and reflection. Studies could investigate whether students, when using ChatGPT, engage more critically with feedback or if the convenience of AI-generated suggestions leads to superficial revisions. By assessing the long-term cognitive benefits or drawbacks of

ChatGPT use, researchers can offer valuable insights into how to best incorporate AI in writing education.

Another important direction for research is the emotional dimension of ChatGPT feedback engagement. Feedback in writing is not just about technical corrections; it also influences students' confidence, motivation, and emotional resilience. It is essential to investigate how students emotionally respond to AI feedback compared to traditional teacher feedback. For example, does ChatGPT feedback foster greater autonomy, or does it reduce students' self-efficacy by making them reliant on AI tools? Researchers could explore whether personalized approaches to integrating ChatGPT, such as balancing AI feedback with human guidance, mitigate potential negative emotional impacts while enhancing students' emotional engagement with the writing process.

Finally, future research should focus on the ethical implications of AI feedback in educational settings, especially concerning plagiarism, originality, and academic integrity. There is a need for empirical studies that examine how students navigate the ethical challenges posed by AI tools like ChatGPT. Specifically, researchers could explore the development of academic integrity awareness programs that accompany ChatGPT's use, ensuring students understand the boundaries of acceptable assistance. Additionally, investigations into how instructors perceive the ethical use of ChatGPT in classrooms will offer critical insights for creating policies and guidelines that safeguard both academic standards and ethical behavior in writing education. By addressing these gaps, future studies can contribute to a more responsible and sustainable integration of AI technologies in ESL writing education.

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References

- Alexander, K., Savvidou, C., & Alexander, C. (2023). Who wrote this essay? Detecting AI-generated writing in second language education in higher education. *Teaching English with Technology*, 23(2), 25–43. <https://doi.org/10.56297/BUKA4060/XHLD5365>

- Bove, Y. T. (2023, February 11). Bill Gates says ChatGPT will “change our world” but it doesn’t mean your job is at risk. *Fortune*. <https://fortune.com/2023/02/10/bill-gates-chatgpt-jobs-chatbot-microsoft-google-bard-bing>
- Chen, Q. (2024). Challenges and responses of universities in the age of artificial intelligence. *China Education Network*, 4, 15–18.
- Cheng, X., & Zhang, L. J. (2024). Engaging secondary school students with peer feedback in L2 writing classrooms: A mixed-methods study. *Studies in Educational Evaluation*, 81, Article 101337. <https://doi.org/10.1016/j.stueduc.2024.101337>
- Chomsky, N. (Interviewee), & Mirfakhraie, R. (Interviewer). (2023, April 24). ChatGPT and human intelligence: Noam Chomsky responds to critics. *Monthly Review Online*. <https://chomsky.info/20230424-2>
- Dong, L. (2024). “Brave new world” or not?: A mixed-methods study of relationship between second language writing learners’ perceptions of ChatGPT, behaviors of using ChatGPT, and writing proficiency. *Current Psychology*, 43, 19481–19495. <https://doi.org/10.1007/s12144-024-05728-9>
- Ellis, R. (2010). A framework for investigating oral and written corrective feedback. *Studies in Second Language Acquisition*, 32(2), 335–349. <https://doi.org/10.1017/S0272263109990544>
- Else, H. (2023). Abstracts written by ChatGPT fool scientists. *Nature*, 613(7944), 423–423. <https://doi.org/10.1038/d41586-023-00056-7>
- Fredricks, J., Blumenfeld, P., & Paris, A. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74(1), 59–109. <https://psycnet.apa.org/doi/10.3102/00346543074001059>
- Han, Y., & Hyland, F. (2015). Exploring learner engagement with written corrective feedback in a Chinese tertiary EFL classroom. *Journal of Second Language Writing*, 30, 31–44. <https://doi.org/10.1016/j.jslw.2015.08.002>
- Hyland, K. (2003). *Second language writing*. Cambridge University Press.
- Ghumra, F. (2022, March). OpenAI GPT-3, the most powerful language model: An overview. *e-Infochips*. <https://www.einfochips.com/blog/openai-gpt-3-the-most-powerful-language-model-an-overview>
- Guo, Q., Feng, R., & Hua, Y. (2022). How effectively can EFL students use automated written corrective feedback (AWCF) in research writing? *Computer Assisted Language Learning*, 35(9), 2312–2331. <https://doi.org/10.1080/09588221.2021.1879161>
- Guo, K., & Wang, D. (2024). To resist it or to embrace it? Examining ChatGPT’s potential to support teacher feedback in EFL writing. *Education and Information Technologies*, 29, 8435–8463. <https://doi.org/10.1007/s10639-023-12146-0>
- Javier, D. R. C., & Moorhouse, B. L. (2023). Developing secondary school English language learners’ productive and critical use of ChatGPT. *TESOL Journal*, 15(2), 1–9. <https://doi.org/10.1002/tesj.755>
- Jiang, Z., Xu, Z., Pan, Z., He, J., & Xie, K. (2023). Exploring the role of artificial intelligence in facilitating assessment of writing performance in second language learning. *Languages*, 8(4), 247. <https://doi.org/10.3390/languages8040247>
- Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). ChatGPT for language teaching and learning. *RELC Journal*, 54(2), 537–550. <https://doi.org/10.1177/00336882231162868>
- Li, F.-F. (2023, October 4). In conversation with Geoff Hinton and Fei-Fei Li. University of Toronto Alumni. <https://my.alumni.utoronto.ca/s/731/formblank/index.aspx?sid=731&gid=1&pgid=21551&cid=35616&ecid=35616>
- Marzuki, Widiati, U., Rusdin, D., Darwin, & Indrawati, I. (2023). The impact of AI writing tools on the content and organization of students’ writing: EFL teachers’ perspective. *Cogent Education*, 10, 1–17. <https://doi.org/10.1080/2331186X.2023.2236469>
- McCallum, L. (2023). New takes on developing intercultural communicative competence: Using AI tools in telecollaboration task design and task completion. *Journal for Multicultural Education*, 18(8), 153–172. <https://doi.org/10.1108/JME-06-2023-0043>
- Olsson, E. (2023, February 3). We have to recognise ChatGPT—not ban it, says Cambridge pro-VC. <https://www.varsity.co.uk/news/24892>
- Pack, A., & Maloney, J. (2023). Using generative artificial intelligence for language education research: Insights from using OpenAI’s ChatGPT. *TESOL Quarterly*, 57(4), 1571–1582. <https://doi.org/10.1002/tesq.3253>
- Schade, M. (2024). *How ChatGPT and our language models are developed*. OpenAI Help Center. Retrieved October 10, 2024, from <https://help.openai.com/en/articles/7842364-how-chatgpt-and-our-language-models-are-developed>
- Shin, D., & Lee, J. H. (2023). Can ChatGPT make reading comprehension testing items on par with human experts? *Language, Learning and Technology*, 27(3), 27–40. <https://doi.org/10.1257/73530>
- Sulis, G. (2022). Engagement in the foreign language classroom: Micro and macro perspectives. *System*, 110, Article 102902. <https://doi.org/10.1016/j.system.2022.102902>
- Tate, T. P., Doroudi, S., Ritchie, D., Xu, Y., & Warschauer, M. (2023, January 10). *Educational research and AI-generated writing: Confronting the coming tsunami*. <https://doi.org/10.35542/osf.io/4mec3>

- Thorp, H. H. (2023). ChatGPT is fun, but not an author. *Science*, 379(6630), 313. <https://doi.org/10.1126/science.adg7879>
- Vaccino-Salvadore, S. (2023). Exploring the ethical dimensions of using ChatGPT in language learning and beyond. *Languages*, 8(3), 191. <https://doi.org/10.3390/languages8030191>
- Van Dis, E. A. M., Bollen, J., Zuidema, W., et al. (2023). ChatGPT: Five priorities for research. *Nature*, 614(7947), 224–226. <https://doi.org/10.1038/d41586-023-00288-7>
- Villasenor, J. (2023, February 20). How ChatGPT can improve education, not threaten it. *Scientific American*. <https://www.scientificamerican.com/article/how-chatgpt-can-improve-education-not-threaten-it>
- Wachter, S., Mittelstadt, B., & Russell, C. (2021). Why fairness cannot be automated: Bridging the gap between EU non-discrimination law and AI. *Computer Law & Security Review*, 41, Article 105567. <https://doi.org/10.1016/j.clsr.2021.105567>
- Warschauer, M., Tseng, W., Yim, S., Webster, T., Jacob, S., Du, Q., & Tate, T. (2023). The affordances and contradictions of AI-generated text for writers of English as a second or foreign language. *Journal of Second Language Writing*, 62, Article 101071. <https://doi.org/10.1016/j.jslw.2023.101071>
- Young, J. C., & Shishido, M. (2023). Investigating OpenAI's ChatGPT potentials in generating chatbot's dialogue for English as a foreign language learning. *International Journal of Advanced Computer Science and Applications*, 14(6), 65–72. <https://doi.org/10.14569/IJACSA.2023.0140607>
- Zhang, Z., & Hyland, K. (2018). Student engagement with teacher and automated feedback on L2 writing. *Assessing Writing*, 36, 90–102. <https://doi.org/10.1016/j.asw.2018.02.004>
- Zheng, Y., & Yu, S. (2018). Student engagement with teacher written corrective feedback in EFL writing: A case study of Chinese lower-proficiency students. *Assessing Writing*, 37, 13–24. <https://doi.org/10.1016/j.asw.2018.03.001>

Appendix A

A Summary of the Related Online Information

- <http://www.inkl.com/news/chatgpt-banned-in-wa-public-schools-in-time-for-start-of-school-year>
- <https://thelogicalindian.com/trending/india-ban-usage-of-ai-based-chatgpt-for-academic-activities-40151>
- <https://www.cnet.com/tech/computing/new-york-city-schools-ban-chatgpt-amid-cheating-worries>
- <https://www.sciencespo.fr/en/news/sciences-po-implements-strict-rules-about-the-use-of-chatgpt-by-students>
- <https://www.chinanews.com/dwq/2023/02-18/9956047.shtml>