

ChatGPT and the development of Critical Thinking and Writing Skills in the Norwegian L2 Classroom

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Abstract

This article discusses how artificial intelligence (AI), specifically ChatGPT, can be integrated into the Norwegian L2 classroom to support the development of critical thinking and writing skills. Drawing on a five-lesson teaching module I have designed, the study addresses two core questions: how to encourage critical reflection on AI tools such as ChatGPT, and how to promote their responsible use in L2 writing instruction. The lessons combined thematic discussions on AI and its social implications with a reflective writing assignment that allowed students to choose whether to use ChatGPT. Through participant observation and analysis of student essays, the study finds that students are interested in engaging with the topic and capable of reflecting critically on AI-generated texts. While most students opted to write independently, those who used ChatGPT identified both its strengths and limitations. The article concludes with suggestions for further integrating AI in L2 teaching while maintaining focus on student agency and writing competence.

Keywords: *artificial intelligence, L2 classroom, critical thinking, writing skills*

1. Introduction

The emergence of artificial intelligence (AI) large language models (LLMs) capable of generating texts based on user prompts has significantly disrupted established educational practices. Given that AI technologies are likely to remain a permanent part of contemporary society, including the educational landscape, however, it is important for teachers to develop pedagogical strategies that integrate these tools in creative and responsible ways (Yeo, 2023). Educators now face two interrelated challenges: (1) preventing students' overreliance on AI, which may limit their opportunities for genuine learning, and (2) guiding students to use AI productively in ways that enhance both their academic performance and critical thinking skills. During my teaching practice for Praktisk pedagogisk utdanning (PPU), I developed a five-lesson module, designed to address educational challenges of AI technologies. This practice-based study offered a replicable model for Norwegian classrooms by addressing two questions: (1) How can students develop critical perspectives on the use of AI tools like ChatGPT? (2) How can such technologies be reframed not as a tool for academic dishonesty, but as a useful support in the language teaching, critical thinking, and writing process? Through this teaching module, I aimed to develop the following competencies: critical approaches to diverse media sources, ethical and responsible use of digital tools, and understanding of the broader societal implications of AI—key values emphasized in the national curriculum (Utdanningsdirektoratet, 2020).

Like other LLMs, ChatGPT is capable of performing a wide range of language tasks, including translation, summarization, question answering, and text generation (Cotton et al., 2023). Since its release and rapid rise in popularity, ChatGPT has been perceived by many educators as a major disruption to traditional teaching and learning methods (Moorhouse et al., 2023). A common concern is that reliance on AI technologies may hinder students' ability to develop independent writing and critical thinking skills (Cotton et al., 2023; Yeo, 2023). This issue is particularly relevant in the context of foreign language teaching and second language (L2) education, where such technologies present both pedagogical opportunities and challenges. On the one hand, AI technologies offer valuable support for self-assessment and independent learning (Javier & Moorhouse, 2023). It can also help to provide timely feedback and assistance with grammar, vocabulary, and writing style (Barrot, 2023). On the other hand, the technology may disrupt L2 writing instruction, which has already been significantly affected by the use of online translation tools such as Google Translate (Hong, 2023). With access to advanced generative tools, students may be tempted to rely on them for completing assignments, translations, and even exams—raising serious concerns about writing pedagogy and academic integrity (Rudolph et al., 2023; van Dis et al., 2023; Thorp, 2023). Since ChatGPT generates original content based on massive datasets without conventional citation, it also complicates traditional understandings of plagiarism and authorship (Yeo, 2023).

This challenge is similarly pressing in the Norwegian secondary school context, where advanced L2 learners are expected to develop not only English language skills but also critical thinking and academic writing competencies. The Norwegian high school curriculum for the teaching of English emphasizes the ability to engage with academic texts and global issues in English as a lingua franca (Utdanningsdirektoratet, 2020). For students who find it difficult to express complex ideas in English, ChatGPT may offer a tempting shortcut. At the same time, it holds significant potential for supporting language acquisition through vocabulary development, grammatical analysis, and improved understanding of academic writing conventions.

To document the results of this teaching intervention, I relied on participant observation, using classroom field notes to record the observations from the class discussions and the outcomes of the writing assignment.

2. Lesson Sequence Outline

In the module I developed, the first three lessons focused on historical, ethical, artistic, and societal implications of AI. The final two lessons explored how ChatGPT could be integrated into the development of students' writing skills.

Lesson One: Historical and Artistic Background

Lesson one was dedicated to the discussion of an early AI experiment, a short sci-fi film, *Sunspring* (2016). This early cultural experiment served as a springboard for discussing such topics as AI and artistic originality and AI and future social challenges—topics central to this learning module.

The first lesson began with reading the article, “Movie written by algorithm turns out to be hilarious and intense.”¹ In groups, students then had to develop three questions to the article. They could pose these questions to other groups. I explained in advance that the questions could be based on the content of the article or could be related to AI in general. Writing the questions helped students to

think about the issues the article raised. Moreover, the work on the article introduced the vocabulary related to AI and laid the foundation for further discussion.

This discussion was followed by the screening of the film *Sunspring*.² After watching the film, we discussed the following questions:

- 1) What do you find interesting about this early AI experiment and the resulting film?
- 2) The film was ranked among the top ten films at the science fiction film festival; do you find this result problematic?
- 3) *Sunspring*'s script was made by an early AI bot that learned from science fiction film scripts available on the internet. By looking closely at the film's dialogues, what can we tell about the nature of the science fiction genre?
- 4) Does *Sunspring* reflect certain stereotypes characteristic of popular culture.

Reflection

I found that while students enjoyed watching the film, the last two questions would be more suitable for the university students and were a little challenging for secondary school students. This assignment could be redesigned in the future by focusing less on the discussion of sci-fi genre.

Lesson Two: Social Implications of AI

The conversation about this early AI experiment served as a springboard for discussing contemporary versions of AI, such as ChatGPT. Thus, I started the discussion by posing the following questions:

- 1) What challenges can AI create for the future society?
- 2) How does AI relate to creativity and art?
- 3) Does it challenge or reinforce social norms and stereotypes?
- 4) How do you use AI in your everyday life?

Reflection

These questions were easier for the class, since they directly related to students' everyday experiences. Norwegian secondary school students are now familiar with ChatGPT and use it in their everyday life. They have also already formed certain opinions about this technology. Therefore, they were very interested in and engaged with the topic.

Our discussion resulted in the following students' reflections:

- 1) AI can lead to inaccurate information.
- 2) AI can lead to large-scale unemployment.
- 3) If AI is widely used for the production of art, this can result in limited innovation, due to the constant data reuse.

- 4) Cheating can lead to a lack of fairness in grading and university admissions.
- 5) AI has no ethical concerns. Therefore, the information it provides can be unethical.

Lesson Three: Hidden Social Challenges, Stereotypes, Academic Integrity, Data Privacy, and Accessibility

In lesson three, I tried to deepen the discussion about the social implications of AI by introducing four less obvious social challenges of AI, such as stereotypes, academic integrity, data privacy, and accessibility.

We began the lesson by recollecting the main points from the previous two lessons.

To transition to the hidden social challenges of AI, I introduced an exercise that asked asking students to think of the images that come to their mind when they hear the word “India.” I chose this specific word because of its connection to such aspects as exoticism, colonialism, and cultural and ethnic identity, the notions that I wanted to raise in connection to the concept of “stereotype.” This exercise was used to introduce a reading assignment, the article dedicated to stereotypes in the images created by AI, “Generative AI like Midjourney creates images full of stereotypes.”³

After our work on the excerpt from this article, I introduced further social challenges that could be potentially caused by AI . I started this discussion using the following questions:

- 1) How do we understand plagiarism and copyright at the time of AI?
- 2) Do we have control over the data we share when using AI?
- 3) Does the use of AI raise any concerns about equity and accessibility?

Reflection

Students were similarly engaged with the topics and found this discussion relevant to their everyday experiences. In the future, it would also be possible to combine the discussion about stereotypes with assignments that would draw on the use of picture-generating AI apps, such as Runway or Midjourney.

Lesson Four: Writing Assignment

Building on the first three lessons that focused on AI and its social challenges, lesson four consisted of a writing assignment, where students had to write a short essay and upload their essays to Itslearning.com. This essay assignment was meant to raise students’ awareness of writing as a process. Thus, they were asked to make a conscious choice about whether or not to use AI. They could choose to write the essay themselves and practice their writing skills, or they could write their essay with the help of ChatGPT. In case of their choice to rely on ChatGPT as a writing tool, their essay had to be followed by a guided analysis that encouraged critical approach to the resulting product. Towards this goal, the writing assignment was guided by the following prompt:

Write a 200-word reflection essay on the possible challenges of AI for contemporary society.

In writing your essay, you can choose to use or not to use ChatGPT.

If you choose to use ChatGPT, you need to provide an analysis of the resulting essay.

Your analysis must include the following points:

- 1) What prompt did you use?
- 2) Was the resulting essay interesting to read?
- 3) What are some stylistic aspects of the resulting text, such as grammar, sentence structure, vocabulary, etc.
- 4) Did you introduce any changes to the resulting essay to make it better? What kind of changes?

Reflection

As a result of this assignment, twenty-seven students have submitted an essay to Itslearning.com. Out of these twenty-seven students, three have chosen to write an essay using ChatGPT, followed by their individual analysis. The other twenty-four students chose to write the essays themselves, likely because they were told that writing themselves would be a good practice for the upcoming mock test.

In their essays, the majority of students (more than 50%) chose to focus on the topic of AI and education.

In their essays, students expressed concerns that the use of AI can discourage independent thinking and learning. Potential job loss was another popular topic, followed by the other topics that we discussed in the previous lessons, such as challenges to data privacy, fake news, art production, and preserving social diversity.

The students' analyses of ChatGPT-generated texts yielded interesting insights; students pointed out such aspects of ChatGPT-generated writing as complex sentences, sophisticated vocabulary, and generic statements. We later discussed this aspect of ChatGPT-produced writing in lesson five, when students had to distinguish between sentences written by a human and AI.

Lesson Five: Writing Process and Analysis of AI Texts

In lesson five (the final lesson of this module), we discussed the results of the writing assignment with attention to the following questions:

- 1) How many students chose to write the essay themselves?
- 2) How many students decided to use ChatGPT to write their assignment?
- 3) Were there combination of the two approaches?
- 4) What were the results of their essay analysis?

I took sentences from different essays and projected these anonymized examples in PowerPoint slides. The examples included both ChatGPT generated and student-generated sentences. Students had to guess what sentences were written by ChatGPT, and they had to explain why they attributed these sentences to AI writing.

Reflection

Students pointed out that AI uses sophisticated academic vocabulary. They also noticed that the essays produced with the help of AI lacked personal examples and were very generic in their content. We discussed the fact that AI is good at producing sentences with complex grammar and syntactical structures. While not required, one student cited external sources; this fact led to the discussion of AI and external sources, and AI's tendency to create non-existent sources for its citations. Overall, students came to conclusions comparable to the recent scholarship on identifying texts produced by ChatGPT, e.g., Cotton et al., 2023.

A concerning aspect of this exercise, however, was that most student-written essays were considerably better than the essays students later wrote for their mock test. During this test, they had no access to the internet or assistive technology tools, such as Grammarly, spell-checking tools, and language translation software. This teaching intervention raises an interesting question concerning L2 writing. On the one hand, as modern citizens, our students should become fluent users of different technologies. On the other hand, during national exams, students are not allowed to use these assistive tools, thus, they have to perform well without their help. Thus, students have to be trained for both forms of writing, although they do not have sufficient writing practice due to the limited teacher resources. Grading and discussing writing assignments takes much time and teaching resources; it is often sacrificed in favor of oral practice.

3. Conclusion and Possible Future Directions

The five-lesson teaching module I have developed served as an intervention for creating students' critical understanding of artificial intelligence and its potential social challenges, as well as raising awareness about the use of AI in writing process. Students learned about the evolution of AI, its early uses for the production of art, and potential social problems related to the newest types of AI. They practiced writing with and without the help of ChatGPT and paid attention to their writing as a process (Dysthe & Kverndokken, 2023). Finally, students learned about different features of AI-generated texts, which raised their awareness about different writing styles, types of vocabulary, and sentence structures.

Reflecting on my experience in using this teaching module, I can suggest several possible ways of expanding the integration of AI tools like ChatGPT in future classroom instruction. While the primary focus of this intervention was on raising critical awareness and ethical reflection, future lessons could place greater emphasis on the productive applications of generative AI in L2 writing. For example, students could analyze AI-generated texts to identify advanced sentence structures, explore grammar patterns such as nominalization or participial constructions, and experiment with style, tone, and genre adaptation. These exercises can foster grammatical awareness and genre competence while encouraging collaborative learning. In addition, ChatGPT can be used to generate vocabulary lists or thematic prompts for discussion, supporting differentiated instruction and learner autonomy. By integrating these tools, future lesson plans could seek to balance critical inquiry with hands-on exploration, allowing students not only to critique but also to creatively engage with AI technology as part of their language-learning process.

Endnotes

¹ This article is available at <https://arstechnica.com/gaming/2021/05/an-ai-wrote-this-movie-and-its-strangely-moving/>

² The film is available on YouTube at <https://www.youtube.com/watch?v=LY7x2Ihqjmc>

³ This article is available at <https://restofworld.org/2023/ai-image-stereotypes/>

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