

Writing Spaces

Assignments & Activities Archive

LLMs and Chain Stories: An Exploration of Creativity and Artificial Intelligence

Chris Mayer

This activity is a selection from the *Writing Spaces* Assignment and Activity Archive, an open access companion resource to the Writing Spaces open textbook series.

To access additional selections, visit: <http://writingspaces.org/aaa>.

Assignment and activity selections © 2024 by the respective authors. Unless otherwise stated, these works are licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (CC BY-NC-ND 4.0) and are subject to the Writing Spaces Terms of Use. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/4.0/>, email info@creativecommons.org, or send a letter to Creative Commons, PO Box 1866, Mountain View, CA 94042, USA. To view the Writing Spaces Terms of Use, visit <http://writingspaces.org/terms-of-use>.

All rights reserved. For permission to reprint, please contact the author(s) of the individual articles, who are the respective copyright owners.

Large Language Models and Chain Stories: An Exploration of Creativity and Artificial Intelligence

Chris Mayer

Overview

This lesson develops students' awareness of the synergistic and disruptive potential of Large Language Models (LLMs) in storytelling. Designed for a first-year writing class, the lesson explores the interplay between creativity and AI by examining LLMs' storytelling capabilities. Students will collaboratively create a chain story, then use a LLM to generate a narrative based on their initial sentences. The class will critically analyze and compare human and AI-generated stories, discussing thematic depth, character development, and ethical considerations in creative writing. This activity encourages collaboration, critical thinking, and prompts discussion on the future of AI in creative fields.

LLMs such as GPT-3 have demonstrated remarkable abilities in generating coherent and contextually relevant stories, sometimes rivaling human writers in quality (Xie et al.). These models leverage vast datasets and sophisticated algorithms to produce narratives that are considered by human raters to be both engaging and insightful (Xie et al.). GPT-4 and GPT-4o's capabilities are even greater. The success of these models in natural language tasks underscores their potential in educational settings, where they can serve as tools to enhance creativity and critical analysis (Makridakis et al.).

The collaborative aspect of this lesson, where students build stories together, aligns with research showing that group work enhances learning outcomes by fostering communication and teamwork skills

(Brame and Biel). By engaging with AI-generated texts, students gain firsthand experience with cutting-edge technology, preparing them for future interactions in a world increasingly influenced by AI.

Critically comparing human and AI-generated stories allows students to understand the strengths, limitations, and risks of LLMs which will become increasingly an important skill (Extance). For instance, while LLMs can generate complex narratives, they often lack the deep emotional understanding and originality inherent in human creativity (Petroșanu et al.). Engaging in this comparison not only highlights the current capabilities of AI, but also emphasizes the unique aspects of human creativity that machines cannot replicate.

Moreover, discussing the ethical implications of AI in creative writing helps students consider broader societal impacts. Issues such as authorship, originality, and the potential for AI to displace human writers are crucial topics that need to be addressed as AI continues to evolve (Xie et al.). This lesson thus not only enhances students' narrative skills but also encourages them to think critically about the future of creativity in an AI-integrated world.

Time Commitment

50 minutes; adaptable to 75 minutes.

Materials

- Paper and pens/pencils
- Projector or printed story stems and instructions
- Computers or tablets with internet access
- Access to a Large Language Model like ChatGPT or Bard. This may require an account.

Assignment or Activity Process

- Students will form groups of three to four.
- Each writer will take about 2 minutes to write the first sentence of a story that has some AI-related theme. Provide story stems to accommodate students who prefer or need more processing time to begin a task. Example stems include:
 - A teenager's new AI homework helper unexpectedly developed a penchant for practical jokes, turning the house into a playground of harmless, but hilarious traps.
 - In an attempt to understand pets better, an AI pet robot decided to adopt a kitten, leading to a series of misadventures that taught it the true meaning of chaos and companionship.
- After story stems are complete, ask students to pass the paper clockwise; each student should then begin writing and continue writing until the teacher calls out “switch!” or “change!” Give 1-2 minutes for each round, with slightly more time as the activity progresses to accommodate for there being more text to process and work with during each subsequent round. When there are 10-15 seconds remaining, let the students know so they can work toward closing their thoughts/sentence(s).
- For the last round of writing, give 2-3 minutes and ask students to “close” the story by giving it a conclusion.
- Groups will read their stories and then each student should select the opening sentence of their final story and input it into an LLM to generate a one-page story. Give the students

a prompt for the LLM, such as “Generate a 1 page story using this as a first sentence: (paste sentence here).”

- Students will compare and critically analyze their own stories with the AI-generated ones, focusing on character development, plot coherence, thematic richness, narrative style, and the presence or absence of human connection. Giving students a rubric to score each of these factors with scores from 1-5 may be useful.
- Individuals in groups will compare notes; they will then create a shared google doc or slides to help them organize and then present their findings to the class. Ask two groups to present, or do it by a lottery system (choosing “lucky” numbers, drawing sticks, or any preferred method).
- The instructor should take class notes on the board while groups present, and then invite other groups to add their perspectives and findings. The class will engage in a discussion about the broader implications of AI in creative writing, including ethical considerations and the impact on future writing professions.
- The instructor will summarize key points from the group presentations and class discussion.
- Finally, assign as homework to [read or watch this interview](#) about AI and artists, and then write a one page reflection in which they draw connections and parallels to their experience and analysis with the in-class writing activity.

Learning Outcomes

Students engaging in this activity/assignment will:

- Develop a critical understanding of the role and capabilities of Large Language Models (LLMs) in storytelling.

- Enhance collaborative and individual narrative construction skills.
- Critically analyze and compare human-generated and AI-generated narratives, focusing on character development, plot coherence, thematic richness, narrative style, and human connection.
- Engage in discussions about the ethical considerations and professional implications of AI in creative writing.
- Reflect on the potential future impact of AI on creative fields and writing professions.

Learning Accommodations

- Provide story stems for students who need more processing time to begin a task.
- Remind students that there is no minimum word count for each round and that writing more is not necessarily better than writing less.
- Deliver instructions verbally and in written form on a projector (or print them) for students who process information better through text than oral delivery.
- Allow students to pair up if they have difficulty writing by hand. They can take turns, with the student speaking out the story as the writer writes, and in the next round, the writer can write (alternatively, they can collaborate every round).

Works Cited

- Brame, Cynthia J., and Rachel Biel. "Setting Up and Facilitating Group Work: Using Cooperative Learning Groups Effectively." *Vanderbilt University Center for Teaching*, 2015, <http://cft.vanderbilt.edu/guides-sub-pages/setting-up-and-facilitating-group-work-using-cooperative-learning-groups-effectively/>
- Extance, Andy. "ChatGPT Enters the Classroom." *Nature*, vol. 623, 2022, pp. 474-77, <https://www.nature.com/articles/d41586-023-01245-1>
- Makridakis, Spyros, Fotios Petropoulos, and Yanfei Kang. "Large Language Models: Their Success and Impact." *Forecasting*, vol. 5, no. 3, 2023, pp. 536-49, <https://doi.org/10.3390/forecast5030030>
- Petroșanu, Dana-Mihaela, Alexandru Pîrjan, and Alexandru Tăbușcă. "Tracing the Influence of Large Language Models across the Most Impactful Scientific Works." *Electronics*, vol. 12, no. 24, 2023, article 4957, <https://doi.org/10.3390/electronics12244957>
- Xie, Zhouhan, Trevor Cohn, and Jey Han Lau. "The Next Chapter: A Study of Large Language Models in Storytelling." *Proceedings of the 16th International Natural Language Generation Conference*, edited by C. Maria Keet, Hung-Yi Lee, and Sina Zarrieß, Association for Computational Linguistics, 2023, pp. 323-51, <https://aclanthology.org/2023.inlg-main.23>