

# Welcome to academic rehab.

## AI Text Generators: Promise, Peril, and Power

Session on Co-Producing Texts with the Help of AI

## Quick Discussion: Your AI Experience

Have you used AI writing tools? For what purpose?

What made you decide to use or not use them?

Did you feel the output was worth the cost (time, energy, ethics)?

# The Hidden Price of Every Prompt

## Water Usage

- ChatGPT query (5-50 questions): ~500 ml of water = equivalent to drinking a 16 oz water bottle
- Training GPT-3: ~700,000 liters of water = enough to fill about 3 Olympic-sized swimming pools
- Google's annual data center water use: 16.3 billion liters = could fill over 6,500 Olympic swimming pools

# The Hidden Price of Every Prompt

## Energy Consumption

- Single ChatGPT query: 0.0005-0.015 kWh = running a microwave for 9-18 seconds; keeping an LED bulb lit for 30-90 minutes
- Google search: 0.0003 kWh = powering a 60W light bulb for 17 seconds
- Training GPT-3: 1,287 MWh = annual electricity usage of ~120 average US homes
- ChatGPT's annual consumption is equivalent to around 140,000 hours of video streaming

# The Hidden Price of Every Prompt

## Carbon Emissions

- Training GPT-3: 552 metric tons CO<sub>2</sub>e = yearly emissions of ~120 gasoline-powered cars
- Training GPT-4 (estimated): 12,456 - 14,994 metric tons CO<sub>2</sub>e = yearly emissions of ~2,700-3,300 gasoline-powered cars
- Generating 1,000 AI images: Equivalent to driving 6.6 km (4.1 miles)

# The Hidden Price of Every Prompt

*“ With the energy consumed by ChatGPT in one year, around 3.13 million electric vehicles with an average battery capacity of 72.4 kWh could be fully charged. That's almost 95% of all electric cars on the road in the US by the end of 2023.*

Study: <https://www.bestbrokers.com/forex-brokers/ais-power-demand-calculating-chatgpts-electricity-consumption-for-handling-over-78-billion-user-queries-every-year/>

# The Hidden Price of Every Prompt

## Infrastructure Requirements

### **Cloud-based AI (e.g., ChatGPT, Claude)**

Massive data centers with high-performance GPUs

Significant cooling infrastructure

High energy consumption and water usage

### **Hugging Face**

Offers cloud-based solutions with lower resource requirements

Provides options for more efficient, smaller models

Enables easier access to pre-trained models, potentially reducing overall infrastructure needs

### **Local Models**

Lower energy consumption and no continuous data center requirements

Reduced network traffic and associated energy costs

Limited by local hardware capabilities, potentially less powerful than cloud-based solutions

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# The Writing Process Costs

From Thinking to Outsourcing?

Traditional Writing Process:

Struggle with ideas – Clarify through writing –Revise and refine

AI-Dependent Process:

Generate quickly – Edit surface features – Skip the thinking?



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# Power Relations

Who Benefits? Who Decides?

Corporate control of writing tools

Data collection and privacy

Access inequality

Dependency on proprietary systems

# Meaningful Co-Production

When Might AI Use Be "Okay"?

Criteria for consideration:

Clear (social) benefit

Necessary for accessibility

Thoughtful, limited use

Critical engagement with output

# Group Exercise

## Analysing Real Writing Scenarios

Scenario 1: Student uses AI to polish non-native language

Scenario 2: Researcher uses AI to brainstorm perspectives

Scenario 3: Writer prompts their essay topic into AI, gets full text, edits lightly

Scenario 4: Professor develops their argument, uses AI specifically to help explain complex concepts to a public audience

Questions for analysis:

Where does thinking happen?

What are the power dynamics?

Are the costs justified?

## Developing Guidelines

When to Use, When to Refuse

Guidelines discussion:

Essential vs. convenient uses

Environmental impact thresholds

Maintaining intellectual sovereignty

Transparency requirements

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# Alternative Practices

Building Community-Based Writing Support

Peer writing groups

Language exchange partnerships

Collaborative editing practices

Shared resource development

## Next session(s)

14 – Tue Jan 28 12–2 PM – improving your text // independent writing time // peer-review NEW TASK !!!

15 – Tue Feb 4 1–2 PM – **course wrap-up // interdisciplinary challenges // NEW: evaluation...**

**16 – Tue Feb 11 2 PM – first deadline to submit your final polished 15–18 page paper**

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# Deadlines... oh no!

Thursday, January 30, 6pm – deadline for task #7 (critical writing process analysis) NEW !!!

Tuesday, February 11, 2pm – early bird deadline to submit final 15–18 page paper

Tuesday, February 25, 2pm – final deadline to submit final 15–18 page paper