

COU Academic Colleagues Committee Report to the Ontario Tech U AC

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Synopsis

This report provides an overview of two meetings held on April 4 and 5, 2023, and the 315th Meeting of Council held on April 6, 2023. The meeting on April 4 was a conversation on “Developments in Artificial Intelligence” with Dr. Isabel Pedersen (Ontario Tech University and Digital Life Institute). The April 5 meeting included further discussion of the impacts of AI on universities, information sharing about what has been happening at Ontario’s universities, and updates from COU. The Council meeting (of Executive Heads and Academic Colleagues) on April 6 included a discussion of developments in artificial intelligence, such as ChatGPT, how they can be leveraged to support students and faculty, and how they might impact assessment measures. I attended all meetings online.

Background

The objective of the COU Academic colleagues committee is to support the COU council, consisting of the executive heads of the institution members of the COU, with feedback from academic colleagues concerning COU initiatives.

Meeting Summaries

COU Colleagues Meeting (April 4 and 5, 2023)

Evening meeting, April 4, 2023

Conversation on Developments in Artificial Intelligence with Dr. Isabel Pedersen. *Dr. Isabel Pedersen, Professor, Faculty of Social Science and Humanities, Ontario Tech University, and Founding Director, Digital Life Institute, will discuss recent developments in artificial intelligence and other technologies, such as ChatGPT, and their social and ethical implications for universities. (Digital Life Institute report is attached.)*

Some of the key points:

- We began by considering how advancements in artificial intelligence and other technologies will change the nature and structure of universities, including curriculum and ethics: if universities do not take the lead on these issues, it will be the policymakers.
- We spent a considerable amount of time discussing the need to consider the ethical uses of technologies in situations where we (as educators) aim to encourage learning via critical thinking and working through difficult concepts, while also teaching students how to use the tools.
- There is an opportunity to work towards decolonizing the classroom. For example, can we allow students to write in any language and then use a translator? If we take away the grammar challenges faced by international students and non-English speakers, can we create assignments that allows students to bring their critical knowledge to the table? What if writing has held back students from exploring good ideas if they are not good writers/have special needs/etc.; can tools help them to do better in classes?

Dinner debrief (7:15 pm): Colleagues discussed ideas regarding a strategic approach across universities, noting the importance of big picture ideas as well as pedagogical approaches the have students “do the thinking” and then use the tools to improve the writing.

Morning meeting, April 5, 2023

1. Information sharing

- Concerns raised at some universities related to data management costs, the very high number of international students, skills gaps in the arts, labour (strikes) and their impacts on students and the broader community, and ChatGPT.
- Nipissing is working on a Treaty with the Indigenous communities in the area.
- Trent University in Oshawa will be opening a new building due to a large growth especially with International students.
- York is building a new campus in Markham.
- U of Toronto is looking at microcredentials, ways to be entrepreneurial, concerns about incoming students, and changes to leave of absence policy for students (in exceptional situations).

2. Preparing for the April 6 Council Meeting Discussion:

- Discussion about the challenges and opportunities of Artificial Intelligence tools
- What are the implications of using it? How can we think about it proactively to get students thinking?
- Logistical vs pedagogical issues: Will AI change how we deliver courses in the online environment?
- Issues around academic integrity: questions about ownership of writing produced, citation and acknowledgement practices, etc.; How do we ensure the integrity of what students are learning?
- There is an ethical conversation to be had about the decolonization of the classroom: Can these tools support equity in learning? Can it allow for personalized learning, such as for those who are neuro diverse? What happens once the tools are monetized? Can we use AI to grade some assessments? Does doing so mean there will be a loss of skills development & further underpaying of TAs? At the same time, students need to know how to use these tools before they go out into the workforce.
- How will these tools change and reframe the university, especially regarding degree level expectations and course/program outcomes? Currently, AI not as a substitute for good writing. Are other ways of amassing knowledge? Is writing the main outcome for knowledge? If we need to change pedagogical and assessment methods, will we need smaller class sizes and more TAs? Things are not going to get cheaper as we will likely need more dialogic pedagogy and assessments, which will require more TA support?
- It is important that universities take the lead before policy is made.
- For instructors to be able to deal with it in the classroom, we (as instructors) will need to learn how to use and critically engage with these tools. We know that students are overly trusting of things, like Grammarly, and are using it uncritically. How do we get students to the place where they have the common sense to use it critically and not rely on it without thought? There is not going to be a panacea and students need the skills to determine if an

answer is reasonable (doesn't matter if it is words or numbers). We need to reimagine assignments.

3. COU update (Steve Orsini)

- Advocacy update
- The Blue-Ribbon Panel that was recently announced by the provincial government appears as if it will focus on low-income students. The university and college sectors will work together on areas of agreement with the goals of persuading the government that investments in PSE are investments in the economy and institutional autonomy is important. The sector will be looking for efficiencies in things like procurement, eCampus, centralization of applications, ensuring international students have access to OHIP, and so on. They are concerned with funding models, good governance, and financial management. The government does not seem to be looking at the importance of human capital. The government seems focussed on the trades, without an awareness of the symbiotic relationship between the trades and professions (carpenters need architects, builders need engineers, etc.). The university sector can meet the needs of the economy while also producing high quality students.

The remainder of the meeting was taken up with internal reports and committee reports.

315th Meeting of Council (April 6, 2023)

1. Welcome from the Chair (Alan Shepard, President of Western University)
2. Discussion item: Developments in artificial intelligence, such as ChatGPT, how they can be leveraged to support students and faculty as well as how they might impact assessment measures.
 - Presentation to the Executive Heads by the Academic Colleagues based on discussions with Dr. Pederson and the colleagues.
 - Discussion
3. President's Report (Steve Orsini)
 - Pivotal time with the launch of the Blue Ribbon Panel and with other provinces investing in universities. Publicly-assisted educational institutions are important and it is important for the university sector to engage in it carefully and robustly.
4. Université de l'Ontario français applied for COU Membership: they will become a provisional member starting in July for one year and may be renewed.
5. Other reports and business.

ADAPTING TO AI WRITING

ARTIFICIAL INTELLIGENCE, GENERATIVE AI, & EDUCATION

VERSION 1, 6 APRIL 2023

Dr. Isabel Pedersen, Director and Cluster leader



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SYNOPSIS OF FINDINGS

- Users of emergent technology like generative AI go through a process of adaptation before settling into purposeful usage of it.
- The generative AI market will expand, and the focus in Education should be on learning frameworks first, not on specific products (e.g., ChatGPT, Microsoft Bing Conversational Experiences, DALL-E 2, etc.).
- Students should be involved in tools discovery and their feedback should be included in course policy-making.
- Adaptation to autonomous content generation tools will be determined by instructors' points of view as teachers as well as their multiple professional roles as non-teachers.
- Writing currently serves different professional roles and it makes sense that the adaptation to generative AI will be heterogeneous.
- AI Literacy, digital literacy, critical media literacy, civic engagement, ethically-aligned adoption and assessment of writing tools will be needed.

INTRODUCTION

This report summarizes activities, resources, and ideas on the topic of generative AI and its cultural adoption with an emphasis on postsecondary education. It sheds light on the topic of how universities are adapting to generative AI as a phenomenon.

DEFINITIONS

Artificial Intelligence (AI) can be defined as “Systems that think like humans, systems that act like humans, systems that think rationally, systems that act rationally” (Russell and Norvig, 1995).¹ Concentrating on its cultural impact, another take is that “Artificial Intelligence (AI) is “the 60-year-old quest to make machines capable of mental or physical tasks seen as emblematic of human or animal intelligence” (Simonite, 2019).²

Artificial Intelligence often involves an autonomous agent that simulates human intelligence (e.g., a chatbot or digital assistant). Following Luciano Floridi (2013), Virginia Dignum (2019) defines autonomy as “the capacity of an agent to act independently and to make its own free choices” (p. 17). She explains that autonomy “is both seen as a synonym for intelligence, as well as that characteristic of AI that people are most concerned about” (p. 18).³

“Artificial Intelligence (AI)” comprises three main technological categories:

AI techniques: “advanced forms of statistical and mathematical models, such as machine learning, fuzzy logic and expert systems, allowing the computation of tasks typically performed by humans; different AI techniques may be used as a means to implement different AI functions.”⁴

AI functional applications: “functions such as [Natural Language Processing] or computer vision which can be realized using one or more AI techniques.”⁵

AI application fields: “different fields, areas or disciplines where AI techniques or functional applications may find application, such as transportation, agriculture or [Education], life and medical sciences.”⁶

¹ Russell, S., & Norvig, P. (1995). *Artificial intelligence: A modern approach*. Prentice Hall.

² Simonite, T. (2019, February 11). Trump’s plan to keep America first in AI. *Wired*.
<https://www.wired.com/story/trumps-plan-keep-america-first-ai/>

³ Virginia Dignum (2019) *Responsible artificial intelligence: How to develop and use AI in a responsible way*. Switzerland: Springer Nature.

⁴ WIPO. (2019). *WIPO technology trends 2019: Artificial intelligence*. World Intellectual Property Organization.
https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1055.pdf

⁵ WIPO. (2019). *WIPO technology trends 2019: Artificial intelligence*. World Intellectual Property Organization.
https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1055.pdf

⁶ WIPO. (2019). *WIPO technology trends 2019: Artificial intelligence*. World Intellectual Property Organization.
https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1055.pdf

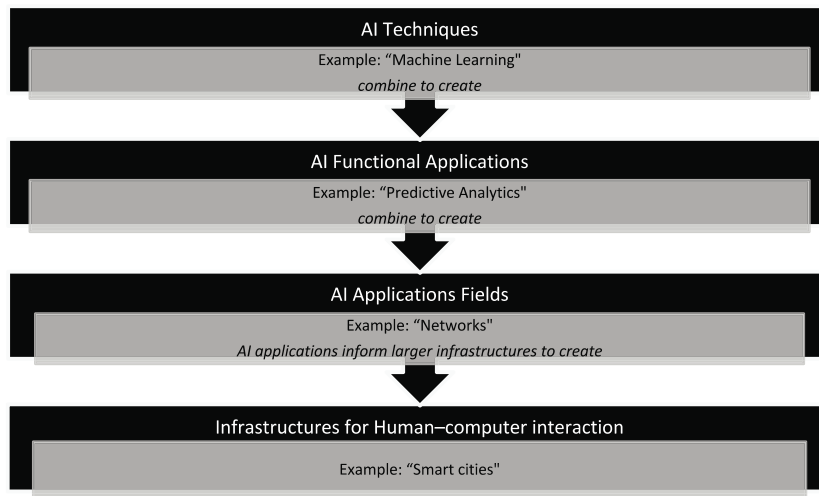


Figure 1 Explanation of WIPO Categorization of AI Technologies Scheme (Duin and Pedersen, 2023)⁷

WHAT IS GENERATIVE AI?

A Generative Pretrained Transformer (GPT) is a type of large language model (LLM). It uses machine learning and specifically, deep learning to generate text that appears human-like. GPTs are called "generative" because "they can generate new text based on the input they receive, 'pretrained' because they are trained on a large corpus of text data before being fine-tuned for specific tasks, and "transformers" because they use a transformer based neural network architecture to process input text and generate output text."⁸

BASIC PROCESS FOR USING GENERATIVE AI

Using generative AI involves these steps:

1. Choose an application (e.g., ChatGPT)
2. Begin with a *prompt* in the form of a written question, an image, a video, or musical notes.
3. AI algorithms return new content in response.

⁷ Duin, A.H. and Pedersen, I. Augmentation Technologies and Artificial Intelligence in Technical Communication: Designing Ethical Futures. Routledge, 2023.

⁸ Larsen, B., & Narayan, J. (2023, January 9). Generative AI: A game-changer society needs to be ready for. World Economic Forum. Retrieved April 5, 2023, from <https://www.weforum.org/agenda/2023/01/davos23-generative-ai-a-game-changer-industries-and-society-code-developers/>

- Content output can include text, essays, reports, syllabi, stories, poems, etc. or 'fakes' created from pictures of a person or a person's voice.

GENERATIVE AI PRODUCTS

ChatGPT <https://openai.com/blog/chatgpt>

ChatGPT Plus <https://openai.com/blog/chatgpt>

Stable Diffusion <https://stablediffusionweb.com>

DALL·E 2 <https://openai.com/product/dall-e-2>

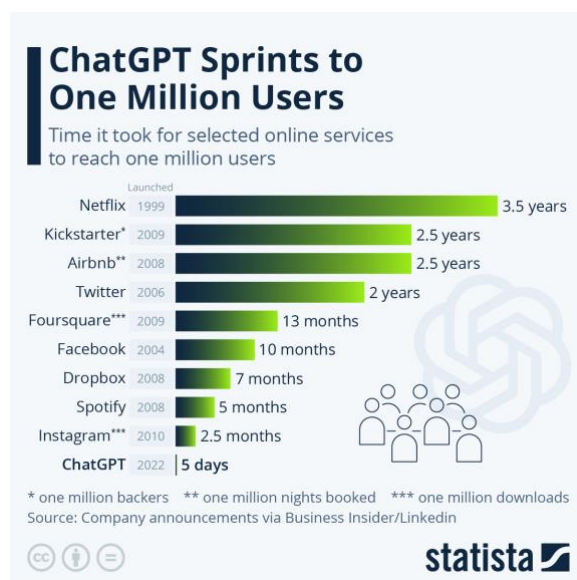
autowrite <https://autowrite.app>

Character AI <https://beta.character.ai>

GENERATIVE AI: WHY HAS IT BEEN SO HYPED?

CHATGPT HAS UNDERGONE A TRANSFORMATIVE RATE OF ADOPTION

Data journalist, Katharina Buchholz (katharina.buchholz@statista.com) explains that “ChatGPT gained one million users just five days after launching in November of last year. The conversational AI bot that can produce human-like text has been put to all kind of uses, from writing short stories, prose, music and term papers to programming basic code, solving math problems and doing translations.”⁹



⁹ Katharina Buchholz, <https://www.statista.com/chart/29174/time-to-one-million-users/>

GENERATIVE AI IS NOT FACTUAL



“Even if researchers trained these systems solely on peer-reviewed scientific literature, they might still produce statements that were scientifically ridiculous” writes Cade Metz, 2023¹⁰

GENERATIVE AI GENERATES HALLUCINATIONS

“Large language models (LLMs) [hallucinate](#), a concept popularized by [Google AI](#) researchers in 2018. Hallucination in this context refers to mistakes in the generated text that are semantically or syntactically plausible but are in fact incorrect or nonsensical. In short, you can’t trust what the machine is telling you”.¹¹

AI TEXT CLASSIFIERS AND CHECKERS EXIST BUT ARE NOT ALWAYS ACCURATE

Text classifiers and checkers are meant to identify if a human or a generative AI product created written text. They are unreliable.

For example, OpenAI offers an AI Text Classifier describing it as “a fine-tuned GPT model that predicts how likely it is that a piece of text was generated by AI from a variety of sources,

¹⁰ Cade Metz . *Why Do A.I. Chatbots Tell Lies and Act Weird? Look in the Mirror*, New York Times, Feb 2023

¹¹ [CRAIG S. SMITH](#) IEEE Spectrum 13 MAR 2023

such as ChatGPT. This classifier is available as a free tool to spark discussions on AI literacy.”
<https://platform.openai.com/ai-text-classifier>

OpenAI provides a page on [Educator considerations for ChatGPT](#).

It discusses ChatGPT's capabilities, limitations, and considerations in educational settings, and information on [its documentation](#).

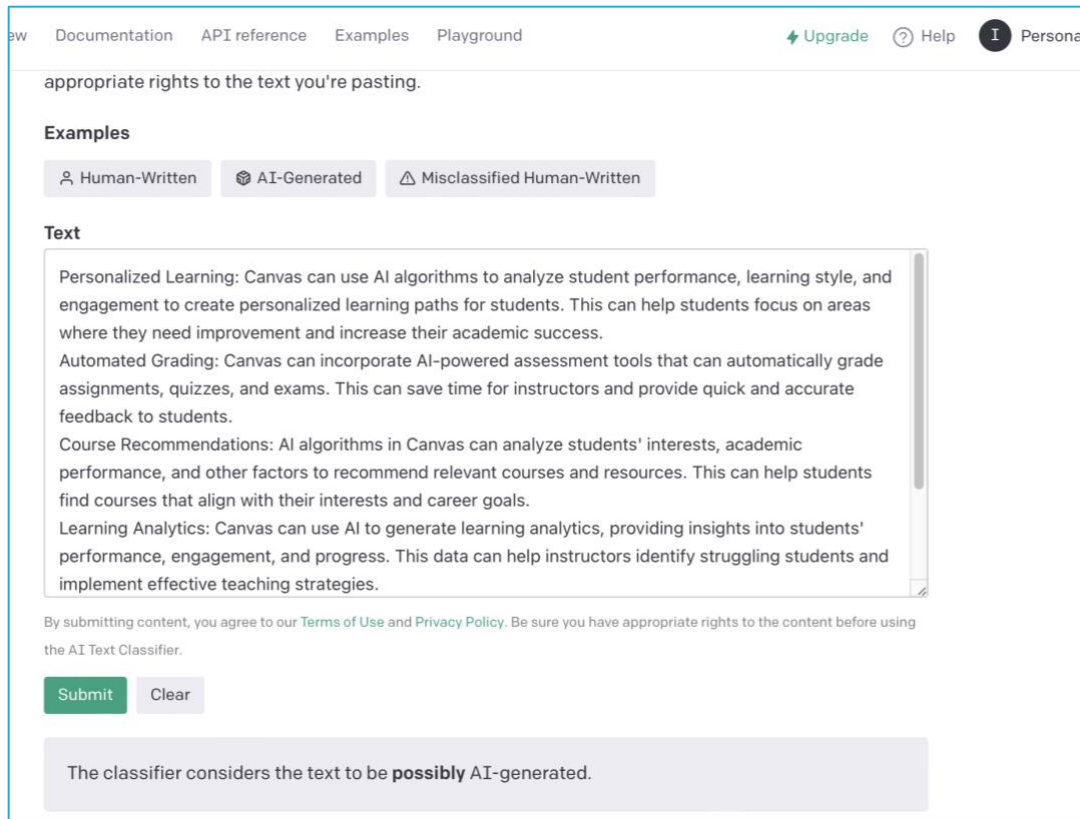


Figure 2 Screenshot of OpenAI's Text Classifier, misidentifying its own generated text as “possibly AI-generated”

GENERATIVE AI CHALLENGES TRADITIONAL ROLES FOR WRITING

Why is *writing* so important to western educational expectations?

1. Operates as a primary means of communication for purposes of exchange (e.g., letters).
2. Serves as a form of art, functions to express creativity (e.g., novels, poems, essays)
3. Used for record-keeping and credible documentation (e.g., journalism, contracts).
4. Functions to persuade, change opinions or incite action (e.g., sales, politics, ethos).
5. Used as a tool for self-reflection (e.g., diaries).
6. Serves as a therapeutic tool (e.g., express trauma).
7. Serves as an apparatus for educating people and as a credible outcome of education (e.g., well-written documents across genres serve as proof of being educated)

WHAT ARE THE MAIN CONCERNS ABOUT GENERATIVE AI IN POSTSECONDARY EDUCATION?

Generative AI writing is:

1. Vulnerable to bias, discriminatory results and online hate in the training sources
2. Factually incompetent, inaccurate and promotes false information and ‘hallucinations’
3. Not credible, does not always identify the source of its content or might fictionalize a source
4. Lacking in authenticity, originality, and creativity
5. Contributing to students’ academic misconduct, similar to plagiarism
6. Leading to dependency on AI and skills degradation (i.e., losing the ability to write)
7. Contributing to Intellectual Property issues, copyright issues with content
8. Leading to Job loss, employment displacement, deprofessionalization

WHY IS GENERATIVE AI WRITING PROVING TO BE A SUCCESSFUL INSTRUCTORS’ RESOURCE?

OpenAI explains why educators might want to use it: “Some examples of how we’ve seen educators exploring how to teach and learn with tools like ChatGPT:

1. Drafting and brainstorming for lesson plans and other activities
2. Help with design of quiz questions or other exercises
3. Experimenting with custom tutoring tools
4. Customizing materials for different preferences (simplifying language, adjusting to different reading levels, creating tailored activities for different interests)
5. Providing grammatical or structural feedback on portions of writing
6. Use in upskilling activities in areas like writing and coding (debugging code, revising writing, asking for explanations)
7. Critique AI generated text

<https://platform.openai.com/docs/chatgpt-education>

WHY IS GENERATIVE AI WRITING PROVING TO BE A SUCCESSFUL STUDENTS’ RESOURCE?

Generative AI can produce stylistically correct sentences, paragraphs, and documents across a multitude of genres. It can mimic human written conversation. Consequently, it can serve as a means to help students to write, collaborate with other students or complete writing tasks for students.

It is slated to transform industries that students are studying to join.

- “Creative industries: Generative AI can be used to create original works of art, music, and literature. This could allow for the creation of new content at a much faster rate than is possible with human effort alone.

- Product design: Generative AI can be used to design new products based on a set of desired characteristics. This could lead to the creation of novel and innovative products that might not have been possible with traditional design methods.
- Medical research: Generative AI can be used to generate new hypotheses and ideas for medical research, which could lead to more rapid progress in the field.
- Marketing and advertising: Generative AI can be used to create new marketing and advertising campaigns based on a set of desired outcomes. This could allow for more targeted and effective marketing efforts.”¹²

CANADIAN UNIVERSITY POLICY EXAMPLES

University of Toronto *ChatGPT and Generative AI in the Classroom*

<https://www.vicereprovostundergrad.utoronto.ca/strategic-priorities/digital-learning/special-initiative-artificial-intelligence/>

“Updated: April 4, 2023

A Provostial Advisory Group on Generative AI in Teaching and Learning has been struck to identify areas in teaching and learning that require an institutional response or guidance. One such example is providing instructors with sample language to include in their course syllabi to clarify for students if the use of generative AI tools for completing course work is acceptable, or not, and why. You can anticipate this language being available for you to use in course syllabi beginning in spring 2023. The Advisory Group will also inform the resources that will be created to aid instructors in better understanding this technology and options for how they may use generative AI in their teaching.

Decisions regarding the use of generative AI tools in courses will remain with instructors based on the type of course and assessments within them. Regardless of your stance on this technology, it is important that you discuss it with your students, so they understand the course expectations.”¹³

CREATIVITY AND POSTSECONDARY EDUCATION

DIFFERENT APPROACHES

¹² Larsen, B., & Narayan, J. (2023, January 9). *Generative AI: A game-changer society needs to be ready for*. World Economic Forum. Retrieved April 5, 2023, from <https://www.weforum.org/agenda/2023/01/davos23-generative-ai-a-game-changer-industries-and-society-code-developers/>

¹³ University of Toronto *ChatGPT and Generative AI in the Classroom* <https://www.vicereprovostundergrad.utoronto.ca/strategic-priorities/digital-learning/special-initiative-artificial-intelligence/>



Reactions, How do we respond to AI in Teaching?

1. embrace it
2. neutralize it
3. ban it
4. ignore it
5. [question it]

Who (or What) Wrote This? AI Content Generators in Higher Ed. Teaching and Curriculum Development Centre (TCDC) blog, Jan. 24, 2023
<https://iweb.langara.ca/tcdc/blog/2023/01/24/who-or-what-wrote-this-ai-content-generators-in-higher-ed/>

How do we respond to the use of generative AI by students?¹⁴

1. embrace it: Use these technologies in courses, assignments, and learning exercises.¹⁵
2. neutralize it: Create assignments and learning exercises that cannot be completed by these technologies.¹⁶
3. ban it: Deny the use of these technologies by forbidding their usage, might involve academic misconduct¹⁷
4. ignore it¹⁸

¹⁴ Who (or What) Wrote This? AI Content Generators in Higher Ed. Teaching and Curriculum Development Centre (TCDC) blog, Jan. 24, 2023 <https://iweb.langara.ca/tcdc/blog/2023/01/24/who-or-what-wrote-this-ai-content-generators-in-higher-ed>

¹⁵ Who (or What) Wrote This? AI Content Generators in Higher Ed. Teaching and Curriculum Development Centre (TCDC) blog, Jan. 24, 2023 <https://iweb.langara.ca/tcdc/blog/2023/01/24/who-or-what-wrote-this-ai-content-generators-in-higher-ed>

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¹⁸ Who (or What) Wrote This? AI Content Generators in Higher Ed. Teaching and Curriculum Development Centre (TCDC) blog, Jan. 24, 2023 <https://iweb.langara.ca/tcdc/blog/2023/01/24/who-or-what-wrote-this-ai-content-generators-in-higher-ed>

- question it. Emergent technology like generative AI, needs to be challenged by faculty members, administrators, and students for its ethical deployment in learning contexts.

101 CREATIVE IDEAS TO USE AI IN EDUCATION

This collection edited by Chrissi Nerantzi, Antonio M. Arboleda, Marianna Karatsiori and Sandra Abegglen is a useful source for ideas. Contributors: Educators and students, provides excellent curricular material to help people responsibly adopt and adapt to Generative AI in learning contexts.



Walking questionmark, 3D render, created by [Ody Frank](#), a real person using Blender. Ody is a first year undergraduate studying towards a BA (Hons) Digital Game Art and Design at the Norwich University of the Arts in the UK

<https://creativehecommunity.wordpress.com/2023/02/02/creating-a-collection-of-101-creative-ideas-to-use-ai-in-education/>

RELEVANT EXAMPLES

Using chatGPT to encourage critical thinking

Author: Katie Carpenter
Contact details: k.carpenter@leeds.ac.uk
Role (educator/student): Lecturer, historian
Institution/organisation: University of Leeds

My idea: Students on my public history module are set a 2000-word essay. Instead of giving them a standard essay, I typed the essay questions into ChatGPT and asked it for a short answer of 1-3 sentences. The student's essay is whether or not they agree with the statement it produced.

Context: This is an introductory module to public history. One of the learning outcomes is to show a broad understanding of public history in different contexts. The initial plan to achieve this was to write generic essay questions like 'What is public history?' which is bit a boring!

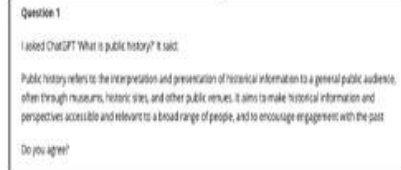
What I am aiming to achieve: The goal here was to give students a statement they could stick their teeth into and pull apart, thus advancing their critical thinking. As well as agreeing or disagreeing with the statement, they can think about how and why ChatGPT presents public history the way it does.

Where the inspiration comes from: As a public historian (and a public history module), it was important to me that the assessment engages students with the world around them.

Tools used: [ChatGPT](#)

References:

<https://webprod3.leeds.ac.uk/catalogue/dvnmdules.asp?Y=202223&M=HIST-2710>



Screenshot of one of the essay questions

AI to teach diverse/inclusive environments

Author: Lakshmy Mohandas
Contact details: lmohanda@purdue.edu
Role (educator/student): INSTRUCTIONAL Developer Researcher
Institution/organisation: Purdue University

My idea: Using AI tools like Dall.E for Teaching/Learning about Inclusive Environments.

Context: Higher Education, Engineering

What I am aiming to achieve: The bias present in various online sources is reflected in the data gathered by AI tools, as they obtain information from multiple internet sources. For example, the Dall.E for image creation, a prompt "Robotics Engineer" yields predominantly pictures of male engineers (See image on right). Faculty could use these tools to teach about implicit/explicit bias and how to foster diverse and inclusive learning environments.

Where the inspiration comes from: Being an instructional developer, I have had instances where faculty from Civil/ Mechanical Engineering telling me that the students in their classroom are much more invested to learn from a male professor than a female. Such bias was also represented from AI.

Tool used: Dall.E

Link to more information: <https://openai.com/dall-e-2/>

References: Mollick, E. (2023, January 24). The practical guide to using AI to do stuff [Substack newsletter]. *One Useful Thing (And Also Some Other Things)*. https://oneusefulting.substack.com/p/the-practical-guide-to-using-ai-to?utm_campaign=post



Image created by Lakshmy Mohandas using Dall.E 2

Critical AI literacy and critical assessment

Author: Anna Mills
Twitter: @EnglishOER
Email: armills@marin.edu
Role: Writing instructor at College of Marin and OER textbook author

My idea: Students watch video and annotate orientations to ChatGPT, then read a NYT article and a sample ChatGPT critical assessment alongside a sample human-written assessment. They reflect on what ChatGPT misses and what they can learn about language models from the contrast..

Context: Complements the open text [How Arguments Work](#).

What I am aiming to achieve: Understanding of language model as statistical text predictors, not thinkers. Familiarity with common deficiencies in their outputs. Increased skill and confidence with critical assessment.

Link to more information: [View the activities on Canvas](#) or [Canvas Commons](#)

References: Gary Marcus's Scientific American article "[AI Platforms like ChatGPT Are Easy to Use but Also Potentially Dangerous](#)," Leon Furze's [Teaching AI Ethics](#) and others.



Photo by Mizuno K:
<https://www.pexels.com/photo/woman-sitting-on-couch-studying-with-laptop-12911684/>

COURSE DESCRIPTIONS AND LEARNING OUTCOMES ON COURSES ABOUT AI ETHICS

Isabel Pedersen

Global AI Ethics Graduate Program in Computer Science

1. Learn and employ a vocabulary needed for the interpretation of the socio-ethical issues surrounding AI to help with the positive design of future AI systems.
2. Identify the ways in which culture, politics, economics, international relations and human identity impinge on the field of AI ethics.
3. Compose assignments and projects reporting on AI ethics as a means to influence professional practices and future work for the betterment of society (i.e. ethically-aligned design).
4. Demonstrate knowledge of the use of AI tools, apps, models or technologies in assignments.

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Deployed: Winter 2020, Fall 2020, Winter 2021, Winter 2022, Fall 2022, upcoming Fall 2023

AI, Ethics and Communication 4th year, undergraduate communications

Learning outcomes

1. Demonstrate knowledge of the focus and findings of significant social science and humanities research fields in the discipline of communication and digital media studies relating to AI studies.
2. Demonstrate the ability to recognize the impact of AI technologies on professions that involve communication design, writing, visual communication, publishing, and knowledge and culture industries, necessitating an increased awareness of ethical design practices.
3. Demonstrate an increased understanding of the way Artificial Intelligence impacts humans undergoing technology adoption and adaptation, including an understanding of digital literacy and AI literacy with an emphasis on citizen engagement, policy, and governance.

Deployed: Fall 2021 and upcoming Fall 2023
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AI, Ethics and Communication 4th year, undergraduate communications

Learning outcomes

4. Demonstrate the ability to utilize a variety of communication and digital media studies research methods to conduct research across a number of social contexts: economic, artistic, technological, political and cultural. Further, learn to integrate an awareness of significant methods and theories in the fields that involve human-computer interaction.
5. Defend ethical value-judgements about AI, communication, and digital media with regard to their power to support or undermine the pursuit of a democratic, fair, inclusive, equitable, human-rights driven, and just society.
6. Practice communication skills: written, visual, digital, critical and/or humanities web archiving, both with and without the use of generative AI tools.

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Deployed: Fall 2021 and upcoming Fall 2023

Artificial Intelligence, civic engagement, and advocacy

Master of Arts in Social Practice and Innovation (MSPI)

This course will concentrate on solutions, participation, and community involvement. It will explore **human rights issues**, such as AI and algorithmic bias, facial recognition profiling, and AI colonialism. However, it will also **discuss solutions intended to mediate and/or improve the adoption of AI technologies**. Strategies include **AI literacy** campaigns, policymaking, AI ethical principles deployment, corporate involvement in standards-making, and campaigns led by international agencies such as UNESCO. Empowered with treating important social causes, **advocacy groups** work to shift the balance toward more value-based social outcomes. They initiate solutions including campaigns for the betterment of AI adoption, they work to educate the public, and they collaborate with actors to move toward progressive outcomes (e.g., Amnesty International's AI and human rights initiative).

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upcoming Winter 2024

WRITING FUTURES FRAMEWORK

Ann Hill Duin and Isabel Pedersen (2021) [*Writing Futures: Collaborative, Algorithmic, and Autonomous*](#). Springer.

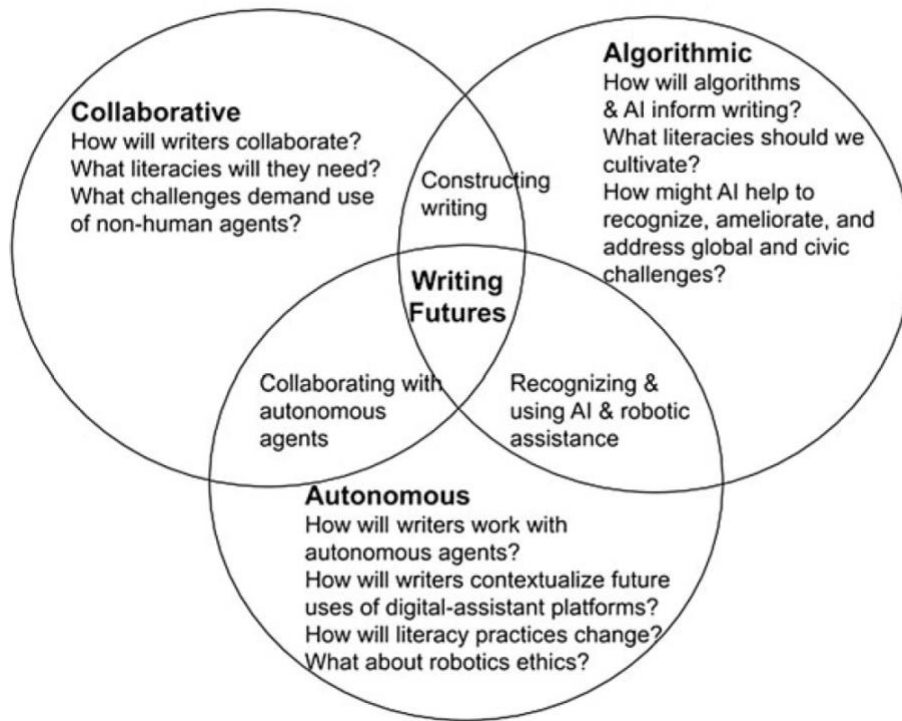


Figure 3 Ann Hill Duin and Isabel Pedersen (2021) *Writing Futures: Collaborative, Algorithmic, and Autonomous*. Springer.

Table 1.1 *Writing Futures* framework for investigating and planning for writing futures

	Social	Literacy	Civic engagement
Collaborative writing futures	How will writers (students/colleagues) collaborate with nonhuman agents? Sociotechnological construction of knowledge; Technological embodiment; Nonhuman collaborators; Dialogic collaboration	What literacies will writers need to enable constructive, collaborative work with nonhuman agents? Digital literacy capabilities	What civic challenges demand collaborative, constructive social action through and with nonhuman agents? Risks and benefits of machines as teammates; Identifying and instilling civic dimensions across work, assignments, and tools
Algorithmic writing futures	How will algorithms & AI inform writing? Ambient intelligence; Platform studies; Demographics; Algorithmic AI; Machine learning; Virtual assistants	What AI literacies should we cultivate for algorithmic writing futures? Academic analytics; Learning management systems; AI literacy	How might AI help to recognize, ameliorate, and address global civic challenges? Harvard's Principled Artificial Intelligence project as a heuristic; Writing for ethically aligned design
Autonomous writing futures	How will writers work with autonomous agents? Social robots; Cognitive assemblages; Digital assistant platforms; Cloud-based AI; Chatbots; Brain-computer interaction; Natural language generation	How will writers contextualize future uses of digital assistant platforms throughout writing? How will literacy practices change with the use of autonomous agents? Literacy for teaching AI assistants and learning from them	What affordances of autonomous agents lend themselves to more ethical, personal, professional, global, and pedagogical deployments? Nondiscrimination; AI transparency; Values and characteristics

Duin, A.H., Pedersen, I. (2021). *Writing Futures Framework*. In: *Writing Futures: Collaborative, Algorithmic, Autonomous*. Studies in Computational Intelligence, vol 969. Springer, Cham. https://doi.org/10.1007/978-3-030-70928-0_1

Chapter Abstract One of the greatest challenges facing professional and technical communication (PTC) scholars and instructors is a reticence to prepare for writing futures in advance of major technological transformations. This chapter posits *Writing Futures* as an organizing concept that places writing and technological evolution amidst the most complex, multifaceted problems that face professional and technical communication, its many related disciplines and industries, and our local and global communities. We highlight recent collections that employ speculative modeling and critical rhetorical frameworks for writing futures, noting

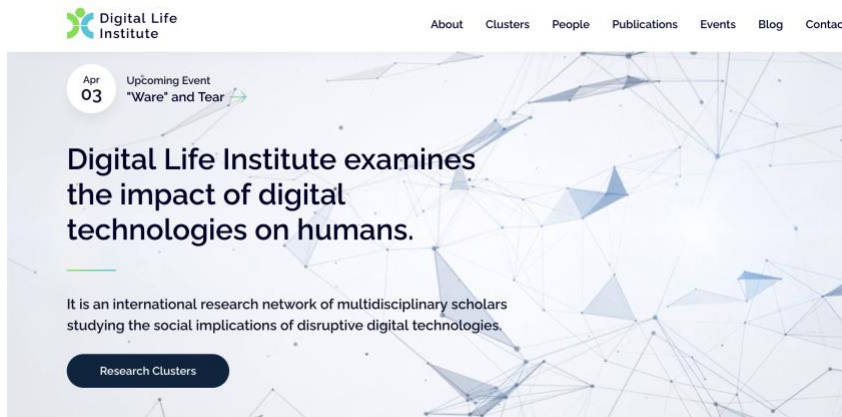
the need for understanding, chronicling, and critiquing technological emergence. Citing the need for a dynamic, usable framework, we introduce a Writing Futures Framework for scholars and instructors to investigate and plan for the social, digital literacy, and civic implications of collaborative, algorithmic, and autonomous writing futures. We detail the book's integration with Fabric of Digital Life (<https://fabricofdigitallife.com/>), a database and structured content repository for conducting social and cultural analysis about emerging technologies and the social practices that surround them. We conclude with an overview of the remaining chapters, an explanation of the integration of prompts and intertexts throughout the book, and scenarios that illustrate questions most critical to academic, industry, and civic contexts.¹⁹

DIGITAL LIFE INSTITUTE

<https://www.digitallife.org>

Digital Life Institute is a community of researchers examining the human and social dimensions of digital technologies, advancing our understanding of their impact on humans. It is a hub for the critical analysis of digital technologies, an international network of interdisciplinary scholars interested in the social implications of disruptive technological advancement.

In the context of recent developments in artificial intelligence, such as ChatGPT, the Digital Life Institute has been exploring how artificial intelligence can be leveraged to support students and faculty, as well as how it might impact measures of assessing students.



There are three relevant research clusters to the emergence of AI writing:

AI in Education, led by [Dr. Lesley Wilton](#)

<https://www.digitallife.org/research-clusters/cluster/ai-in-education/>

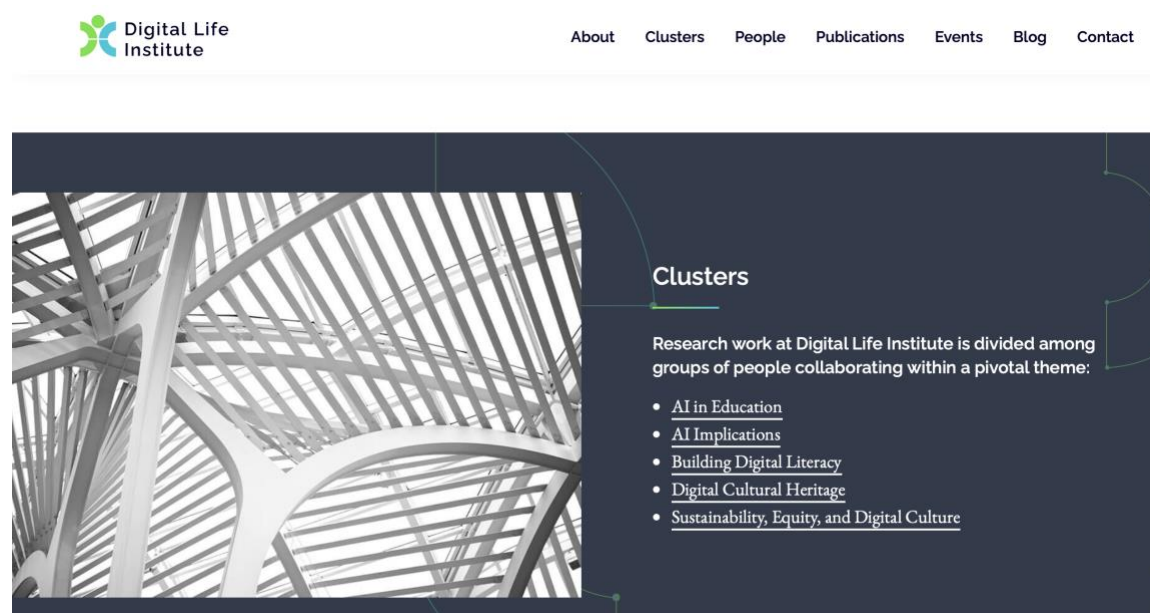
Building Digital Literacy, led by [Dr. Ann Hill Duin](#)

<https://www.digitallife.org/research-clusters/cluster/building-digital-literacy/>

¹⁹ Duin, A.H., Pedersen, I. (2021). *Writing Futures* Framework. In: *Writing Futures: Collaborative, Algorithmic, Autonomous*. Studies in Computational Intelligence, vol 969. Springer, Cham. https://doi.org/10.1007/978-3-030-70928-0_1

AI Implications, led by [Dr. Isabel Pedersen](#)

<https://www.digitallife.org/research-clusters/cluster/ai-implications/>



Digital Life Institute Research Clusters <https://www.digitallife.org/research-clusters/>

COMPANY PRODUCT POLICIES

It is important to check generative AI product policies before using them in a learning setting.

<https://openai.com/policies/usage-policies>

<https://openai.com/safety>

PUBLICATIONS

Recently, [Digital Life Institute](#) members contributed several books, journal articles, exhibitions, and conference papers.

MEMBERS' BOOKS

Ann Hill Duin and Isabel Pedersen (2021) [*Writing Futures: Collaborative, Algorithmic, and Autonomous*](#). Springer.



Writing Futures Framework

Ann Hill Duin, Isabel Pedersen

Collaborative Writing Futures

Ann Hill Duin, Isabel Pedersen

Algorithmic Writing Futures

Ann Hill Duin, Isabel Pedersen

Autonomous Writing Futures

Ann Hill Duin, Isabel Pedersen

Writing Futures: Investigations

Ann Hill Duin, Isabel Pedersen

Jason Tham. Design Thinking in Technical Communication: Solving Problems through Making and Collaboration. Routledge, 2021.

CULTURAL ANALYTICS DATABASE: THE FABRIC OF DIGITAL LIFE

The Fabric of Digital Life <http://fabricofdigitallife.com>, is a SSHRC-funded, Collective Access database of over 5000 digital objects (2013-2023). It is one of the digital tools that supports Digital Life Institute research across clusters, as well as research-based course material for some instructors. In recent years, more than 500 students have either contributed to the research or used it in a course.

RECENT RELEVANT PUBLICATIONS ON AI, DIGITAL/AI LITERACY AND PEDAGOGY

Katlyne Davis, Danielle Stambler, Chakrika Veeramoothoo, Nupoor Ranade, Daniel Hocutt, Jason Tham, John Misak, Ann Hill Duin & Isabel Pedersen. (2021). [Fostering student digital literacy through the Fabric of Digital Life](#). Journal of Interactive Technology and Pedagogy.

Ann Hill Duin, Isabel Pedersen, & Jason Tham. (2021). [Building digital literacy through exploration and curation of emerging technologies: A networked learning collaborative](#). In N.B. Dohn, S.B. Hansen, J.J. Hansen, M. deLaat, & T. Ryberg (Eds.), [Conceptualizing and innovating education and work with networked learning](#). Springer.

Ann Hill Duin & Isabel Pedersen. (2021). Working alongside non-human agents. Proceedings of the 2021 IEEE International Professional Communication Conference.

Ann Hill Duin & Isabel Pedersen. (2021). [Writing futures: Collaborative, algorithmic, autonomous](#). Springer Publishing, series on Studies in Computational Intelligence. <https://www.springer.com/gp/book/9783030709273>

Ann Hill Duin, Jason Tham, & Isabel Pedersen. (2021). [The rhetoric, science, and technology of 21st century collaboration](#). In M. Klein (Ed.), [Effective teaching of technical communication: Theory, practice and application \(pp. 169-192\)](#). WAC Clearinghouse: Foundations and Innovations in Technical and Professional Communication series.

Andrew Iliadis, Tony Liao, Isabel Pedersen and Jing Han. (2021) Learning about Metadata and Machines: Teaching Students Using a Novel Structured Database Activity. Journal of Communication Pedagogy. (4), 152-165. 2021.

Jason Tham & Ann Hill Duin (2021). Digital literacy in an age of pervasive surveillance. In E. Beck & L. Hutchinson (Eds.), [Privacy matters: Conversations about surveillance within and beyond the classroom](#). Utah State University Press.

Jason Tham, Kenyan Burnham, Daniel Hocutt, Nupoor Ranade, John Misak, Ann Hill Duin, Isabel Pedersen & Jessica Campbell. (2021). [Metaphors, mental models, and multiplicity: Understanding student perception of digital literacy](#). Computers and Composition.