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FLO FRIDAY - Teaching and Learning with ChatGPT

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Since time immemorial, the səliiwətaʔt təməx^w (Tsleil-Waututh), Skwxwú7mesh-ulh Temíxw (Squamish), x^wməθk^wəyəm (Musqueam), WSÁNEĆ (Saanich), and the Esquimalt and Songhees Nations of the Lək^wəŋən (Lekwungen) Peoples have walked gently on the unceded territories where we are grateful to live, work, and play. We are committed to building relationships with the first peoples here, based in honour and respect, and we thank them for their hospitality.



Teaching and learning with ChatGPT: Navigating the Landscape



Learning Outcomes

- Investigate the capabilities of ChatGPT for enhancing student engagement and educational outcomes.
- Participate in discussions on the ethical challenges of ChatGPT in education, including bias, privacy, equity, and copyright issues.
- Discuss strategies for implementing ChatGPT responsibly and ethically while maximizing its benefits for students.
- Determine key questions that should be asked as ChatGPT continues to evolve, ensuring its conscientious and effective use in higher education.

Agenda

1. Introduction activity
2. Introduction to Generative AI and GPT
3. Activity 2: How we use ChatGPT
4. Enhancing student engagement and educational outcomes
5. Activity 3: Current and Future Use in Teaching and Learning?
6. Ethical Issues
7. Activity 3: Worst and Best Case
8. Discussion



Lucas Wright



Senior Ed Consultant UBC



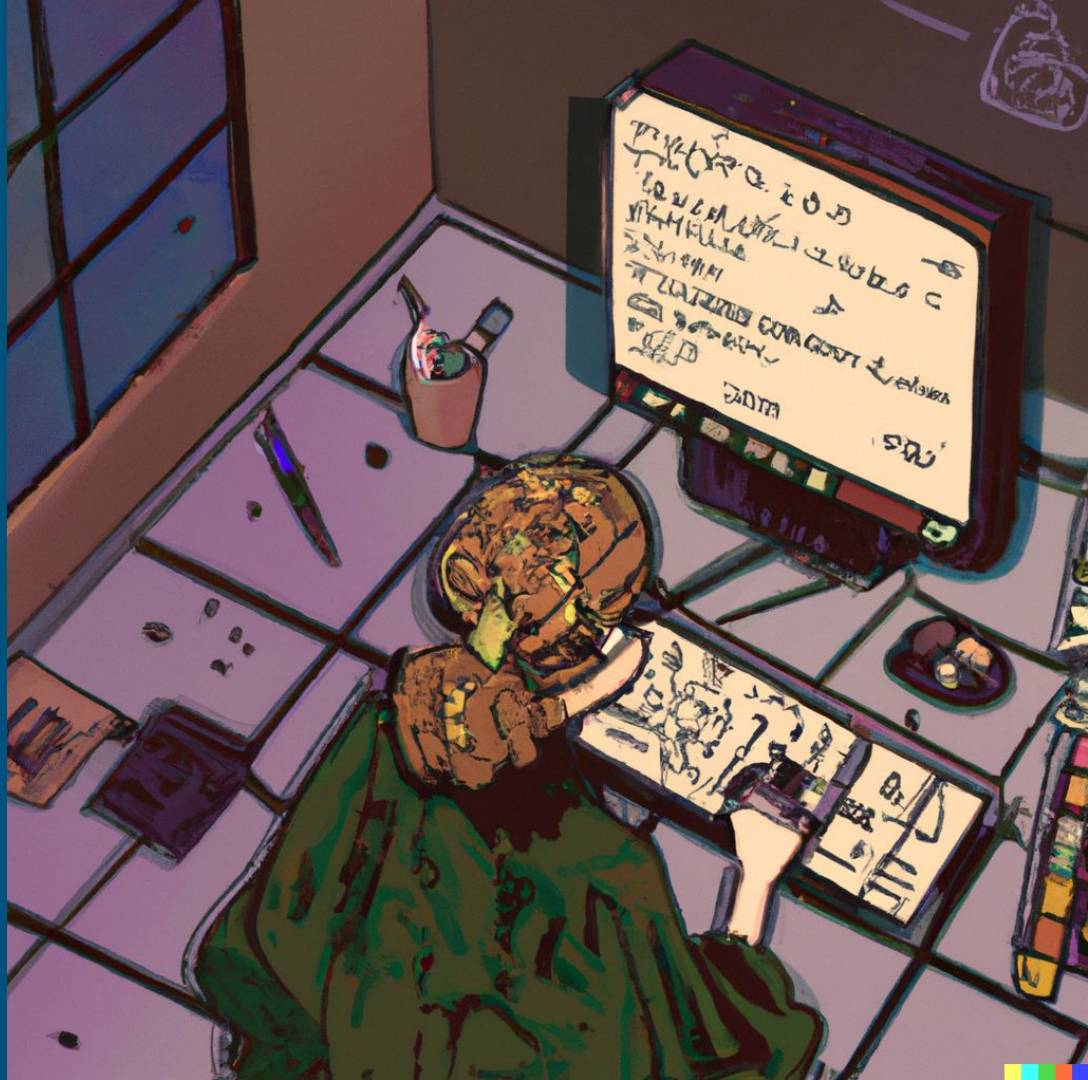
Participate

Collaborative Google Doc

<https://bit.ly/FLOAIDOC>



Part 1: ChatGPT Overview



Activity 1:

Collaborating together

Share who you are, your affiliation on and why you are attending today also include an AI generated image that is a metaphor how ChatGPT is impacting and changing higher ed

<https://bit.ly/FLOAI1>

Generative AI

A **generative artificial intelligence** or **generative AI / (GenAI)** is a type of AI system capable of generating text, images, or other media in response to prompts. Generative AI systems use generative models such as large language models to statistically sample new data based on the training data set that was used to create them.

Wikipedia

Generative AI (ChatGPT) Generative Pre-trained Transformer)

+ New chat

Feedback Session Invitation Dr

EVP Selection Process Feedba

Feedback Sessions for Video P

Identifying Assessment Techni

Classroom Assessment Techni

Picture analysis not supported

Model

GPT-4

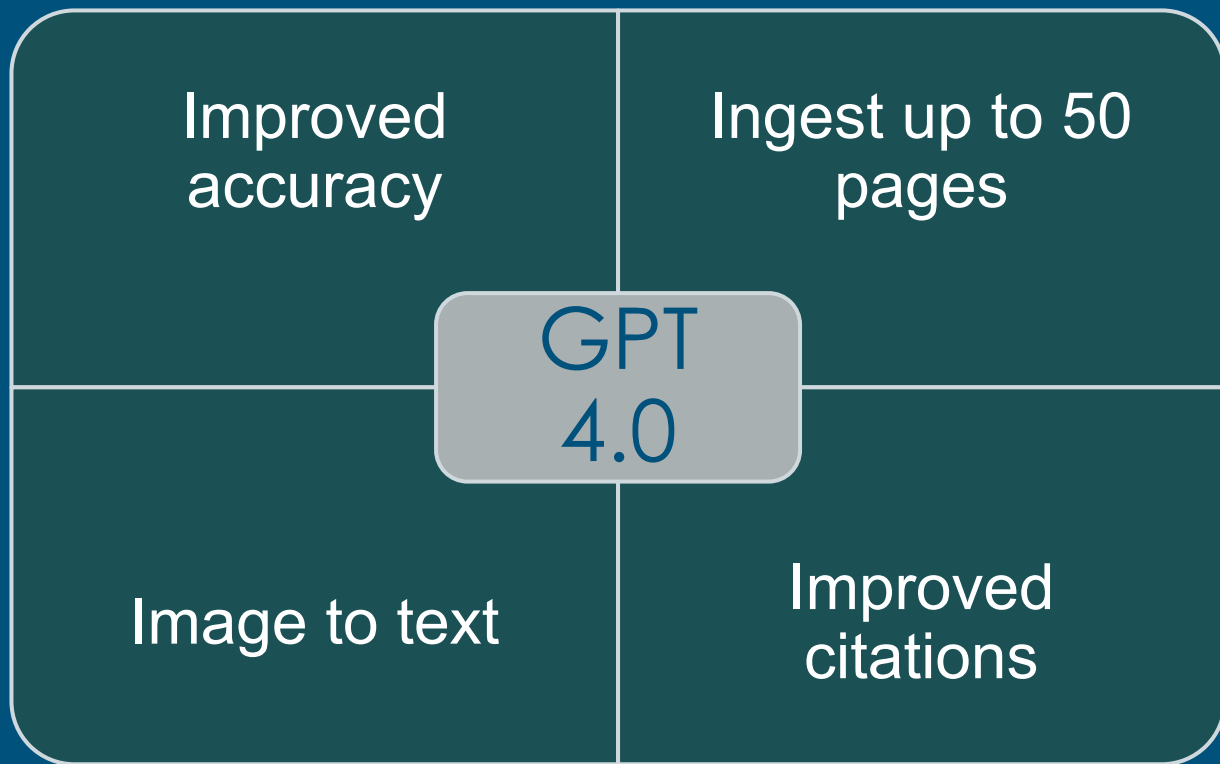
ChatGPT **PLUS**

GPT-4 currently has a cap of 25 messages every 3 hours.

Send a message...



Chat GPT 4.0



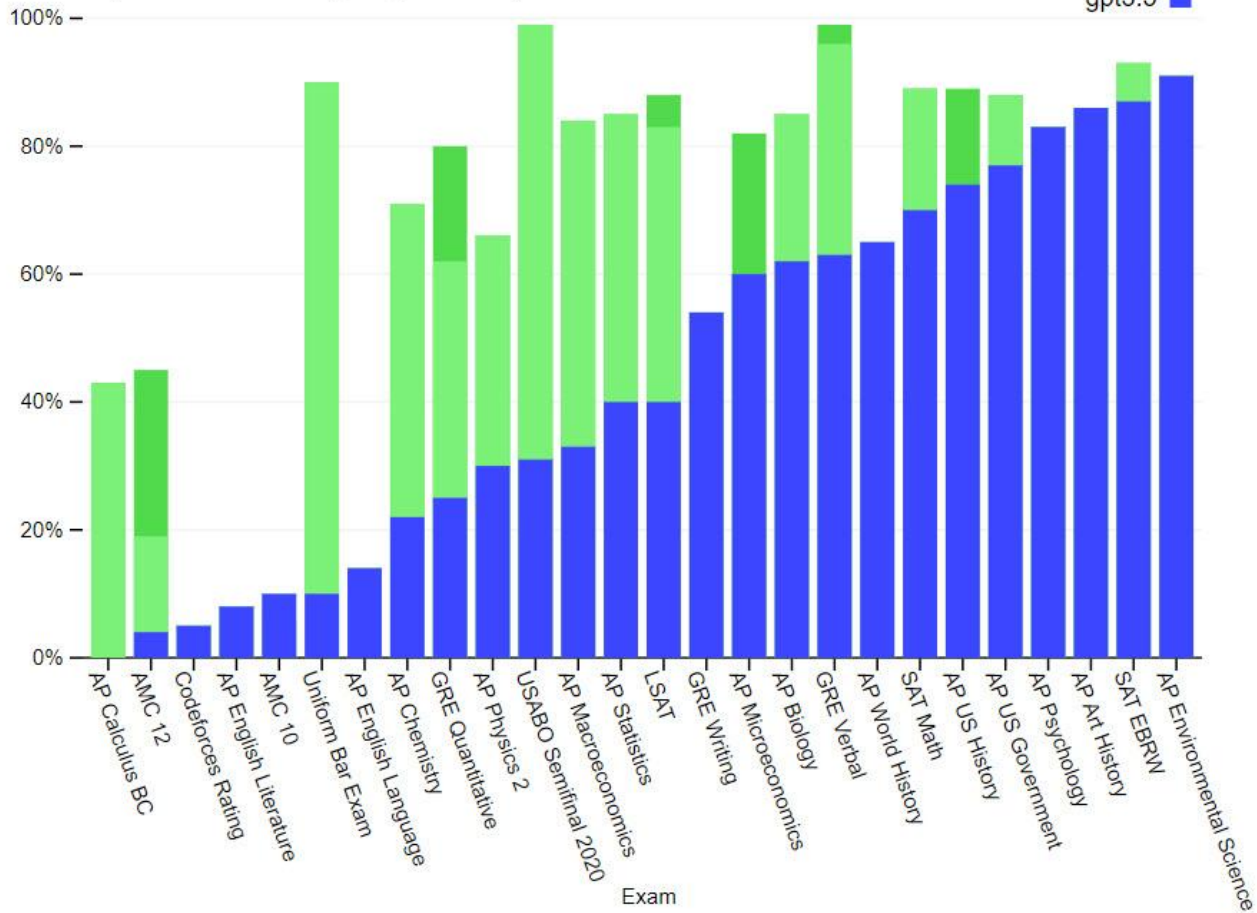
Plugins - the web

Wolfram Alpha, PerfectPrompt

API

Exam results (ordered by GPT-3.5 performance)

Estimated percentile lower bound (among test takers)



Chat GPT4

Capabilities

For the first research question, we found that ChatGPT is capable of generating high-quality reflections, outperforming student-written reflections in all the assessment criteria.....In terms of the second research question, we identified that human evaluators could not accurately differentiate ChatGPT-generated reflections from students-generated reflections"

Li, Y., Sha, L., et al. (2023). Can large language models write reflectively? Science Direct.

Leveraging the Capabilities

The "Query, Example, Context" (QEC) approach provides comprehensive instructions to AI, enhancing the quality of its responses.

Query: Set clear task instructions. E.g., "Compose a letter to a customer about a delayed order."

Example: Provide an instance of desired output to guide the AI. E.g., "Example: Show a polite, concise letter addressing a similar situation."

Context: Describe the broader scenario for the task. E.g., "The writer is a customer service representative of an online retail company."

My own example



Activity 2: Chat and Open Discussion

1. Use the chat to share ways that you are currently using ChatGPT in your own work or life
2. What strategies are you using?
3. Let's discuss ways we are using outside of academia and what limitations and strengths we are finding

Part 2: Enhancing student engagement and educational outcomes



Student learning: More than Essays

— I'm a student, you have no idea how much we're using ChatGPT.

The more effective, and increasingly popular, strategy is to have the AI walk you through the writing process step by step. You tell the algorithm what your topic is and ask for a central claim, then have it give you an outline to argue this claim. Depending on the topic, you might even be able to have it write each paragraph the outline calls for, one by one, then rewrite them yourself to make them flow better.

Terry, Owen Kichizo. "I'm a Student, You Have No Idea How Much We're Using ChatGPT." *The Chronicle of Higher Education*, 2023,

Learner Support

During a lecture, when a student doesn't understand a concept, the app could generate a quick explanation to a question, which then allows the student to understand the rest of the lesson.

Vered Shwartz, a computer science professor at the University of B.C

Accessibility



goblin.tools

Magic ToDo

Formalizer

Judge

Estimator

Compiler



Compiler

Compile my braindump into a list of tasks

Enter your braindump here...



Turn into tasks



In FNH 303 (Food Product Development), Dr. Pratap-Singh has modified the traditional “Product Selection” part of the assignment for New Product Development, allowing and encouraging students to use ChatGPT to identify recipes (ingredients and their compositions) for new food product development.

“In one of my courses students are asked to synthesize results of several studies to examine an experimental treatment for a neurological disease. ChatGPT and other tools like Perplexity.ai can provide a very high-level summary of a field.”


SFU Biomedical Physiology and
Kinesiology senior lecturer
Leanne Ramer



Chatbot Tutors



Khanmigo
AI power



This conversation is recorded and viewable by your parent and teacher.


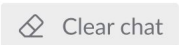

Tell me more about your character. What are her interests, talents, fears, and dreams?

She likes dogs. She's good at writing.

She's scared of the dark. She dreams about changing the world.

That's a great start! Now, let's think about what kind of story we want to tell. What kind of goal or problem might your character face?

Type message (do NOT share any personal data)

ChatGPT and artificial intelligence in higher education: quick start guide

Co-designer	AI assists throughout the design process	Teachers ask ChatGPT for ideas about designing or updating a curriculum (e.g., rubrics for assessment) and/or focus on specific goals (e.g., how to make the curriculum more accessible).
Exploratorium	AI provides tools to play with, explore and interpret data	Teachers provide basic information to students who write different queries in ChatGPT to find out more. ChatGPT can be used to support language learning.
Study buddy	AI helps the student reflect on learning material	Students explain their current level of understanding to ChatGPT and ask for ways to help them study the material. ChatGPT could also be used to help students prepare for other tasks (e.g., job interviews).
Motivator	AI offers games and challenges to extend learning	Teachers or students ask ChatGPT for ideas about how to extend students' learning after providing a summary of the current level of knowledge (e.g., quizzes, exercises).
Dynamic assessor	AI provides educators with a profile of each student's current knowledge	Students interact with ChatGPT in a tutorial-type dialogue and then ask ChatGPT to produce a summary of their current state of knowledge to share with their teacher/for assessment.

Table of Educational Uses of ChatGPT by Sabzalieva & Valentini used under a CC-BY-SA license

Role ⁶	Description	Example of implementation
Possibility engine	AI generates alternative ways of expressing an idea	Students write queries in ChatGPT and use the Regenerate response function to examine alternative responses.
Socratic opponent	AI acts as an opponent to develop and argument	Students enter prompts into ChatGPT following the structure of a conversation or debate. Teachers can ask students to use ChatGPT to prepare for discussions.
Collaboration coach	AI helps groups to research and solve problems together	Working in groups, students use ChatGPT to find out information to complete tasks and assignments.
Guide on the side	AI acts as a guide to navigate physical and conceptual spaces	Teachers use ChatGPT to generate content for classes/courses (e.g., discussion questions) and advice on how to support students in learning specific concepts.
Personal tutor	AI tutors each student and gives immediate feedback on progress	ChatGPT provides personalized feedback to students based on information provided by students or teachers (e.g., test scores).

Activity 3: How are we using GPT in teaching and learning

1. Use the padlet to share ways you are incorporating GPT 3.5 or 4 in your teaching, learning or practice (CurrentGreen)
2. Share ways it could be used in the near future (FutureBlue)
3. Let's discuss

<https://bit.ly/FLOAI2>



Ethical challenges



Given the picture as we see it now, it's conceivable that within the next ten years, AI systems will exceed expert skill level in most domains, and carry out as much productive activity as one of today's largest corporations.

Sam Altman

ChatGPT 'experimentation' puts universities in 'dangerous position'

Experts tell *THE* and Leeds event that institutions are facing risks they don't understand

“[there is] a lot of university data going somewhere, and we don't know where”.

Melissa Highton, director of learning, teaching and web services and assistant principal for online services at the University of Edinburgh.

Misinformation

Chatbots trigger next misinformation nightmare



Ashley Gold, Sara Fischer

Gold, Ashley, and Fischer, Sara. "Chatbots Trigger Next Misinformation Nightmare." Axios, 21 Feb. 2023,

www.axios.com/technology/chatbots-trigger-next-misinformation-nightmare.

Intellectual Property

Because we trained the machines. All of us. But we never gave our consent. They fed on humanity's collective ingenuity, inspiration and revelations (along with our more venal traits). These models are enclosure and appropriation machines, devouring and privatizing our individual lives as well as our collective intellectual and artistic inheritances.

Naomi Klein



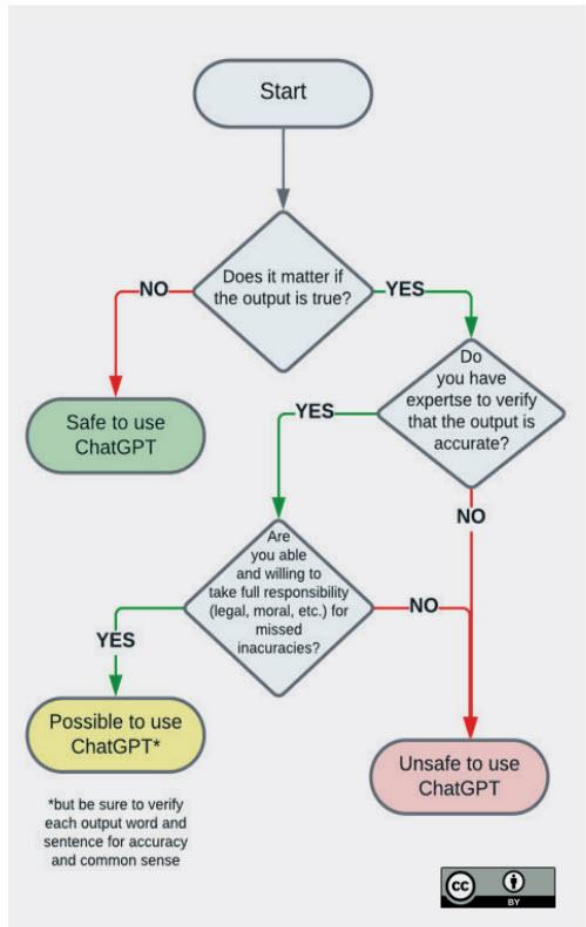
Environmental Impacts

There is limited data on the carbon footprint of a single generative AI query, but some industry figures estimate it to be four to five times higher than that of a search engine query

(Saenko, K. 2023)

Figure 1: When is it safe to use ChatGPT?⁵

Accuracy and Hallucinations



(Sabzalieva & Valentini 2023)

Learning and Academic Integrity



UNESCO Ways Forward

Create opportunities for faculty, staff, students, and other stakeholders to discuss the impact of ChatGPT on the HEI and co-construct strategies to adapt and adopt to AI.

Activity 3: The worst and best case

Imagine that universities have not been able to respond to generative AI in an ethical, learner-centred and equitable way.

- What will be the consequences for educators and students?
- What will the university [college] look like?
- What will be changed?

Padlet (Red)

bit.ly/FLOAI3

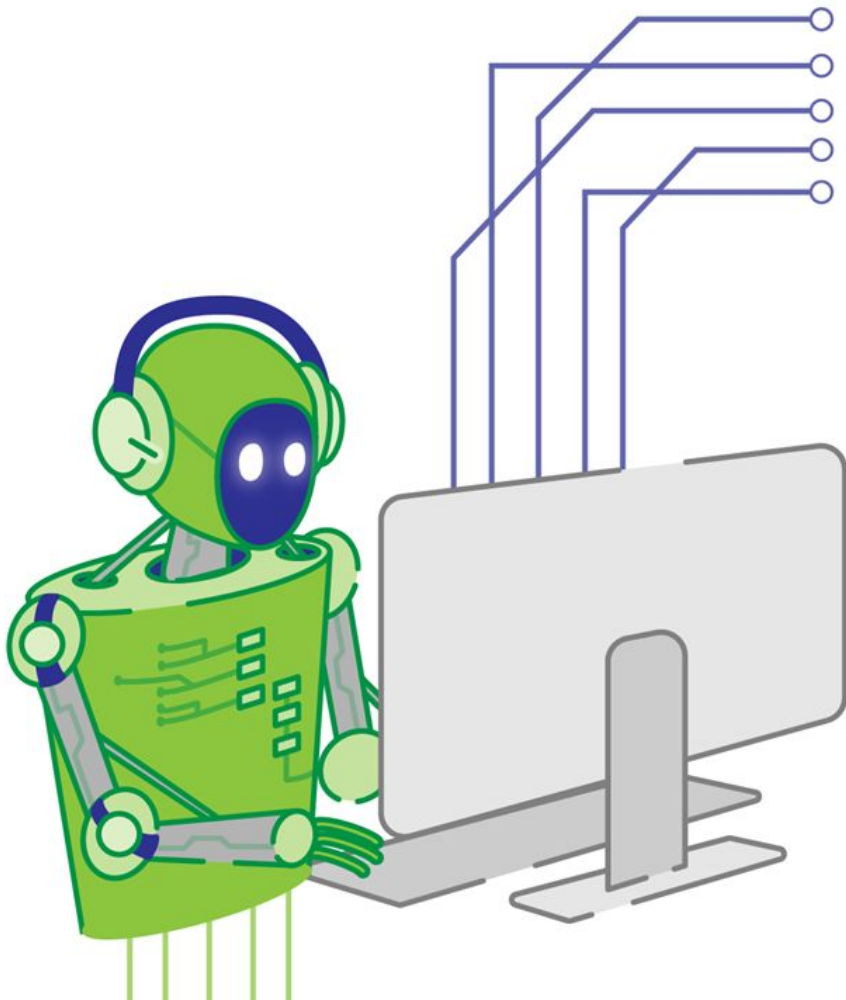
Activity 3: Best case

Now consider what generative AI could mean for education.

- What would it look like if generative AI were used in an ethical way that benefited educators and learners?

Padlet Green stickies

How can we use ChatGPT creatively responsibly
as learners, educators and institutions?



Future-proof Learning Design:

The Integration of Digital Literacy,
Inclusive Tech, and AI

June 1 & 2, 2023

Online and in-person at KPU Richmond

[Register Now](#)

Thank you everyone!



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