



THE UNIVERSITY OF BRITISH COLUMBIA

Vancouver Campus

Master of Educational Technology

Andragogy and Technology: Incorporating EDIDA Frameworks and the Maker Mentality for Educators of Adult Learners

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Unit of Learning Overview

This unit of learning centres educators of adult learners. In five workshops, we explore Equity, Diversity, Inclusion, Decolonization, and Anti-Racism (EDIDA) principles, practical accessibility models, the Canada Skills for Success framework, and relevant pedagogies such as Liberatory Design. Through this series of workshops, we encourage a maker mindset and learning about technologies grounded in EDIDA principles that are relevant to teaching, curriculum design, and research in higher education contexts.

Workshop 1: Overcoming Barriers to Technology Use in Adult Education

Workshop 2: Using Liberatory and EDIDA Frameworks in Making

Workshop 3: Adopting a Prototyping Mindset

Workshop 4: Decolonizing and “Maker-Mindset” Approaches to Conducting Community-Based Research

Workshop 5: AI Unleashed: Demystifying and Embracing the GPT

Each workshop will be approximately 2.5 to 4 hours long. **Total unit length = 15 hours.**

Expectations

Workshop attendees will be able to:

- Notice and articulate personal attitudes to technology in order to help overcome barriers to technology implementation in curriculum planning, teaching, assessment, and research, then critically engage with technologies and embed different levels of technologies into practice.
- Understand EDIDA frameworks and connect relevant principles to a “maker” and “prototyping” mindset.
- Create an authentic land acknowledgment specific to one’s practice, background, and history.
- Acknowledge the moral imperative to learn and unlearn alongside diverse adult populations in a dynamic and complex world.

Big Ideas

Workshop attendees will be empowered to consider how a maker mindset and diverse technologies may be used in concert to support EDIDA frameworks such as:

- An overall equity and anti-oppressive approach to creating learning communities
- First Peoples Principles of Learning
- Culturally Responsive Pedagogy
- Universal Design for Learning
- Liberatory Design
- Accessibility

- Ethical community-based research

Workshop attendees will learn the following:

- Principles of andragogy – adult learners are in your course by choice; they are independent and require autonomy.
- Adult learners have intersecting identities and learn well when they are able to incorporate their lived experience into the learning context.

Learning Goals

Workshop attendees will be able to:

- Identify personal, internal barriers to learning new technologies and create statements that challenge barriers.
- Consider an equity framework and identify their positionality, privileges, power, and biases.
- Understand power structures.
- Employ a Liberatory Design model to empathize and problem-solve.
- Understand the benefits of accessibility.
- Develop a maker mentality.
- Adopt a failure-positive prototyping mindset.
- Understand the First Peoples Principles of learning.
- Understand how Two-Eyed Seeing (Etuaptmumk) is relevant in research contexts.
- Adopt the 4 R's—Reciprocity, Relevance, Relationship, Responsibility—in relating to all those connected by research projects (faculty, staff, students, and community members).
- Consider how the Theory of Refusal manifests when communities assert their opinions on how research should be conducted and/or used.
- Form questions and review answers on GPT critically.
- Engage with artificial intelligence (AI) with more comfort and identify fears/struggles with AI.

Assessment

Diagnostic Assessment

In the first workshop, learners will identify barriers to adopting new technologies in makification. The diagnostic assessment will be conducted with a conversation led by the workshop facilitator. A planned provocation will encourage workshop attendees to start thinking about their experiences with technology use and attendees will be invited to share their thoughts with the class.

Formative Assessment

In each workshop, attendees will learn new frameworks and lenses to apply in their specific practice. They will also understand their own positionality and biases and gain a greater understanding of intersectionality. Reflection questions for discussion will explore the following:

- Are attendees noticing and identifying their struggles? Their own biases and positions of power?
- Are attendees broadening their mindsets in each workshop (i.e., prototyping, maker mentality, level of acceptance to AI-based technologies, etc.)?
- What kinds of struggles are attendees facing when using technologies?
- What context are attendees situated in?
- How do attendees broaden their views and cultivate an inclusive maker mindset throughout the workshops?
- What are the ethical imperatives for educators to continue the journey of learning and unlearning in an evolving world?
- Do learners need more clarification, time, or resources to complete their provocations or challenges?

In addition to reflection discussions, attendees will be provided with an online platform (Padlet) at the beginning of each workshop to establish a baseline understanding of each of the workshop topics. Facilitators can return to the Padlet at the end of each workshop to reflect upon growth.

Summative Assessment

At the end of the final workshop, attendees will create a showcase of their individual learning in Artsteps—a virtual museum where they can showcase their maker challenges. This can be in the form of reflections, which document the growth journey from pre- to post-lesson and actual artifacts with a description aligning it with the workshop and relevant frameworks. Workshop attendees can also use Google Slides, Canva, or other digital tools to present their artifacts in a multimodal presentation.

Attendees who are interested will have the option to join a virtual affinity group on Slack (or similar platforms). This will support the continuation of conversations and questioning, ultimately building robust communities of learning and inquiry that can continue after the overall experience ends.

Unit of Learning Summary

Conceptual Development

This unit of learning comprises five workshops with an overall aim to nurture in educators of adults the sense that learning alongside diverse adults is possible, especially with technologies, a maker mindset, and EDIDA principles.

Workshop 1 focuses on addressing barriers to technology use that educators face. Attendees will engage in a reflection to identify which barriers they experience individually as well as their existing skills or “superpowers” that they can use to overcome those barriers. Participants will engage in a making activity to visualize their personal barriers and superpowers, followed by a peer reflection.

Workshop 2 introduces the concept of designing for the margins instead of the majority as an approach to accessible learning design. Attendees will explore the frameworks of Liberatory Design and other EDIDA frameworks to develop student user personas to understand how to better design for learners with diverse needs.

Workshop 3 delves into the concept of adopting a prototyping mindset and the value of meaningful feedback. Participants will reimagine the definition of prototypes and develop their own systems for receiving feedback from learners that can be implemented immediately. This system will be iterated upon multiple times during the lesson to provide an opportunity for participants to engage in the cycle of Liberatory Design.

Workshop 4 explores decolonization and the maker mindset in the pursuit of conducting ethical and reciprocal community-based research (and knowledge production). Attendees will examine the importance of Indigenous ways of knowing, articulating, and understanding one’s positionality, and the basic principles of intersectionality. Participants will apply these values to create authentic, respectful, relevant, and responsible land acknowledgments.

Workshop 5 examines the use case of generative AI and its implications in education. Attendees will engage in critical discussions and storytelling using ChatGPT to develop critical and digital literacy with regard to this particular technology.

Equity, Diversity, Inclusion, Decolonization, and Anti-Racism

Each attendee who comes to this program has multiple identities: ability, culture, race, ethnic background, age, generational range, gender identity & expression, sexual orientation, communities of practice, socioeconomic status, body size, family status, and of course, personal experiences with technology. Attendees will be encouraged to think about their identities when approaching each workshop within the unit. They will be asked how intersectionality in their own

lives inform their practice, and asked to relate and reflect on this mindset when viewing their own students.

Workshops will be presented in a manner that respects each learner's unique intersectional identities by acknowledging that many of us are uninvited settlers on the lands of Indigenous Peoples. Honouring diverse Indigenous Peoples who have inhabited and cared for the land since time immemorial will be repeated throughout the unit of learning. Some workshops will focus more on decolonizing and anti-oppressive practices required to support research communities. Others may incorporate place-based learning and invite Indigenous Elders and Knowledge Keepers as guest speakers.

Workshops will be created to be accessible and will be differentiated to support diverse participants. Specifically, facilitators will use gender-neutral language and be explicitly welcoming to IBPOC and 2SLGBTGIA+ attendees.

Rationale

Teaching participants to critically engage with different types of technology and equity-based, inclusive practices can empower them to create personalized and adaptive learning experiences that meet the needs of their students. By familiarizing adult educators with these EDIDA frameworks and approaches to technology, they can prepare their students for the challenges and opportunities of the 21st-century workplace. Ultimately, integrating technologies (including new technologies that push the boundaries of our comfort zones, such as generative AI) in adult education settings in a way that centres EDIDA principles not only enhances learning efficiency, but also empowers adult educators to become lifelong learners and thrive in a world that is filled with changing technologies.

Instructional Strategies & Approaches

Accommodations for All Students

- All levels of technology are offered, ranging from no-tech, low-tech, to high-tech.
- All levels of technology experience are welcomed and encouraged to participate in the unit of learning.
- Attendees are encouraged to find a partner or group to work with that supports their individual needs and goals.
- Content delivery is multimodal (visual, text, audio, etc.).

Field Study, Trips, and Experiential Learning Outside the Classroom

While there are no field trips or planned activities outside of the classroom, this unit of learning can be adapted to many delivery formats, including in-person, online synchronous/remote, and hybrid delivery. Facilitators are encouraged to modify the location or delivery format as they see fit for each cohort of attendees.

Inquiry & Design-Based Thinking, STEAM Approaches

Throughout this unit of learning, attendees will engage with the Liberatory Design framework, an equity-based reimagining of the design thinking process. Each workshop incorporates elements of making, with the opportunity for the participants to engage in the design process and make choices that allow them to maximize their personal learning experience.

Collaborative Instructional Strategies

Several of the workshops in this unit of learning include collaborative activities, including group and partner-maker challenges, critical group discussions, and opportunities to hear and implement peer feedback. Online community platforms such as Slack or Padlet will be used to provide a collaborative element during and after the workshops. Attendees will have the option to join an online affinity group (Slack) to continue engaging as a community of inquiry after the experience of the unit of learning itself.

Tech-Enabled Learning

- Digital storytelling (DST) is an excellent tool to employ in any discipline. Indigenous DST can ensure Indigenous oral storytelling traditions can be accessed by many populations (provided ample consent).

- Engaging participants to learn materials via interactive storytelling using games and game-making tools (i.e., Twine, roleplay games, Minecraft, etc.).
- Asynchronous or synchronous distance learning afforded via Zoom recordings with captions made available to attendees throughout the unit of learning.
- Creating communities of inquiry using online collaborative platforms such as Slack and Padlet.
- Online synchronous collaborative brainstorming tools such as Google Drive, Miro, etc...
- Use of generative AI tools such as ChatGPT will be used, especially in the final workshop, Unleashing AI: Demystifying and Embracing the GPT.

Professional Resources

- [First Peoples Principles of Learning](#)
- [Accessible BC Act](#)
- [Liberatory Design](#)
- [Culturally responsive pedagogy](#)
- [Canada Skills for Success](#)
- [Universal Design for Learning](#)
- [Inclusion Guide](#)
- [Accommodation Checklist for ELL Students](#)



First Peoples Principles of Learning



Accessible BC Act



Liberatory Design



Culturally responsive pedagogy



Canada Skills for Success



Universal Design for Learning



Inclusion Guide



Accommodation Checklist for ELL Students

Subject-Specific Concepts

This unit of learning has been designed to benefit any educators who teach or support adult learners, regardless of subject area.

Connection to Current Events & Issues

It is a moral imperative for educators to learn alongside our diverse students, and to keep up in an ever-changing dynamic, and complex world. Technology use in education is rapidly evolving and it's critical to prepare students for such a digital world. The advent of AI, and most recently publicly accessible platforms like ChatGPT, provide opportunities to teach students how to use novel technologies responsibly and employ critical thinking skills.

Lesson Sequence

Workshop 1: Overcoming Barriers to Technology Use in Education

Big Idea:

Educators may have various barriers to using technology in the classroom. It's important for educators to recognize their unique barriers to technology use. Understanding the value of technology can help motivate educators to overcome those barriers.

Assessment (formative):

- Individual and group reflections
- Open and critical questions for the individual and group to consider
- Peer feedback

Assessment (summative):

- Reflective writing

Workshop 2: Using Liberatory and EDIDA Frameworks in Making

Big Idea:

How can we support learners experiencing disabilities to have an equitable educational experience?

Assessment:

- Use making to represent attendee's individual positionality and bias lenses
- Create a second multimodal artifact to represent the aspirational mindset that will honour EDIDA and decolonizing principles in their practice
- Voice, text, or video reflection of learning

Workshop 3: Adopting a Prototyping Mindset

Big Idea:

How can we adopt a prototyping mindset as an educator in the classroom and design meaningful feedback systems to continue to improve and refine our learning environments?

Assessment:

- Group discussions and reflections

- Design a system that enables the collection of meaningful and immediate feedback that can be applied to the attendee’s professional context
- Maker challenge to create a solution to an everyday problem
- At least one iteration of the designed feedback system based on peer feedback
- Consolidation reflection (written, audio, etc.).

Workshop 4: Decolonizing and “Maker Mindset” Approaches to Conducting Community-Based Research

Big Idea:

Scholars interested in conducting ethical community-based research may be interested to learn how decolonizing knowledge production can be supported via a maker mindset.

Assessment:

- Upon reflection, attendees will write an authentic, responsible, and relevant land acknowledgment to use in their daily practice (i.e., one to use in their personal research mission statement, classrooms, email signature, etc.)
- Attendees will be invited to use no-, low-, and/or high-tech tools to create an artifact that serves as a reminder of their commitment to decolonizing research work.

Workshop 5: AI Unleashed: Demystifying and Embracing the GPT

Big Idea:

How are we situating ourselves while we are emerging new AI-based applicants in the classroom?

Assessment:

- Create digital storytelling under the EDIDA framework with ChatGPT
- Individuals will be drawing a Venn diagram to compare and contrast the pros and cons of human-made and AI-made storytelling.

References

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Workshop 1: Overcoming Barriers to Technology Use in Adult Education



Creator: Emma Skytta

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Overcoming Barriers to Technology Use in Adult Education

DURATION: 2.5 hours

NUMBER OF PARTICIPANTS: 6

BIG IDEAS

- Educators may have various barriers to using technology in the classroom.
- It's important for educators to recognize their unique barriers to technology use.
- Understanding the value of technology can help motivate educators in overcoming the barriers.

SKILLS FOR SUCCESS (COMPETENCIES)

- **Adaptability** - Your ability to achieve or adjust goals and behaviours when expected or unexpected change occurs, by planning, staying focused, persisting, and overcoming setbacks. For example, we use this skill to change work plans to meet new deadlines, learn how to work with new tools, and improve our skills through feedback.
- **Collaboration** - Your ability to contribute and support others to achieve a common goal. For example, at work, we use this skill to provide meaningful support to team members while completing a project.
- **Digital literacy** - Your ability to use digital technology and tools to find, manage, apply, create, and share information and content. For example, we use this skill to create spreadsheets, safely use social media, and securely make online purchases.
- **Creativity and innovation** - Your ability to imagine, develop, express, encourage, and apply ideas in ways that are novel, unexpected, or challenge existing methods and norms. For example, we use this skill to discover better ways of doing things, develop new products, and deliver services in a new way.
- **Problem-solving** - Your ability to identify, analyze, propose solutions, and make decisions. Problem-solving helps you to address issues, monitor success, and learn from the experience. For example, we use this skill to make hiring decisions, select courses of action, and troubleshoot technical failures.

CONTENT OBJECTIVES

GENERAL OBJECTIVES

Upon completion of this workshop, the participant will be able to:

- Recognize the benefits of adapting to evolving technology, while acknowledging personal barriers and strengths.
- Create a sense of community among educators through discovering possible barriers and potential solutions.
- Develop a personalized approach to building digital literacy.
- Employ creativity and innovation to develop solutions to problem-solving technology in education.

SPECIFIC OBJECTIVES

21st CENTURY COMPETENCIES	
See “Skills for Success” above.	
LEARNING GOAL(S) <i>I can... I will....</i>	
<ul style="list-style-type: none"> • I can recognize what is getting in my way of using technology in my teaching practice. • I will understand how technology can enhance my teaching practice. 	
PRIOR KNOWLEDGE	
EQUITY, DIVERSITY, INCLUSION, DECOLONIZATION, ANTI-RACISM (EDIDA) FRAMEWORKS	
This workshop recognizes that educators don’t necessarily face the same barriers to technology use as their colleagues or other educators. It can be intimidating for some people to discuss their technology limitations with others and may fear they will be judged and considered “old-fashioned” or resistant to change. Not all educators have grown up with technology and therefore may not be accustomed to and fluent in technology use as other educators who have experience with technology from a very young age.	
DIFFERENTIATED INSTRUCTION	
<i>What will I do to assist and/or differentiate instruction for individual learners? (Materials, Delivery, Outcome)</i>	
Materials - a variety of no-tech, low-tech, and high-tech options are provided to the participants. Delivery - verbal and written delivery is offered. Outcome - the outcomes are individual for each participant, depending on their experiences with technology use.	
ACCOMMODATIONS	
<i>Please refer to the Inclusion Guide</i>	
MATERIALS	
See Provocation and Challenge for required materials.	
WORKSHOP STRUCTURE	
INTRODUCTION/MINDS ON	CRITICAL GUIDING QUESTIONS
<p>Start off with showing the “Man Destroys Video” listed in the provocation exercise (see below).</p> <p>Diagnostic Assessment - Participants will identify barriers to adopting new technologies in makification. The diagnostic assessment will be conducted with a conversation led by the facilitator. A planned provocation (see below) will encourage workshop attendees to start thinking about their experiences with technology use. The participants will be invited to share their thoughts with the class.</p>	See provocation.

<p>ACTION-LEARNING EXPERIENCES</p> <p>Provocation - Technology use is constantly increasing in education. With that comes new challenges and barriers that put educators in a position of having to adapt. This provocation has participants review the provided resources and document what they see, think, and wonder in response to these resources. Please see the provocation in a separate document.</p> <p>Challenge - Adult educators are faced with various barriers to using technology in their practice. Participants will be encouraged to reflect individually on their own technology superpowers as well as the technology barriers they face. After identifying the barriers, participants will be given the opportunity to identify how they can overcome their unique barriers as well as recognize the value of overcoming each barrier. Please see the challenge in a separate document.</p>	<p>CRITICAL GUIDING QUESTIONS</p> <p>See provocation and challenge.</p>
<p>CONSOLIDATION/CONCLUSION</p> <p>Participants to discuss as a group the reflection questions in the maker challenge.</p>	<p>CRITICAL GUIDING QUESTIONS</p> <p>See challenge.</p>
<p>ASSESSMENT (STRATEGIES, TOOLS) - DIAGNOSTIC, FORMATIVE, SUMMATIVE</p> <p>Formative: Individual and group reflections. Open and critical questions for the individual and group to consider. Peer feedback.</p> <p>Summative: Reflective writing. Also, the Padlet application will be introduced at the beginning of the workshop to establish baseline understanding/biases of the topic. Facilitators can return to the Padlet at the end of the workshop to reflect upon growth.</p>	
<p>EVALUATION OF THE LESSON</p> <ul style="list-style-type: none"> ● Participant feedback ● Instructor feedback 	
<p>REFLECTION:</p> <ol style="list-style-type: none"> 1. Were my participants successful in meeting the learning goals? How do I know? 2. Did my instructional decisions meet the needs of all participants? If not, what are my next steps? 3. What worked well? Why? 4. What will I do differently: <ul style="list-style-type: none"> ● When teaching this lesson again? ● For the subsequent lesson? 5. What are the next steps for my professional learning? 	



**Master of
Educational
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Program**



Barriers to Technology Use Inclusive Provocation

Adult Educators

Created by: Emma Skytta

Inclusive Makerspace Provocations

Overview of the Provocation

Technology use is constantly increasing in education. With that comes new challenges and barriers that put educators in a position of having to adapt.

Materials and Resources Required

Materials may include any or all of the following:

- Youtube video
- Paper, pen, or any other thing to take notes on

Inclusive Maker Provocation Instructions

Part 1:

Review the following picture and video:



[Man destroys computer](#) (42 second short Video)



Additional resources to review:

[Skills for Success Introduction](#) (1 minute Video)



[Skills for Success Summary](#) (Short text)



Part 2:

1. Select either the video or the picture and individually write down what you see, what you think, and what you wonder in response to the video or the picture.
2. With the people around you, discuss your SEE, THINK, WONDER reflections.

Critical Questions for Consideration

1. What do you feel when you see this picture/video?
2. What connections can you make?
3. What questions do you have?

Also,

1. Recall a time in your own experience in education (as a student, as a teacher, etc.) the introduction of technology was transformative.
 - a. What elements of that experience afforded transformation?
(I.e., ample access to support, and time for training)
2. Can you think of a gap or problem that your students are experiencing now? How do you think thoughtful implementation of technology(ies) could fill that gap?
3. How could the introduction of a wide range of technologies in your research and teaching praxis support the development of 21st-century skills (for yourself and/or for your students)? Which skills from the Skills for Success framework resonate with you?

Background/ Additional Information

Technology use in education can instigate a variety of different feelings and ideas among adult educators. Everyone has their unique experiences with technology, which influences their views about technology use in education.

Inclusivity Focus

This provocation offers a safe environment where learners have an opportunity to individually reflect on the provided materials. If they feel comfortable, they are welcome to share their thoughts and experiences with others.

No-Tech, Low-Tech, High-Tech Options

This provocation includes no-tech and low-tech materials that the learner can use. Providing technology options to participants to choose the technology level they resonate with most allows everyone to access this maker challenge, and meets them where they are in their journey of using technology in education.

Extension

You can extend this provocation by having learners consider the Skills for Success in relation to their experiences with technology.



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Overcoming Barriers to Technology Use in Adult Education

Designed by: Emma Skytta

Overview of the Challenge

Adult educators are faced with various barriers to using technology in their practice. Participants will be encouraged to reflect individually on their own technology superpowers as well as the technology barriers they face. After identifying the barriers, participants will be given the opportunity to identify how they can overcome their unique barriers as well as recognize the value of overcoming each barrier.

Materials and Resources Required

Materials may include any or all of the following:

No-Tech (not having or requiring technical or specialized knowledge or skills)

- Cardboard, recycled objects, paper
- Tape, glue, hot glue gun
- Markers, pens

Low-Tech (involving in, employing, or requiring only low technology)

- Sewing machine
- 3D drawing pen
- Camera

High-Tech (refers to things that involve new scientific methods or materials, especially computers)

- Digital tools (Twine, Miro, Canva, etc.)
- Games or simulators (Minecraft, etc.)

Note: The no-tech, low-tech, and high-tech tools can be combined as desired.

Inclusive Maker Challenge Instructions

1. Complete provocation.

2. Design a maze using your choice of a no-tech, low-tech, and/or high-tech material. You may choose one or more of the materials noted above or any material(s) of your choice.
3. In this maze, place “barriers” in the maze’s path that represent the actual barriers you have faced when using technology. Next, place representations of your own technology superpowers - skills and abilities that you have. Brainstorm how your superpowers could be used creatively to overcome each barrier in the maze.
4. Upon completion of your individual maze, discuss any or all of the following reflection questions with your peers:
 - a. What is/are the reason(s) for your choice of material(s) for your maze?
 - b. Are high-tech materials superior to no-tech or low-tech materials? If so, why?
 - c. Do you feel comfortable discussing your technology superpowers and technology barriers with others?
 - d. Compare and contrast the unique barriers and solutions you identified with your peers. Is there a reason for the similarities and differences among the groups?
 - e. Are there barriers that are out of your control? If so, whose control are they in?
 - f. Looking forward, do you predict limitations in your teaching practice if your technology barriers are not overcome? If so, what kind of limitations?

Challenge Objectives

Upon completion of this challenge, the learner will be able to:

- Recognize the need to adapt to evolving technology.
- Collaborate with other educators in discovering the possible barriers and possible solutions.
- Develop a personalized approach to building digital literacy.
- Employ creativity and innovation to develop solutions to problem-solving technology in education.

Critical Questions for Consideration

- In your teaching practice, what technologies are you comfortable with?
- In your teaching practice, have you encountered any barriers to using technology?
- Can you think of a time that technology has supported you in education?
- Would you say some technology barriers are more challenging than others?
- Are some technology barriers more meaningful to you than others?
- What value do you see in overcoming the barriers you face with technology use?

Background/ Additional Information

Technology can bring real value and learning to the classroom. Benefits include, among others, increased communication and collaboration, personalized learning opportunities, improved teacher efficiency and productivity, preparation for future academic and professional experiences, and enabling students to become global citizens. Adult educators encounter challenges in developing and using such technology in the 21st century. The COVID-19 pandemic has been able to highlight the necessity and potential of technology in education, including the delivery of courses online. Schools are commonly integrating technology into existing curricula instead of using it solely to manage emergency situations.

Inclusivity Focus

This challenge recognizes that educators don't necessarily face the same barriers to technology use as their colleagues or other educators. It can be intimidating for some people to discuss their technology limitations with others and may fear they will be judged and considered "old-fashioned" or resistant to change. Not all educators have grown up with technology and therefore may not be accustomed to and fluent in technology use as other educators who have experience with technology from a very young age.

No-Tech, Low-Tech, High-Tech Options

This challenge provides examples of no-tech, low-tech, and high-tech materials that the learner can use. Providing options to participants to choose the technology level they resonate with most allows for everyone to access this maker challenge, and meets them where they are in their journey of using technology in education.

Extensions

- 1) Since this is the first lesson in the unit of learning (UoL), you could have participants return back to their maze and representation of their personal barriers/superpowers and either reflect on whether the maze has changed over the course of the UoL, or prototype their maze if they learn something new (connection to Bee's lesson)
- 2) Write a SMART goal that addresses your own tech barriers and leverages your tech superpowers to overcome them.
- 3) Connection to Joanna's lesson: how do their own positionality and lived experience impact and define their barriers and superpowers?
- 4) Connection to Tamaka's lesson: how can technology support EDIDA approaches to education? Why is it important for educators to commit to building a practice of openness when choosing the tech they will use in their classrooms?
- 5) Connection to Michelle's lesson: when you do lesson #5, take a moment to review the barriers in your maze (or that you haven't added to your maze) that you feel are strongly associated with the idea of ChatGPT in the classroom (if any). Why are these barriers coming up for you with this particular technology? How does this compare to other technologies you face barriers with?
- 6) Upload your maze with barriers and superpowers plus any reflection you wish to a virtual museum to showcase your learning journey in this lesson. We will add other creations from the rest of the lessons in this UoL to this museum, too.



Workshop 2: Using Liberatory and EDIDA Frameworks in Making



Creator: Tamaka Fisher

Section Contents:

Workshop Overview..... p. 27-31

Using Liberatory and EDIDA Frameworks in Making

DURATION: 4 hours

NUMBER OF PARTICIPANTS: 12 - 20

BIG IDEAS

How can we support learners experiencing disabilities to have an equitable educational experience?

By designing learning for marginalized learners, all learners benefit ([Moore, 2016](#)).

“Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, reciprocal relationships, and a sense of place)” ([First Nations Education Steering Committee, n.d.](#)).

To understand others we must first understand ourselves (K. Ewart, in communication, July 12, 2023).

"Disability" means an inability to participate fully and equally in society as a result of the interaction of an impairment and a barrier; and "impairment" includes a physical, sensory, mental, intellectual, or cognitive impairment, whether permanent, temporary, or episodic ([Government of British Columbia \(2021\)](#)).

“Barriers can be (a) caused by environments, attitudes, practices, policies, information, communications or technologies, and (b) affected by intersecting forms of discrimination ([Government of British Columbia, 2021](#))”.

CURRICULAR COMPETENCIES

Critical thinking and problem solving, metacognition and reflection, creativity and innovation, collaboration, and communication.

CONTENT OBJECTIVES

Through experiential-making activities, learners will internalize the importance of equity and social justice in the delivery of making.

- Gain a better understanding of self and identities that they hold
- Understand their students will hold other identities and intersectionalities
- Understand Universal Design for Learning as a tool to increase accessibility for all learners
- Understand Accessibility as a tool for equity, inclusion, and social justice.

21st CENTURY COMPETENCIES

Critical thinking and problem solving, metacognition and reflection, creativity and innovation, collaboration, communication

LEARNING GOAL(S)

- I can identify my positionality and potential biases
- I can identify power structures related to making and adjusting my set up and practice
- I can identify the tenets of Liberatory Design
- I will use and teach a maker mentality

- I will use accessibility and UDL as a makification lens

PRIOR KNOWLEDGE

Adult learners, none required

EQUITY, DIVERSITY, INCLUSION, DECOLONIZATION, ANTI-RACISM (EDIDA) FRAMEWORKS

Considerations:

- How are you going to ensure that this lesson utilizes the EDIDA frameworks to create an inclusive space for your students?
 - Open with a land acknowledgement
 - Use gender-neutral language
 - Consider my own positionality, biases, and power as the facilitator
 - Employ the tenets of Culturally Responsive Pedagogy (CRP) [Culturally responsive pedagogy](#)
- Consider what materials you will use
 - No tech, low tech
- How will you ensure all voices are included and heard?
 - Discuss cultural differences in speech- speech pauses between speakers, indirect speech, active listening
 - Create a safe space
 - Model openness
- From what EDIDA lenses will the content be delivered?
 - [First Peoples Principles of Learning](#)
 - [Accessibility](#)
 - [Universal Design for Learning](#)
 - [Inclusion Guide](#)
- How will you present and implement the content in a way that is culturally responsive and relevant?
 - Employ the tenets of [Culturally Responsive Pedagogy](#)
 - Ensure that materials that are coded female and non-binary are available
 - Honour students' lived experience

DIFFERENTIATED INSTRUCTION

What will I do to assist and/or differentiate instruction for individual learners? (Materials, Delivery, Outcome)

Before running the workshop, I will find out through a survey:

- Whether any accommodations will be needed for accessibility (e.g., ASL interpreting, video-taping session, transcriptions etc.)
- What the learner is hoping to achieve by attending the workshop
- Identity pain points associated with the topic in the learner's context

No tech and low-tech tools will be included. Paper and a certain number of digital devices will be available.

A handout will be printed for those who would benefit from reading instead of listening to content.

Digital slides will be provided with links to resources.

Group work and collaboration are encouraged.

The opening video will contain transcriptions.

A remote attendance option will be available.

An assistant will walk around during the maker challenge and scaffold learners on technology. The instructor will do the same (both to scaffold and to conduct casual formative assessments).

The final reflection can be delivered in conversation to me one-on-one, by digital or handwritten output.

ACCOMMODATIONS *Please refer to the Inclusion Guide*

Brock University and Niagra College Canada Inclusion Guide

<https://docs.google.com/file/d/1DwVhnu6oEmTcsSBY4dlUba7kmksNX386/edit?filetype=msword>

MATERIALS

User Personas with Multiple Free Avatars

<https://www.figma.com/community/file/1128352368289225381>

Digital or no-tech (paper) tool to record reflection

Microsoft OneNote <https://www.onenote.com/notebooks?wdorigin=ondc&auth=2>

WORKSHOP STRUCTURE

Set up tables of 3- 4. When students enter they can self-select their group.

15 min.-Welcome everyone, introduce the topic, open with a land acknowledgment, and discuss the First Peoples Principles of Learning and how it relates to making. [First Peoples Principles of Learning](#)

6 min.- Encourage students to introduce themselves to each other at their tables for 1 minute each. Suggest potential topics.

20 min.- Introduce positionality and intersectionality and ask participants to silently reflect on all the identities that they hold. Gender identity/expression, sexuality, religion/spirituality, income, social status, dis/ability, race, ethnicity, marital status, family status, housing, skin colour, education, and trauma. [Wheel of Privilege and Power](#)

Ask participants how their positionality may unknowingly produce bias. [19 Types of Unconscious Bias](#)

15 min.- Watch [Shelley Moores \(3 min. video\)](#) on the 7-10 split in bowling and how this approach relates to instructional design for students experiencing disabilities. Give participants time to think and wonder how the video applies to their makification practice. Provide 5 minutes for volunteers to share their thoughts.

5 min. break

20 min.- Introduce (high level) UDL [Universal Design for Learning](#) and accessibility and have students brainstorm at their table groups the benefits/drawbacks of UDL and accommodations. [Inclusion Guide](#)

1.75 hours.- Start the Provocation activity first and then guide students to the Maker Challenge.

10 min. break	
45 min. - Conclusion and class sharing/reflections.	
<p>PROVOCATION</p> <p>In 2021 the Accessible BC Act became law. Educational institutions as a whole, have a responsibility to provide an equitable learning experience for students whose courses (course design and delivery) create barriers when intersecting with impairments. Accessible BC Act</p> <p>Barriers can also be caused by institutional policies, norms, attitudes of faculty and staff, and information and communication technologies which can cause discrimination (Government of British Columbia, 2021).</p>	<p>CRITICAL GUIDING QUESTIONS</p> <p>How can makerspaces be inclusive or not inclusive to diverse students, including 2SLGBTQIA+ learners?</p> <p>How can my positionality affect how I implement the physical or digital makerspace, makerspace activities, or communicate with students?</p> <p>How do I feel when students ask for accommodations?</p>
<p>MAKER CHALLENGE</p> <p>In groups of three or four: together create one student user profile (describing student behaviours and learning challenges: e.g., argumentative, not paying attention, misspelling words, absences, etc.) and create an avatar in Figma.</p> <p>Discuss with your group what you can do differently to make your makerspace inclusive for this learner. Blue sky thinking (journal, notebook, Padlet).</p>	<p>What can I do to make my makerspace more accessible to the widest possible student profile?</p>
<p>CONSOLIDATION/CONCLUSION</p> <p>Each student will leave with a personal understanding of their own positionality and the lenses that may bias their thoughts and degree of inclusivity in their teaching.</p>	
<p>ASSESSMENT (STRATEGIES, TOOLS) - DIAGNOSTIC, FORMATIVE, SUMMATIVE</p> <ul style="list-style-type: none"> • Group discussions. • Time provided for each group to share their profile and adjustments with the other workshop participants. • Reflect on how this exercise has or has not changed their approach to teaching. • Present in Figma, OneNote, verbally, or using another making artifact. 	
<p>EVALUATION OF THE LESSON</p> <ul style="list-style-type: none"> • Student feedback • Instructor reflection 	

REFLECTION:

1. Were my participants successful in meeting the learning goals? How do I know?
2. Did my instructional decisions meet the needs of all participants? If not, what are my next steps?
3. What worked well? Why?
4. What will I do differently:
 - When teaching this lesson again?
 - For the subsequent lesson?
5. What are the next steps for my professional learning?

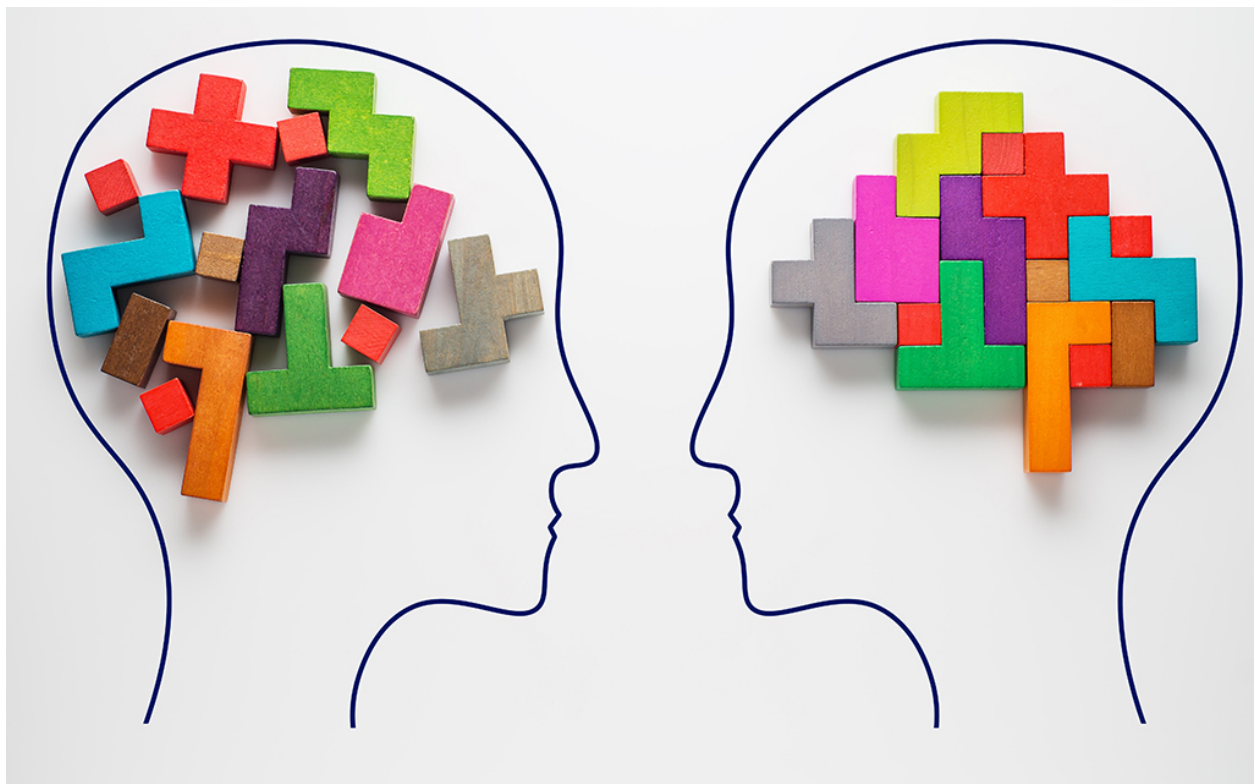
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Workshop 3: Adopting a Prototyping Mindset



Creator: Bailey Lo

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Adopting a Prototyping Mindset

DURATION: 4 to 6 hours, or 2 back-to-back sessions of 2 to 3 hours each

NUMBER OF PARTICIPANTS: 4 to 20

BIG IDEAS

- Exploring prototyping as an approach to developing learning experiences (adopting a maker mentality)
- Designing systems for receiving and applying feedback in meaningful ways
- Using the prototyping mindset and Liberatory Design framework to build a practice of equity, diversity, inclusion, decolonization, and anti-racism (EDIDA)

CURRICULAR COMPETENCIES

Curricular competencies are not a relevant term in this context, as this unit of learning and workshop were designed as a professional development resource/experience for faculty and staff who work in post-secondary institutions. Please see the **21st-Century Competencies** section for desired learning outcomes.

CONTENT OBJECTIVES

GENERAL OBJECTIVES

- Develop a prototyping mindset
- Understand how everything can be viewed as a prototype
- Understand the value of meaningful and immediate feedback
- Recognize patterns of behaviour that centre one's ego when receiving feedback

SPECIFIC OBJECTIVES

- Apply content from Workshop 2 and use the Liberatory Design framework to design learning experiences and systems for the margins instead of the majority
- Practice the Liberatory Design process by making prototypes and iterating upon them
 - Focus on the "Notice" and "Reflect" steps of this process to guide subsequent iterations and design choices
 - Employ the Keep-Fix-Change framework to implement feedback and develop subsequent prototypes
- Use feedback as a mechanism for continuous improvement, as well as an opportunity to design for all students and create more equitable, inclusive, and accessible learning experiences

21st CENTURY COMPETENCIES

This lesson uses the Canada Skills for Success framework to position 21st century competencies in the context of adult education. While all nine Skills for Success are applicable to this lesson, the primary skills participants will develop include:

- Adaptability
- Collaboration
- Problem-solving
- Creativity & innovation

<p>LEARNING GOAL(S) I can... I will....</p> <p>1) I can see how everything could be viewed as a prototype, and everything is an opportunity to get feedback on and refine.</p> <p>2) I can engage with feedback in a positive and productive manner to continue improving the learning experiences I design, lead, or facilitate and without letting my ego take control.</p> <p>3) I will employ a failure-positive prototyping mindset when designing and planning learning experiences, and receive feedback with an open heart and an open mind.</p> <p>4) I will reflect upon and reiterate my existing systems to make sure they are inclusive and meet the needs of all my students, regardless of their identity, needs, or ability.</p>
<p>PRIOR KNOWLEDGE</p> <p>Participants will have prior experience leading or supporting adult learning activities (lectures, tutorials, labs, workshops, etc.), and have an example of a learning environment/context that they can design systems for.</p>
<p>EQUITY, DIVERSITY, INCLUSION, DECOLONIZATION, ANTI-RACISM (EDIDA) CONSIDERATIONS</p> <p>This workshop builds on the content covered in Workshop 2: <i>Using Liberatory and EDIDA Frameworks in Making</i>, and especially the concept of designing learning experiences for the margins instead of the majority. This workshop provides attendees the opportunity to apply what they learned about the importance of ensuring all learners regardless of their needs deserve meaningful learning experiences by creating their own systems to collect feedback to refine and reiterate their own classrooms.</p> <p>This workshop also focuses on using the Liberatory Design framework as an approach to equity-based design cycles and encourages attendees to focus on the critical steps of “Notice” and “Reflect” when assessing their existing systems and what could be done to rework or reimagine those systems to be more aligned with an EDIDA approach.</p>
<p>DIFFERENTIATED INSTRUCTION <i>What will I do to assist and/or differentiate instruction for individual learners? (Materials, Delivery, Outcome)</i></p>
<ul style="list-style-type: none"> ● Provide different modalities/formats of the provocation, frameworks, and maker challenge instructions (i.e., print vs. digital slides, audio recordings, etc.) ● Provide the option to do solo activities (provocation, etc.) in pairs instead of individuals to leverage collaboration to support and address attendee needs ● Provide options for no-/low-/high-tech making in maker challenges to offer the opportunity for attendees to choose mediums that are accessible
<p>ACCOMMODATIONS</p> <ul style="list-style-type: none"> ● Offer two versions of the workshop: one 4-6 hour session or two 2-3 hour sessions to accommodate different schedules ● Flexible dates of offering: several dates/times to register for ● Different formats of delivery (in-person, online synchronous) ● If this workshop is delivered in person, the coordinators will choose spaces that allow for ease of access

<p>MATERIALS:</p> <p>Participants are encouraged to bring their own device (laptop, tablet, smartphone, etc.) to this workshop, especially if they wish to use a high-tech approach to creating their feedback system. Computers should be provided by the workshop facilitators as an alternative option.</p> <p>Suggested materials for maker challenges (non-exhaustive):</p> <ul style="list-style-type: none"> • Found and recycled objects • Craft materials (string, paper, beads, wire, etc.) • Textiles (fabric, thread, sewing needles, etc.) • Glue, tape, glue gun, etc. • Scissors • Sticky notes • Paper (letter size, flip chart size), pencils, pens, permanent markers 	
<p>WORKSHOP STRUCTURE</p>	
<p>ACTION-LEARNING EXPERIENCES</p> <p>A) Initial Provocation: Everything is a Prototype <i>The first part of this lesson involves an initial provocation to set the stage for the rest of the lesson and introduce the idea of prototyping as a mindset and that everything can be viewed as a prototype.</i></p> <p>Participants will start by engaging with the following interactive presentation made on Genial.ly individually; this interactive presentation guides participants through an exercise where they question their concept of a prototype. This interactive presentation includes several guiding questions for participants to discuss in small groups with their peers (A-1).</p> <p>Interactive presentation (provocation): https://view.genial.ly/63efc9c15fd06e001374cd6e/interactive-content-everything-is-a-prototype (Lo, 2023).</p> <p>After participants complete the initial provocation and discussion questions, they will engage with two critical frameworks in small groups and work through several prompts/questions (A-2).</p> <p>Canada Skills for Success: https://www.canada.ca/en/services/jobs/training/initiatives/skills-success/understanding-individuals.html (Government of Canada, 2021).</p> <p>Liberatory Design: https://docs.google.com/presentation/d/1S-7fZojfgGs3M3T110vaXZFztRvjmMdkCjJ4UilQ5i0/edit#slide=id.g204dd7f89b_0_491 (slides 16-32)(Anaissie et al., 2017).</p>	<p>CRITICAL GUIDING QUESTIONS</p> <p>(A-1) Everything is a Prototype Question: What was the first image you clicked on [that you thought was an example of a prototype]? Why were you drawn to that image first?</p> <p>Were there any images you didn't think could possibly be considered a prototype? Why?</p> <p>Were you surprised by any of the examples of prototypes? Why were you surprised?</p> <p>How might you start to practice a prototyping mindset or develop design sensitivity going forward?</p> <p>(A-2) Skills for Success & Liberatory Design Questions: What connections can you see between the Skills for Success framework and the Liberatory Design framework? Can you link specific skills with steps in the Liberatory Design process?</p> <p>How do these two frameworks align with a prototyping mindset?</p>

Allow time for participants to individually document their a-ha! moments from this provocation and connections to practice.

B) Maker Challenge #1: Designing a Feedback System

The second part of this lesson is a maker challenge that examines the importance of meaningful feedback in the design of learning activities—participants will complete this challenge individually. This maker challenge will also prompt participants to use a prototyping mindset and set the stage for the initial steps in an iterative design project.

Participants will first be invited to engage in a discussion in small groups about the nature of feedback systems in their own professional context; these questions will all focus on the Notice and Reflect steps of the Liberatory Design framework (B-1).

Next, participants will engage in a maker challenge individually using the following prompt. It is recommended that participants are given 60-90 minutes for this portion of the maker challenge.

Prompt: *Design a prototype of a system that allows you to collect student feedback in a meaningful way that you can use to implement feedback in a timely and responsive manner. This feedback system should be directly applicable to your own professional context. As you design this feedback system prototype, consider how you are integrating aspects of the Canada Skills for Success framework and Liberatory Design framework into the system. Your prototype should be completed to a point where others could interact with it to provide feedback.*

Participants may opt for no-/low-/high-tech mediums and materials to design their prototype to best fit their design needs. Some examples of no-/low-/high-tech options are given below:

- No-tech: suggestion box, sticky notes, designated whiteboard/chalkboard
- Low-tech: Google Forms, Miro, email, Flip, voice memos
- High-tech: custom website, Qualtrix survey, learning management system

How might you apply these frameworks to your professional context?

(A-3) Reflection Questions:

Did you have any a-ha! moments during the provocation?

How might a prototyping mindset allow you to embody EDIDA approaches in your professional context? In your daily life?

How do you plan to practice a prototyping mindset in your professional context? In your daily life?

(B-1) Feedback Systems Questions:

What feedback systems exist in your professional context? Who provides the feedback and who receives the feedback? How does this happen? (Notice)

What are some examples of these feedback systems working effectively? (Notice)

What are some examples of these feedback systems not working effectively? (Notice)

When you receive feedback from learners, how do you engage with that feedback in a meaningful and immediate way? (Reflect)

What barriers prevent you from engaging with the feedback in a meaningful and immediate way? How might you address these barriers? (Reflect)

Note: You may choose to split the workshop into two subsequent sessions. End the first session after completion of Maker Challenge #1 and start the second session with Maker Challenge #2 (below).

C) Maker Challenge #2: Test the Feedback System

In this part of the lesson, participants will engage with a second maker challenge to create a prototype and share this creation with their peers. Then, the peers will use that participant's Feedback System prototype (from Maker Challenge #1) to provide feedback on both the new prototype and the Feedback System itself. It is recommended that participants are given 45 minutes for this maker challenge.

Prompt: Think of an everyday problem that you experience regularly. Design something to address this problem using upcycled materials. Some examples of everyday problems include:

- You keep misplacing your keys and can't find them when you need to leave the house.
- You would like to drink more water but keep forgetting to drink water throughout the day.

Participants are encouraged to use upcycled materials and take a no-/low-/high-tech approach as they see fit, although they are encouraged to consider how the materials they use and their overall design support a sustainable approach to making.

When participants are finished making their Everyday Solution prototype, they will share their design choices with their peers in small groups (3-4 per group). Participants will also present their Feedback System prototype from Maker Challenge #2 to their small groups.

Participants are given 15-20 minutes to provide feedback on their peers' Everyday Solution prototypes using that peer's personal Feedback System. They will also use the Feedback System to provide feedback on their experience using the Feedback System. Participants will give feedback to all members of their small groups (2 to 3 per participant) and consider several guiding questions during this process (C-1).

D) Apply Feedback in a Meaningful Way: Prototype Iteration #2

In this final part of the lesson, participants are provided time to review the feedback they received from their peers, reflect on the feedback, and use that feedback in a meaningful way to reiterate their Feedback System prototype.

(C-1) Using Each Others' Feedback Systems to Give Feedback Questions:

For the Everyday Solutions prototype:

- 2 stars: What are two design features/aspects of the prototype that you liked?
- 1 wish: What is something you think could be refined or modified in the prototype?

For the Feedback System prototype:

- What aspects of the system were intuitive or easy to use?
- What aspects of the system were confusing?
- Does this system allow for users (i.e., students) to express feedback in a way that is safe and honest?
- What elements of EDIDA frameworks are evident in this system? What elements are missing?

(D-1) Considering Peer Feedback Questions:

What new problems or questions does this feedback raise about my prototype?

What new information did I learn by reviewing this feedback?

<p>10 minutes: Participants review and reflect on the peer feedback. Participants will be given several questions and the Keep-Fix-Change (KFC) framework (Pennefather, 2015) to guide this reflection (D-1).</p> <p>50 minutes: Participants are invited to refine and continue developing their Feedback System prototype using peer feedback.</p> <ul style="list-style-type: none"> • If participants finish refining their Feedback System prototype with time left, they are encouraged to refine and continue developing their Everyday Solution prototype. 	<p>What aspects of my prototype are working well? (Keep)</p> <p>What aspects of my prototype need to be adjusted to address a new problem or question? (Fix)</p> <p>What aspects of my prototype are not meeting my user's needs and could be redesigned or removed? (Change)</p> <p>As I review this feedback, am I reacting with my ego?</p> <p>What positionality and/or circumstances might my peer be coming from for them to give me this feedback? How can I consider this feedback from a place of empathy?</p>
<p>CONSOLIDATION/CONCLUSION</p> <p>After participants finish their second iteration of the Feedback System (and the Everyday Solution), they should be given time to create a reflection on the process of iterative design, collecting and using feedback in a meaningful and immediate way, and how they plan to implement this learning in their professional context. Participants can choose to create a written reflection, a visual representation of their reflection, a video, or an audio memo/podcast.</p>	<p>CRITICAL GUIDING QUESTIONS</p> <p>Reflect on the experience of receiving feedback on a system you created. What feelings, reactions, and responses did you experience when receiving feedback?</p> <p>How might you engage with feedback with an open heart and open mind, instead of with your ego?</p> <p>How might you apply a prototyping mindset to your professional context going forward?</p> <p>How do you plan to implement your feedback system in your professional context?</p>
<p>ASSESSMENT (STRATEGIES, TOOLS) - DIAGNOSTIC, FORMATIVE, SUMMATIVE</p> <p>Diagnostic:</p> <ul style="list-style-type: none"> • Evidence of engaged discussion with peers during initial provocation • Reflection from initial provocation (ah-ha! moments) <p>Formative:</p> <ul style="list-style-type: none"> • Development of a first prototype for a Feedback System • Creation of a prototype for an Everyday Solution <p>Summative:</p>	

- Evidence of reflection and continued development of the Feedback System based on peer feedback
- Evidence of reflection and continued development of the Everyday Solution based on peer feedback
- Reflection (any medium) about their experience collecting and using feedback in a meaningful and immediate way, how they see themselves using the prototyping mindset going forward, and their plan for implementing the Feedback System in the professional context

EVALUATION OF THE LESSON

Lesson-Specific Feedback:

- Formal feedback systems (survey with Likert scale and open-ended fields, option for anonymous submission or a request to follow up individually by leaving contact information)
- Informal feedback systems (email, verbal feedback during and after the workshop, etc.)
- In-class temperature: at the beginning of the next workshop (Workshop 4), spend 5 minutes engaging in a reflective activity where participants write down their aha! moments and pain points from Workshop 3 and have the opportunity to say or hand in their reflection—allows participants to think about the workshop for a short amount of time (marinate, ponder) and reflect on their experience while still engaged with the Unit of Learning

Unit of Learning Feedback:

- Formal feedback systems (post-survey with follow-up prompts to complete the survey)
- Open invitation for informal feedback to workshop leads (email, etc.)

REFLECTION:

1. Were my participants successful in meeting the learning goals? How do I know?
2. Did my instructional decisions meet the needs of all participants? If not, what are my next steps?
3. What worked well? Why?
4. What will I do differently:
 - When facilitating this workshop again?
 - For the subsequent workshop?
5. What are the next steps for my professional learning?

References

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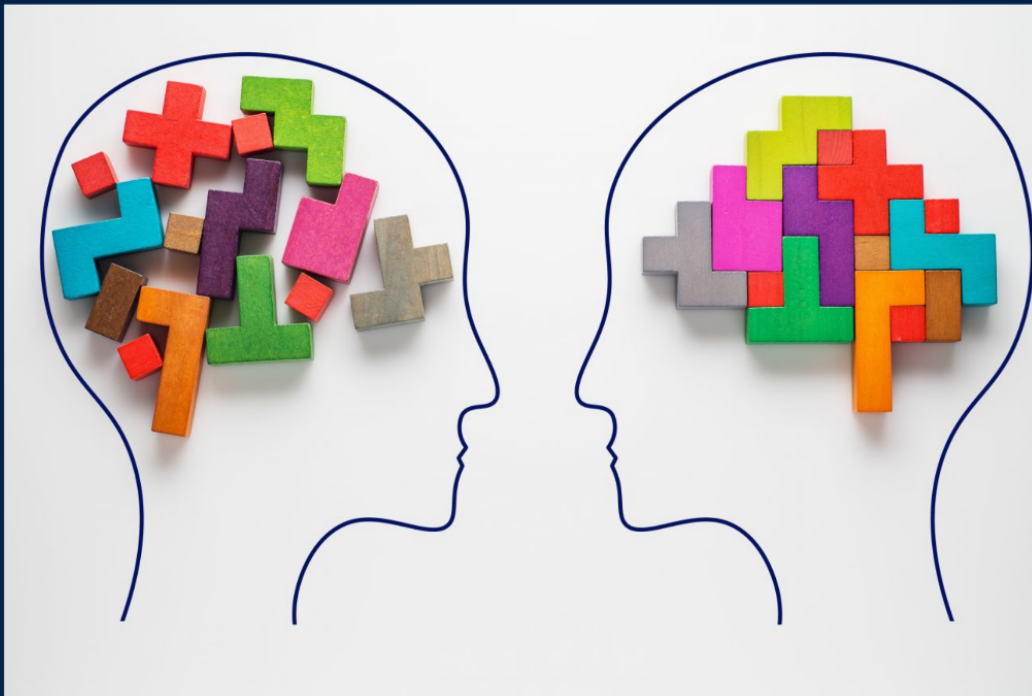
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Master of
Educational
Technology
Program



Everything is a Prototype

Created by: Bailey Lo

Inclusive Makerspace Provocation

Overview

We've heard the term "prototype" before—it's used frequently in the context of robotics, engineering, and new technology. Prototypes are a thing that mechanical engineers and software developers make, but is that really the extent of it? Are prototypes just for educators who teach STEM (science, technology, engineering, math) or ADST (applied design, skills, and technologies) curricula? This provocation will test your beliefs about prototypes and encourage you to develop a prototyping mindset.

Materials and Resources Required

- Device to access links/QR codes (smartphone, tablet, laptop, etc.)
- Paper & pen/pencil

Inclusive Maker Provocation Instructions

Part 1: What is a prototype?

Start by engaging with the following interactive presentation made of Genial.ly individually; this interactive presentation will guide you through an exercise that examines your concept of a prototype. This interactive presentation includes several guiding questions for you to consider first individually, then in small groups.

You can [access the interactive presentation using this link](#) or the QR code:



Part 2: Let's apply this to some frameworks

In small groups of 3-5 makers, consider the following two critical frameworks and work through a series of prompts/questions.

#1: [Canada Skills for Success](#)

#2: [Liberatory Design](#) (slides 16-32)



Part 3: Reflection

Spend 10 minutes documenting your a-ha! moments from this provocation and any connections you can make to your own practice.

Critical Questions for Consideration

Part 1 Questions:

- What was the first image you clicked on [that you thought was an example of a prototype]? Why were you drawn to that image first?
- Were there any images you didn't think could possibly be considered a prototype? Why?
- Were you surprised by any of the examples of prototypes? Why were you surprised?
- Can you think of other examples of things that could be viewed as a prototype?

Part 2 Questions:

- What connections can you see between the Skills for Success framework and the Liberatory Design framework? Can you link specific skills with steps in the Liberatory Design process?
- How do these two frameworks align with a prototyping mindset?
- How might you apply these frameworks to your professional context?

Part 3 Questions:

- Did you have any a-ha! moments during the provocation?
- How might a prototyping mindset allow you to embody EDIDA approaches in your professional context? In your daily life?
- How do you plan to practice a prototyping mindset in your professional context? In your daily life?

Background/Additional Information

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Tech Open Air. (2018, August 9). *Every day is a prototype - Phil Gilbert (IBM) #TOA18* [Video]. YouTube. <https://youtu.be/h3Jp7LYehRg>

Inclusivity Focus

This provocation is meant to introduce the idea of the prototyping mindset (which is related to a maker mentality) to people who haven't considered that they could be a maker or use prototyping if they aren't in traditional STEM fields. By practicing thinking in prototypes beyond the scope of robotics, engineering, and software, participants can start to see how they can develop the critical skills of adaptability, problem-solving, creativity & innovation, and collaboration (Canada Skills for Success)— these skills are essential parts of being capable of reflection and redefining what it means to be inclusive. Liberatory Design is also introduced as a suggested framework to guide a prototyping mindset from a place of equity, diversity, inclusion, decolonization, and anti-racism.

No-Tech, Low-Tech, High-Tech Options

This provocation is primarily focused on discussion, reflection, and idea generation, and not physical making, so options for no-tech, low-tech, or high-tech differentiation are limited.

The reflection (part 3) of this provocation can be completed using the following suggested options:

No-Tech:

- Paper & pen/pencil

- Journal
- Sticky notes

Low-Tech:

- Voice-to-text
- Typed notes
- Miro
- Video/audio memo

High-Tech:

- Personal blog/eportfolio
- Edited video reflection/vlog

Extension

- (1) This provocation forms the first portion of the workshop “Adopting a Prototyping Mindset”, which is part of the overall unit of learning “Andragogy and Technology: Incorporating EDIDA Frameworks and the Maker Mentality for Educators of Adult Learners”.
 - Check out the follow-up Inclusive Maker Challenge “**Adopting a Prototyping Mindset: Designing Meaningful and Immediate Feedback Systems**” from this workshop.
- (2) Portions of this provocation were inspired by the project “Reimagine: Makerspaces”, created by Heidi Dyck and Bailey Lo. This project analyzes and reimagines two aspects of makerspaces and the maker mentality—prototyping and place-based learning—which are then used to conduct a “curriculum jamming” of the Canada Skills for Success initiative to be more inclusive.

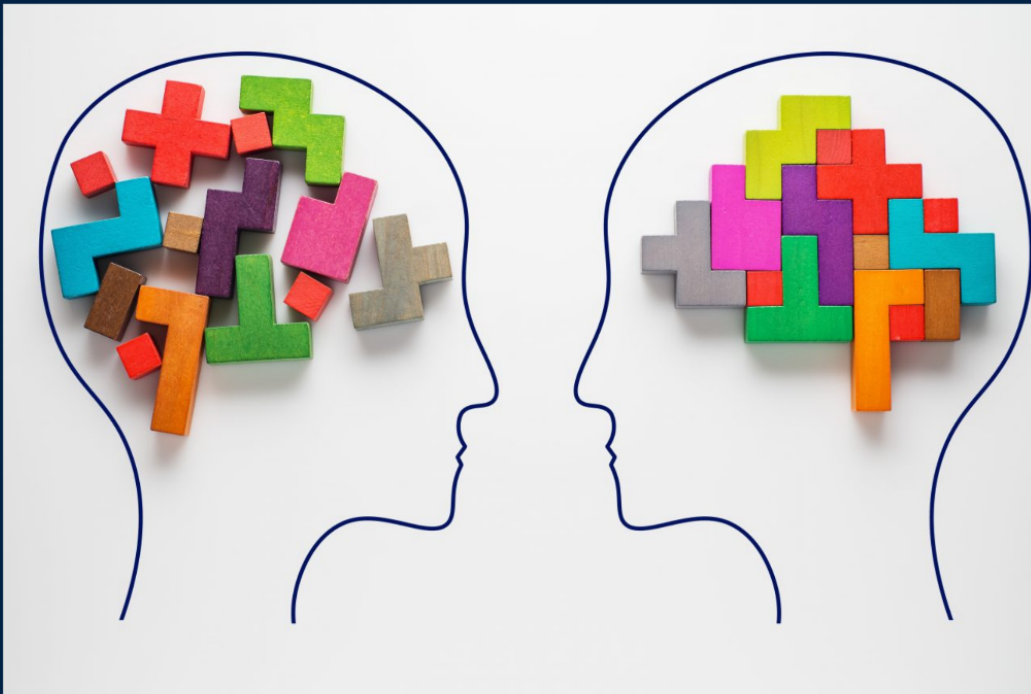
You can [access the project using this link](#) or the QR code:





THE UNIVERSITY OF BRITISH COLUMBIA
Faculty of Education

Master of
Educational
Technology
Program



Adopting a Prototyping Mindset: Designing Meaningful and Immediate Feedback Systems

Created by: Bailey Lo

Inclusive Makerspace Challenge

Overview

This maker challenge examines the importance of meaningful feedback in the design of learning activities and is divided into three parts plus a final reflection.

The first part of this maker challenge prompts participants to use a prototyping mindset and set the stage for the initial steps in an iterative design project. Next, participants will engage with a second maker challenge to create a prototype and share this creation with their peers. The peers will use that participant's Feedback System prototype to provide feedback on both the new prototype and the Feedback System itself. In part three, participants are provided time to review the feedback they received from their peers, reflect on the feedback, and use that feedback in a meaningful way to reiterate their Feedback System prototype.

Materials and Resources Required

We encourage you to bring your own device (laptop, tablet, smartphone, etc.) to this workshop, especially if you wish to use a low- or high-tech approach when creating your feedback system. Computers should be provided by the workshop facilitators as an alternative option.

Suggested Maker Materials (non-exhaustive):

- Found and recycled objects
- Craft materials (string, paper, beads, wire, etc.)
- Textiles (fabric, thread, sewing needles, etc.)
- Glue, tape, glue gun, etc.
- Scissors
- Sticky notes
- Paper (letter size, flip chart size), pencils, pens, permanent markers

Inclusive Maker Challenge Instructions

Part 1: Maker Challenge #1 (Designing a Feedback System)

In small groups, discuss the nature of feedback systems in your own professional context using the Critical Guiding Questions as your prompt.

Next, begin the following maker challenge individually using the following prompt:

Prompt: *Design a prototype of a system that allows you to collect student feedback in a timely and responsive manner. This feedback system should be directly applicable to your own professional context. As you design this feedback system prototype, consider how you are integrating aspects of the [Canada Skills for Success framework](#) and [Liberatory Design framework](#) into the system. Your prototype should be completed to a point where others could interact with it to provide feedback.*

This prototype could be made using any medium or materials you think will best fit your design needs, and could be no-tech, low-tech, or high-tech.

Part 2: Maker Challenge #2 (Test the Feedback System)

Consider the following prompt and create a prototype using upcycled materials. You may take a no-tech, low-tech, or high-tech approach as you see fit, although you should consider how the materials you use and your overall design support a sustainable approach to making.

Prompt: *Think of an everyday problem that you experience regularly. Design something to address this problem using upcycled materials. Some examples of everyday problems include:*

- *You keep misplacing your keys and can't find them when you need to leave the house.*
- *You would like to drink more water but keep forgetting to drink water throughout the day.*

When you're finished making your Everyday Solution prototype, share your design choices with your peers in small groups of 3-4. After you present the Everyday Solution, you will also present your Feedback System prototype from Maker Challenge #1.

Take 15-20 minutes to provide feedback on your peers' Everyday Solution prototypes using that person's personal Feedback System. You will also provide feedback on your experience using the Feedback System itself. Give feedback to all members of your small group and consider the Critical Guiding Questions during this process.

Part 3: Apply Feedback in a Meaningful Way

For 10 minutes, review and reflect on the feedback you received from your peers using your Feedback System. Consider the Critical Guiding Questions and use a [Keep-Fix-Change framework](#) to guide your reflection on both your Everyday Solution and Feedback System prototypes.

Next, spend some time refining and continuing to develop your Feedback System prototype based on the feedback and your reflection. If you finish refining your Feedback System with time to spare, you can also continue to develop and refine your Everyday Solution prototype.

Final Reflection

Create a reflection on the process of iterative design, collecting and using feedback in a meaningful and immediate way, and how you plan to implement this learning in your professional context. You can choose to create a written reflection, and visual representation of your reflection, a video, or an audio memo/podcast.

Challenge Objectives

- Develop a prototyping mindset
- Understand the value of meaningful and immediate feedback

- Recognize patterns of behaviour that centre one's ego when receiving feedback
- Practice the [Liberatory Design process](#) by making prototypes and iterating upon them
 - Focus on the “Notice” and “Reflect” steps of this process to guide subsequent iterations and design choices
 - Employ the [Keep-Fix-Change framework](#) to implement feedback and develop subsequent prototypes
- Use feedback as a mechanism for continuous improvement, as well as an opportunity to design for all students and create more equitable, inclusive, and accessible learning experiences

Critical Questions for Consideration

Part 1 Questions:

- What feedback systems exist in your professional context? Who provides the feedback and who receives the feedback? How does this happen? (Notice)
- What are some examples of these feedback systems working effectively? (Notice)
- What are some examples of these feedback systems not working effectively? (Notice)
- When you receive feedback from learners, how do you engage with that feedback in a meaningful and immediate way? (Reflect)
- What barriers prevent you from engaging with the feedback in a meaningful and immediate way? How might you address these barriers? (Reflect)

Part 2 Questions:

- For the Everyday Solutions prototype:
 - 2 stars: What are two design features/aspects of the prototype that you liked?

- 1 wish: What is something you think could be refined or modified in the prototype?
- For the Feedback System prototype:
 - What aspects of the system were intuitive or easy to use?
 - What aspects of the system were confusing?
 - Does this system allow for users (i.e., students) to express feedback in a way that is safe and honest?
 - What elements of EDIDA frameworks are evident in this system? What elements are missing?

Part 3 Questions:

- What new problems or questions does this feedback raise about my prototype?
- What new information did I learn by reviewing this feedback?
- What aspects of my prototype are working well? (Keep)
- What aspects of my prototype need to be adjusted to address a new problem or question? (Fix)
- What aspects of my prototype are not meeting my user's needs and could be redesigned or removed? (Change)
- As I review this feedback, am I reacting with my ego?
- What positionality and/or circumstances might my peer be coming from for them to give me this feedback? How can I consider this feedback from a place of empathy?

Final Reflection Questions:

- Reflect on the experience of receiving feedback on a system you created. What feelings, reactions, and responses did you experience when receiving feedback?
- How might you engage with feedback with an open heart and open mind, instead of with your ego?
- How might you apply a prototyping mindset to your professional context going forward?
- How do you plan to implement your feedback system in your professional context?

Background/Additional Information

Anaissie, T., Cary, V., Clifford, D., Malarkey, T., & Wise, S. (2017). *Equity-centred design framework* [Google Slides]. The K12 Lab. <https://dschool.stanford.edu/resources/equity-centered-design-framework>

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Pennefather, P. P. (2015, August 6). *Rapid prototyping techniques @ the CDM*. Dr. Patrick Parra Pennefather. <https://patrickpennefather.com/?p=358>

Tech Open Air. (2018). *Every day is a prototype - Phil Gilbert (IBM) #TOA18* [Video]. YouTube. <https://www.youtube.com/watch?v=h3Jp7LYehRg>

Inclusivity Focus

This maker challenge is an opportunity for makers to practice using the Liberatory Design process, an equity-based reimagining of the design thinking process, by creating prototypes and using feedback in meaningful and immediate ways. The purpose of this challenge is to establish a mindset that values continuous improvement of our existing systems, designing for the margins instead of the majority, and creating opportunities for all voices to be heard as valid sources of feedback. Makers will reflect on the manner in which they engage with feedback—from a place of ego or

from a place of open hearts, and open minds—as an invitation to continuously question and redefine what it means to be inclusive.

No-Tech, Low-Tech, High-Tech Options

Suggested No-Tech Materials:

- Found and recycled objects
- Craft materials (string, paper, beads, wire, etc.)
- Textiles (fabric, thread, sewing needles, etc.)
- Glue, tape, glue gun, etc.
- Scissors
- Sticky notes
- Paper (letter size, flip chart size), pencils, pens, permanent markers

Low-Tech Options:

- [Google Forms](#)
- [Miro](#)
- Email
- [Flip](#) or similar apps
- Voice memos

High-Tech Options:

- Custom website
- [Qualtrics](#) survey or similar platforms
- Learning management system (i.e., Canvas, Moodle, etc.)

Extensions

- (1) This maker challenge forms the second portion of the workshop “Adopting a Prototyping Mindset”, which is part of the overall unit of learning “Andragogy and Technology: Incorporating EDIDA Frameworks and the Maker Mentality for Educators of Adult Learners”.

- Check out the initial Inclusive Makerspace Provocation **“Everything is a Prototype”** from this workshop.
- (2) Portions of this maker challenge were inspired by the project “Reimagine: Makerspaces”, created by Heidi Dyck and Bailey Lo. This project analyzes and reimagines two aspects of makerspaces and the maker mentality—prototyping and place-based learning—which are then used to conduct a “curriculum jamming” of the Canada Skills for Success initiative to be more inclusive.

You can [access the project using this link](#) or the QR code:



Workshop 4: Decolonizing and “Maker Mindset” Approaches to Conducting Community-Based Research



Creator: Joanna Yang

Section Contents:

Workshop Overview..... p. 59–64
References..... p. 64–65

Decolonizing and “Maker Mindset” Approaches to Conducting Community-Based Research

DURATION: 2.5 Hours

NUMBER OF PARTICIPANTS: 15-20

BIG IDEAS

Scholars interested in conducting ethical community-based research may be interested to learn how decolonizing knowledge production can be supported via a “maker mindset.”



THE UNIVERSITY OF BRITISH COLUMBIA

Vancouver Campus

Master of Educational Technology

CURRICULAR COMPETENCIES

“Curricular competencies” is not as relevant of a term in this context. This workshop will support the TRC’s 94 Calls to Action, which explicitly indicates that culturally appropriate curricula need to be developed at all education levels. Specifically at UBC, the goals of the UBC Indigenous Strategic Plan and the Strategic Equity and Anti-Racism framework require staff and faculty to unlearn harmful colonial practices of knowledge production. Note: although this workshop was designed with UBC faculty in mind, it can be modified for educators who work in different localities/situated contexts; particularly institutions with different Indigenous/EDIDA-focused goals and strategic plans.

CONTENT OBJECTIVES

GENERAL OBJECTIVES

- 1) Recognizing the breadth of knowledge/expertise present, the intent of this workshop is to nurture a community of inquiry/practice amongst researchers interested in unlearning harmful colonial ways of conducting research in communities;
- 2) Introduce the “maker mindset” and “making”, encouraging a paradigm shift in academic research culture by valuing the process of failing, adaptability, making with one’s hands, and understanding how these elements may support decolonial approaches to knowledge production;
- 3) Introduce different types of technologies that may be used in many parts of the entire research process (from ideation to consensus/trust building, to grant writing, implementation, and reporting-back steps)

SPECIFIC OBJECTIVES

- 1) **Notice:** who is the researcher in you? Ask audience members to define how they identify and which identity(s) they bring to the table when conducting community-based research.
- 2) **Explore:** what is community-engaged research, and which values/principles are necessary for the ethical production of knowledge?
- 3) **Play:** using materials and technologies commonly found in makerspaces, such as craft supplies, cardboard, illustration tools/software, video-editing software, 3D modeling software, 3D printers, and coding gadgets to reflect upon the barriers commonly seen in community-based research.
- 4) **Connect:** make authentic conversations and connections with colleagues who are keen to unlearn and learn alongside one another,

<p>4) Connect insights to 21st century competencies that are urgently needed to solve problems in a dynamic world</p>	<p>effectively creating a community of inquiry and practice of scholars/practitioners committed to decolonizing research at the university.</p> <p>5) Reflect: how does the creation of community, playing with technologies, and a maker mindset support decolonial modes of knowledge production?</p> <p>6) Articulate: which skills from the “Skills for Success” framework resonate most with your practice and attempts in decolonising research approaches?</p>
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21st CENTURY COMPETENCIES

Innovation & Creativity: Audiences working in higher education contexts rarely get a chance to “play” with materials for “work”! This is an excellent opportunity to be creative and innovate using materials and technologies that may or may not be familiar.

Adaptability: Ethical community-based research requires teams to be adaptable to the timelines and needs of communities. It is imperative that researchers understand that valuing timelines and academic productivity over relationships and people is a violent colonial practice that is too often seen in academia.

Collaboration: Relationships are key to building trust and reciprocity in knowledge sharing and creation.

Digital literacy/fluency: In a post-COVID world, it is even more pertinent that researchers understand the need to use digital technologies to connect with communities, especially those who cannot access the university in a traditional sense due to familiar commitments, geography, class, dis/ability, etc.

- LEARNING GOAL(S)** *I can... I will....*
- 1) Reflect upon one’s norms for research practices and consider how research is inherently colonial;
 - 2) Understand how the dynamics of systemic barriers (historical and contemporary) in universities uphold racism against historically marginalized groups;
 - 3) Learn what a maker mindset is by going through a provocation and challenge in a group setting;
 - 4) Consider how to decolonize community-based knowledge production and research praxis using 21st-century skills, digital technologies, and a maker mindset;

PRIOR KNOWLEDGE
 Participants should be scholars and/or staff person leading and/or supporting research projects.

EQUITY, DIVERSITY, INCLUSION, DECOLONIZATION, ANTI-RACISM (EDIDA) FRAMEWORKS

The central takeaway from this workshop is to understand that knowledge production is inherently colonial. Research production (and universities) are built upon the legacies of extraction, dispossession, and violent acts committed upon Indigenous, Black, and People of Colour. Participants will reckon with the truth that the academy continues to be a systemically inaccessible place for IBPOC people who may also identify as low-income, disabled, or LGBTQIA+. People who come from non-Western countries, speak English as an additional language (or not at all), and those with fewer experiences in higher education (i.e., first-generation students) will also face complex barriers when interacting with the “ivory tower,” whether it is in research processes, student life, and/or in teaching spaces.

Contemporary manifestations of colonial-research models look like:

- 1) Pushing timelines without considering/centering the needs of populations that are to be “studied” or “engaged”;
- 2) Not considering oral storytelling or community-based work (such as attending community-based film screenings, panels, banquets, showcases, gatherings for culturally significant events, etc.) as real “academic” work;
- 3) Including “token” IBPOC people without deeply and meaningfully inviting them to speak at the table;
- 4) Extracting ideas from IBPOC people and co-opting ideas for personal research gains.

Although many will understand this at a meta-cognitive level, fewer will understand how this manifests in their work. A robust maker mentality and an understanding of 21st-century skills (as outlined in the Skills for Success framework) may be useful to help elucidate these gaps. Given that these topics require openness, cultural safety a sense of trust, it is important that the group spend some time to articulate these uncomfortable truths at the beginning.

A final but important note: before proceeding with this workshop plan, I would identify funds to purchase culturally appropriate gifts and pay Indigenous knowledge keepers to offer feedback on this workshop, to ensure that no Indigenous-based knowledge pieces are co-opted and warped into unrecognizable ways.

DIFFERENTIATED INSTRUCTION

What will I do to assist and/or differentiate instruction for individual learners? (Materials, Delivery, Outcome)

In order for the session to go well, it would be useful to identify learners who have had experience conducting community-based research from those who are new but interested in the process. There may be interest in splitting up sessions to ensure those with less experience can learn alongside each other (rather than feel in competition with other faculty who have “already done this.”) Those who may be more seasoned in community-based research may be more interested in incorporating making and maker mindsets as well as 21st-century skills into their work (from team recruitment to project management and nurturing relationships). Faculty who are newer to decolonial community-based research will need more background/historical context regarding the key colonial tenets that uphold research as we know it (and will need more help with understanding how to move away from that).

Also, the facilitator should recognize that “play” may not be perceived as rigorous or serious enough to be incorporated into the academic life/work of faculty. There may be more needed to break the ice, develop trust, and inspire people to play without slipping into critique mode!

Materials

different levels of technologies for making (no, low, mid, and high tech) - ranging from craft supplies to sewing equipment and access to ChatGPT and open resource programs

Delivery

ideally in person, but online sessions can be held to accommodate participants who may need to tune in remotely. Hybrid would not work well for this workshop given that faculty tend to have varying levels of comfort with accessing technologies, and staff support is limited.

ACCOMMODATIONS *Please refer to the Inclusion Guide*

The following accommodations should support a diverse group of faculty members to attend this workshop:

- 1) Explicitly inviting and encouraging IBPOC faculty, especially pre-tenure junior faculty, to join;
- 2) Offering different time/date combinations to suit diverse schedules, for faculty especially those juggling family commitments off-campus;

- 3) Geography/location: considering hosting workshops off-campus in communities where faculty live and/or conduct research;
- 4) Space considerations: booking a space that is welcoming and vibrant, where physical manifestations of the space represent values of inclusion and equity: i.e., access to ramps, washrooms, scent-free facilities, working elevators, wide berths for strollers/wheelchairs;
- 5) Configurations: setting up space into circles (an Indigenous-inspired culturally appropriate way to conduct discussions/nurture relationships).

MATERIALS

- 1) No tech: pens, paper (sticky notes), easels
- 2) Low-mid tech: projector with padlet and/or online whiteboard space like Miro
- 3) High-tech: ChatGPT

WORKSHOP STRUCTURE

INTRODUCTION/MINDS ON

As a pre-assessment (or to establish a baseline of knowledge), facilitators will ask participants to reflect on the critical guiding questions, either individually or in group conversations. Participants will be asked to document these answers in a Padlet. This will be revisited at the end of the session.

The facilitator(s) will offer an authentic land acknowledgment, explicate their positionalities and privilege(s) within the context of the academy, and thank participants for taking the time to join the group (in person or online). The space will be configured in a Talking Circle (as per Indigenous-informed pedagogy) and a Talking stick will be used to ensure that turn-taking and silent listening are practiced.

Secondly, we will spend 10 minutes co-defining a “community agreement.” Brainstorming may occur with no tech (pens/sticky notes) but a padlet may be another useful tool for those who want to visualize things on a larger screen.

For the next 40-minutes:

Ask audience members to pair up. Listen and learn about each other as people. Ask participants to introduce one another to the larger group. Next, the facilitator(s) will introduce the importance of PLAY and connect that with the maker mindset, 21st-century skills (the Skills for Success framework), and the current landscapes of research. An example: introduce the maker mindset and the concept of makification from an Indigenous perspective, using Indigenous Storytelling as a tangible artifact/example.

CRITICAL GUIDING QUESTIONS

Would you consider yourself a maker?

Where and when in your life do you “make” things?

What connections are there between the act of producing an artifact and knowledge production within the academy?

ACTION-LEARNING EXPERIENCES

EXPERIENCE 1 (Provocation/Challenge) - Group 1. Researchers newer to the concept of community-based research.

Provocations:

- [“Adults need recess too.”](#) (News Article)
- [“Nothing about us without us”](#) (2-minute VIDEO)
- [First People’s Principles of Learning](#) (PDF)
- [A Landless Territory: How Do We Articulate Cyberspace Within the Discourse of Indigenous Studies?](#) (UBC Blog)
- [UBC Partnering in Research Report](#) (WEBPAGE)

Challenge:

- Using the materials you see (or any high-tech tools you have on your computer), produce an artifact that represents the impact of your research work on Indigenous communities AND the communities you serve.
- Write an authentic and relevant land acknowledgment that anchors your work to the place(s) you occupy as someone who lives, plays, makes, and works.

Experience 2 (Provocation/Challenge) - Group 2. Researchers who have been involved with supporting or leading community-based research.

Provocations:

- [UBC Partnering in Research Report](#) (WEBPAGE)
- Read the chapter: Theory of Refusal (Grande, 2018)
- Read “Key Messages” and the “Executive Summary (pages 5-6) in the [Learning across Indigenous and Western knowledge systems and intersectionality: Reconciling social science research approaches.](#) (report format, PDF)
- Watch the [ISP Implementation Toolkit](#) video produced by the UBC Indigenous Strategic Plan team. OR, review the ISP Implementation tab on [this website](#). Consider this quote: “It is the responsibility of everyone, not just Indigenous portfolios, to implement the ISP.”

Challenge:

- In groups and using the materials provided (or digital technologies available to you), create an artifact that represents the harms of colonial knowledge production OR create an artifact that represents the gold standard for ethical, reciprocal, community-based research methods.

When or where do you “play”? Do you see the value in play and making in your life? Why did you feel compelled to attend this workshop?

Define your research work in 30 seconds. What do you do, and how might your work impact the local communities you study/serve/see/engage?

How did you become a researcher in your field? Do you come from the communities you study/serve/see/engage, or not? If not, how might you engage people intentionally in your work?

What connections (if any) do you see between the act of making (either physical objects or digital artifacts) and decolonizing research work?

What are the systemic barriers you face in your attempts to engage in community-based research in ethical, decolonial ways?

How might the use of making and/or digital technologies support the communities you study/serve/see/engage?

If you had unlimited resources, how would you design a university system that centers diverse modes of knowledge production (outside of Eurocentric thought processes)?

<p>CONSOLIDATION/CONCLUSION</p> <p>In this final half hour, the facilitator will refer back to the community agreement. They will ensure that the concluding discussion will adhere to the principles established at the beginning. Groups/individuals can reflect on critical guiding questions from the beginning of the session. In groups, participants will share how their thinking has progressed since the start of the session.</p>	<p>Consider your perspective now versus what it was at the beginning of this session. Have you observed a change in your perspective? If so, how will you move through your work now that things have shifted for you?</p>
<p>ASSESSMENT (STRATEGIES, TOOLS) - DIAGNOSTIC, FORMATIVE, SUMMATIVE</p> <p>The main tools for assessment will be facilitated by peers in group discussions. Participants will refer to the answers from the first set of Critical Guiding Questions and share how they've grown over the time of the workshop. Upon reflection, participants will write an authentic, responsible, and relevant land acknowledgment to use in their daily practice (i.e., one to use in their personal research mission statement, e-mail signature).</p>	
<p>EVALUATION OF THE LESSON</p> <ol style="list-style-type: none"> 1) Offer QR code - consider "prototyping" mindset - be open to feedback immediately post-workshop (connecting to Bee's workshop on nurturing prototyping mindsets) 2) Ask these questions in the post-workshop survey 3) Conduct qualitative interviews with willing participants and invite willing participants to iterate the next prototype of the workshop 4) Consider looking at the connections that are made post-workshop (see if folx made connections because of this workshop) 	
<p>REFLECTION:</p> <ol style="list-style-type: none"> 1. Were my participants successful in meeting the learning goals? How do I know? 2. Did my instructional decisions meet the needs of all participants? If not, what are my next steps? 3. What worked well? Why? 4. What will I do differently: <ul style="list-style-type: none"> • When teaching this lesson again? • For the subsequent lesson? 5. What are the next steps for my professional learning? 	

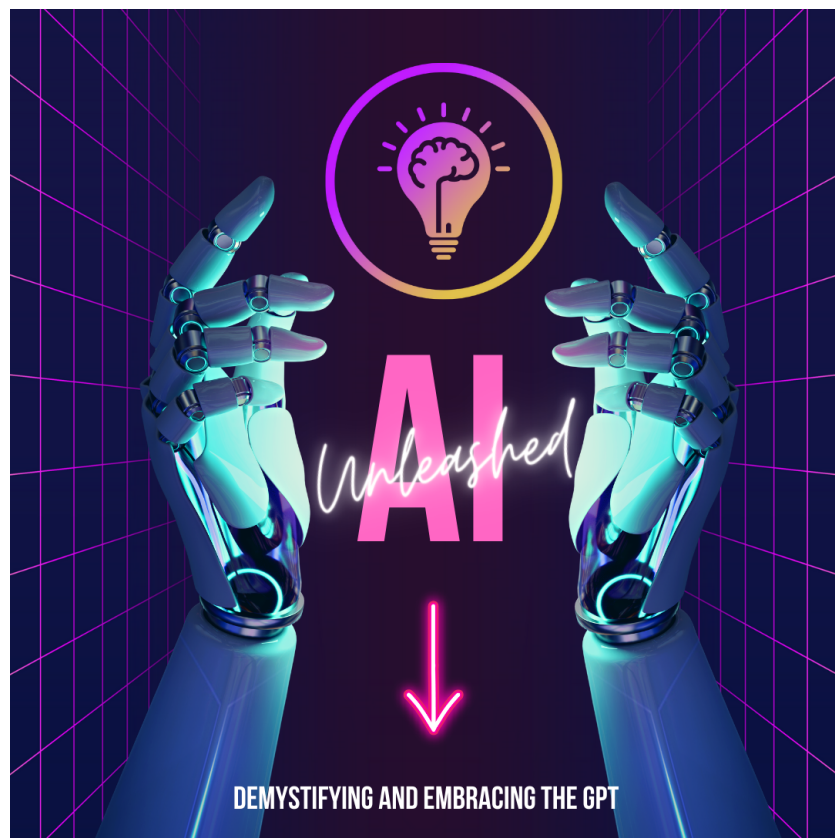
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- Gaertner, D. (2016). *A landless territory? Augmented reality, land, and Indigenous storytelling in cyberspace*. *Learn, teach, challenge: Approaching Indigenous literatures*, 493-98.
- Grande, S. (2018). Refusing the university. In *Toward what justice?* (pp. 47-65). Routledge.

Levac, L., McMurtry, L., Stienstra, D., Baikie, G., Hanson, C., & Mucina, D. (2018). *Learning across Indigenous and Western knowledge systems and intersectionality: Reconciling social science research approaches*. Unpublished SSHRC Knowledge Synthesis Report). University of Guelph.



Workshop 5: AI Unleashed: Demystifying and Embracing the GPT



Creator: Michelle To

Section Contents:

Workshop Overview.....	p. 69-75
Provocation.....	p. 76-78
Challenge.....	p. 79-83

Unleashing AI: Demystifying and Embracing the GPT

DURATION: 150 minutes

NUMBER OF PARTICIPANTS: Multiple groups of 3 participants

BIG IDEAS

With the rise of AI-based applications such as ChatGPT, it is believed that these AI programs could bring different opportunities and challenges for learning and teaching at all levels of education (Shoufan, 2023).

- How are we situating ourselves while we are emerging new AI-based applications in the classroom?
- What are some concerns about implementing AI-based applications as an educational technology?
- What kinds of impact will AI have on the future of work?
- What ethical considerations should be taken into account when using AI in education, and how can we ensure responsible AI usage?
- How might AI be eliciting provocations and prompting to complete challenges?
- How might we incorporate the use of the Large Language Models (LLMs) into the studies of English as Second Language speakers?
- How might AI-based programs facilitate effective learning in the classroom?

CURRICULAR COMPETENCIES

Students will be able to:

- **AI Awareness:** Develop a comprehensive understanding of AI, its application, and its impact on education.
- **AI Strategy and Implementation:** Develop the ability to strategize AI adaptation and integrate the technology into the curriculum.
- **Critical Thinking and Analysis:** Evaluate the benefits and risks of AI adoption, its ethical implications, and potential consequences.
- **Data Literacy and Interpretation:** Enhance the skill of critically understanding and interpreting AI-generated data, recognizing biases, and using these data in an educational context.
- **Digital Transformation:** Understand the role and ability of AI in a broader context of digital transformation, and explore ways to leverage AI to improve students' education and effectiveness in various domains.
- **Adaptability and Continuous Learning:** Embrace a growth mindset as an Adult Educator who teaches adults, and cultivates the willingness to adapt to technological advancements.
- **Collaboration and Cross Disciplinary Communication:** Practice working collaboratively to explore different AI solutions for educational purposes.
- **Responsible AI Usage:** Address issues such as biases, transparency, and academic integrity and promote safety guidelines when using AI.

CONTENT OBJECTIVES

GENERAL OBJECTIVES

The objective of this workshop is to empower adult learners with the knowledge and skills to become familiar with AI technologies and confidently teach

SPECIFIC OBJECTIVES

Throughout this workshop, educators for adults will gain a comprehensive understanding of the GPT (Generative Pre-trained Transformer) model and its

others to use AI effectively and responsibly. Participants will gain a comprehensive understanding of AI concepts, applications, and ethical considerations, enabling them to be proficient users and competent educators in the realm of AI technology.

In this particular workshop, adult learners will be equipped with a comprehensive understanding of the GPT (Generative Pre-trained Transformer) model and its applications, enabling them to effectively utilize GPT and integrate it into their work, research, or creative projects.

applications, equipping them to effectively utilize GPT in their educational context. Through provocations, participants will describe and share their biases and concerns about GPT.

As they complete some hands-on experience, participants will explore the diverse range of GPT applications, such as natural language generation, text completion, dialogue systems, and a research engine. They can gain insights into this model's versatile application. They will be using ChaGPT in creative writing and storytelling. In those activities, they will critically engage with ChatGPT's content creation and they will have a chance to compare and contrast the content that humans created with ChatGPT's content. Participants will learn to fine-tune GPT's content to be more inclusive and more custom in ChatGPT's language generation. Ethical considerations will be one of the central discussion points of the workshop, as they will identify and discuss the limitations and biases in GPT's generated content and develop strategies to address and mitigate them. This can promote responsible AI usage as well as utilizing AI in better educational performance.

By the end of the workshop, participants can understand the mechanism of GPT and be able to some extent integrate GPT into their curriculums/teaching context, whether in content creation, brainstorming, or research. They will understand how GPT can assist and enhance the productivity of human creation. Moreover, participants will be able to utilize GPT as part of their teaching strategies, by empowering their students to utilize these AI technologies responsibly and effectively.

21st CENTURY COMPETENCIES

Participant will be able to develop competencies such as:

- **Critical thinking and Problem-Solving:**
 - Participants will develop critical thinking skills as they explore the GPT models, identifying their biases and limitations.
 - They are encouraged to compare, discuss, and analyze GPT-generated content to their own content.
- **Creativity and Innovation**
 - Engaging with GPT can inspire participants' creativity in storytelling.
 - GPT can elicit participant's creativity on the use of AI technologies.
- **Collaboration**
 - Working in groups of three to four participants can foster teamwork and learn to leverage collective intelligence for enhanced outcomes.

- Understand how to teach their students to work collaboratively with GPT in their educational context.
- Communications
 - Participants will learn to convey their ideas to GPT and how to ask the questions which lead to a desirable answer.
 - GPT helps educators understand and consolidate ideas from AI, and thus better communication while teaching others to use GPT.
- Metacognition and Reflection
 - Considering their own learning processes and strategies, they will reflect on their challenges and applications of GPT, encouraging mindful use of AI technologies.

LEARNING GOAL(S) *I can... I will....*

Participants can:

- comfortably use AI technologies in teaching my graduate or postgraduate classes.
- utilize the GPT in knowledge creation.
- interact with AI technologies using prompts.
- critically engage with ChatGPT.
- use ChatGPT in telling a story.

Participants will:

- understand the ability of ChatGPT in the classroom.
- compare and contrast the results generated from ChatGPT.
- understand the pros and cons of ChatGPT.

PRIOR KNOWLEDGE

- Participants should be familiar with different storytelling strategies.
- Participants should be able to have previous knowledge of AI technologies/GPT.

EQUITY, DIVERSITY, INCLUSION, DECOLONIZATION, ANTI-RACISM (EDIDA) FRAMEWORKS

In this digital storytelling project, we aim to explore the potential of AI-powered language models, in particular using ChatGPT. The challenge in my workshop will be focused on using ChatGPT to create digital storytelling, through the lens of EDIDA to better understand the potential of AI in creation and communication. Participants will engage in hands-on activities, exploring ChatGPT's capability and understanding the mechanism of natural language processing to generate dialogues, narratives, and research data. This interactive digital storytelling activity not only serves as a channel for experimenting with the horizon of AI technology but also encourages participants to critically think and engage with the implications of AI.

In the first two provocations, participants will have already discussed their concerns and biases, received an introduction to ChatGPT, and pre-trained with the potential implication of AI in asking questions. Participants will be given access to ChatGPT and guided through to experience with various prompts. They will explore how ChatGPT responds to different inputs and refine their inquiries to elicit their answer.

In the challenge, participants will be using ChatGPT to create digital storytelling with the provided keywords. Participants will work in small groups, and be advised to write the story with both ChatGPT and on their own, in a specific narrative. They are required to incorporate their story with the following keywords, Reconciliation, Empowerment, Unlearn, Collective Memory, Harmony, Unity, and Respect. Example prompt will be: "In a

world where cultures intertwine, write a story that celebrates the beauty of diversity, with characters from various backgrounds coming together to achieve a common goal.”

Building off each other’s ideas, they will take turns inputting their prompt and extend the story generated with the model. With the EDIDA framework, participants will reflect on the story written by ChatGPT and compare it to their human-written story. They will be prompted to reflect:

- How are the voices being portrayed in this story?
- Whose voices are missing these narratives?
- How was your story different from what ChatGPT has generated?
- What was something that was considered by ChatGPT, but was missing from yours?

Participants will have the opportunity to refine their prompts and re-create their story after their reflective sharing session. They will consider both outcomes which are generated by the model and the group respectively, and compare and contrast the cultural responsiveness of the two stories. Then they will consolidate all ideas in a table, just as in the previous provocation. After completing the table, participants will be guided through a follow-up discussion, on the topic of AI’s position in digital storytelling and in a bigger educational setting. Participants will delve into deeper reflection on leveraging the participation of AI and human input in a project like this, as well as in their own classroom. Their awareness to bridge cultural gaps, and understand diversity and inclusive biases will be raised. Participants will contribute to fostering a more equitable and respectful storytelling practice.

At the conclusion of the activity, participants will work as a group again to complete the digital storytelling by taking the strength from each outcome and putting it into one complete story with an equity, diverse, inclusive, decolonized, anti-racism narrative. The final product will be presented to the whole workshop. Through collaboration and storytelling, participants’ voices and skills will be empowered, and hence will recognize the potential of AI as a tool for amplifying diverse perspectives.

DIFFERENTIATED INSTRUCTION

What will I do to assist and/or differentiate instruction for individual learners? (Materials, Delivery, Outcome)

- Q-Chart
 - In the first two provocations, participants will be guided through factual and interference predictive questions (lower-level Qh-questions)
 - In the challenge, participants will be asked more analytical and synthetical questions which elicit more reflection.
- Scaffolding through step-by-step instructions
- Constructivism and Constructionism
- Reflection, review, and feedback

ACCOMMODATIONS *Please refer to the Inclusion Guide*

- Use small groups: Adult learners might be more conservative when discussing about their struggles
- Options of [no sign-up required GPT model](#)
- Written instruction on worksheet: For our participants to follow through the process. Instead of using a slide deck to present it through the screen, it will be easier for our adult participants to have things written out which they can preview ahead or refer back.
- Technology Fluency: Understanding our participants might be more mature than a normal tech user, the language used in this workshop will be modified and accommodated based on their technology fluency, to avoid any miscommunication and misconception.

MATERIALS	
<ul style="list-style-type: none"> • iPads / Laptops • Instruction worksheet (Printed) 	
WORKSHOP STRUCTURE	
INTRODUCTION/MINDS ON	CRITICAL GUIDING QUESTIONS
<ul style="list-style-type: none"> • Understand individual biases and concerns about GPT • Understand ChatGPT as a translation machine 	<ul style="list-style-type: none"> • What are your concerns about ChatGPT?
ACTION-LEARNING EXPERIENCES	
<p>A) Experience 1 (Provocation):</p> <ul style="list-style-type: none"> • Read this Reddit post. and comment as if you are one of the users commenting. <p>B) Experience 2 (Provocation)</p> <ul style="list-style-type: none"> • Based on your biases and concerns, form some prompts and ask ChatGPT for answers. • Ask specifically on the topic of “academic integrity” and “assessment”? • Draw out a “Compare-and-Contrast chart” <p>C) Experience 3 (Makerchallenge) <i>Part 1:</i> <i>Begin by thinking of a culturally inclusive prompt that embraces diversity and different perspectives. Consider themes that challenge various stereotypes, and cultural diversity, and promote empathy. Participants would create a prompt to ask on ChatGPT as well as write their own story.</i></p> <p><i>Participants will follow the guided questions to identify the reflection and by using another Venn diagram to display the compare-and-contrast of the two stories.</i></p>	<p>A)</p> <ul style="list-style-type: none"> • What would have you commented, if you were one of the commenting users? <p>B)</p> <ul style="list-style-type: none"> • What are your skepticism? • Where did it come from? • Who passed this perception on you? • What kind of questions do you have for ChatGPT? • What are ChatGPT’s points of view on “academic integrity” and “assessment”? <p>C)</p> <ul style="list-style-type: none"> • Whose voices are missing in the story? • Which differences have you noticed in the AI-generated story as compared to the story you have created? • Which missing part in your story was present in the AI-generated story? • Why do you think the AI performs more/less inclusively in their storytelling? • How could you be more inclusive of different voices in your story, perhaps with the help of ChatGPT?

	<ul style="list-style-type: none"> • How would your story be written differently, when you are given this prompt?
<p>CONSOLIDATION/CONCLUSION</p> <p>By the end of this lesson, it is not necessarily that participants will not be skeptical about AI, ChatGPT, etc. It is important that participants will have an opportunity to try out this seemingly alienated technology. Participants critically reflect on this technology and their first-person experience.</p>	<ul style="list-style-type: none"> • Given the two stories created in the process, how might your perception have changed through the process? Why? • How would you describe your feelings after completing this challenge?
<p>ASSESSMENT (STRATEGIES, TOOLS) - DIAGNOSTIC, FORMATIVE, SUMMATIVE</p> <p>Participants will be given a checklist to reflect on their understanding and progress in using AI technology. Participants are also asked to share 2 stars and a wish - share two things that their peers did well and one thing that they can continue to work on with their use of AI technology in their group.</p> <p>Verbal feedback will also be provided by the instructor during the process.</p> <p>At the end of the session, participants will also fill out a Padlet to reflect on their journey in this workshop.</p>	
<p>EVALUATION OF THE LESSON</p> <p>Will participants be more comfortable with using these AI technologies? Will participants be able to create a prompt and utilize AI technology in digital storytelling? Will participants be able to explain the mechanism of incorporating AI technology to their students?</p>	
<p>REFLECTION:</p> <ol style="list-style-type: none"> 1. Were my participants successful in meeting the learning goals? How do I know? 2. Did my instructional decisions meet the needs of all participants? If not, what are my next steps? 3. What worked well? Why? 4. What will I do differently: <ul style="list-style-type: none"> • When teaching this lesson again? • For the subsequent lesson? 5. What are the next steps for my professional learning? 	



THE UNIVERSITY OF BRITISH COLUMBIA

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Master of
Educational
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Program

AI Unleashed - Inclusive Provocation

Adult Educators

Created by: Michelle To

Inclusive Makerspace Provocations

Overview of the provocation

AI technology is one of the intimidating technologies for new technology users, especially for adults. Through this provocation, adult users can identify their barriers to using AI technologies, demystify their concerns, and embrace this AI technology in their educational setting. For adult educators, one of the major concerns of using AI technology is “academic integrity” and “assessment.” Thus, these two particular topics will be discussed in this provocation.

Materials and Resources Required

Materials may include any or all of the following

- Website link and QR code
- Writing instrument / Laptop
- Items

Inclusive Maker Provocation Instructions

Step 1: Based on your knowledge of ChatGPT, biases, and concerns, form some prompts based on “academic integrity” and “assessment,” then ask ChatGPT for answers.

Step 2: Draw out a “Compare-and-Contrast chart” to list out your thoughts on ChatGPT’s answers based on your own answer to the prompts. How has it aligned with your expectations with ChatGPT? How has it outperformed your expectations?

Critical Questions for Consideration

- What are your skepticism?
- Where did it come from?
- Who passed this perception on you?
- What kind of questions do you have for ChatGPT?
- What are ChatGPT’s points of view on “academic integrity” and “assessment”?

Background/ Additional Information

With the rise of AI-based applications such as ChatGPT, it is believed that these AI programs could bring different opportunities and challenges to education. For some adult educators, they are fluent in their field of research but not necessarily in the language of AI technology. It is essential to empower our adult educators to utilize AI technology to bring and integrate the use of AI technology into their curriculum.

Inclusivity Focus

With the EDIDA framework, participants can have the opportunity to focus on their own struggles with utilizing AI technology and reflect individually on the possibility of incorporating it in a professional setting.

By grouping the participants in groups of three, participants can engage in a critically reflective dialogue with the others. Not having to share their own struggles in front of everyone, helps reduce one of the stressors of learning new technologies and overcoming the barrier. Throughout the provocation, there will be many cues and prompts printed on paper as a guide for each participant to follow through. This helps lower the barriers for less tech-savvy participants to easily follow along with the workshop.

Participants who have concerns about the security issues of ChatGPT, also have the option to use a [no sign-in required GPT model](#).

No-Tech, Low-Tech, High-Tech Options

Participants may choose to share their compare-and-contrast chart through paper and pencil or via a collaborative sharing document (i.e., Google Docs, Figma, Miro, etc.). By providing different options for presentation, they can slowly work towards their goal of creating a technology-inclusive education environment.

Extension

You can extend this provocation by having learners consider the Skills for Success in relation to their experiences with technology.



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Overview of the challenge

In this digital storytelling project, we aim to explore the potential of AI-powered language models, in particular using ChatGPT. The challenge in my workshop will be focused on using ChatGPT to create digital storytelling, through the lens of EDIDA to better understand the potential of AI in creation and communication. Participants will engage in hands-on activities, exploring ChatGPT's capability and understanding the mechanism of natural language processing to generate dialogues, narratives, and research data. This interactive digital storytelling activity not only serves as a channel for experimenting with the horizon of AI technology but also encourages participants to critically think and engage with the implications of AI.

Materials and Resources Required

- iPads / Laptops
- Instruction worksheet (Printed)
- Pen and Paper
- Different craft materials: Cardboard, recycled objects, paper, Tape, glue, hot glue gun Markers, pens

Inclusive Maker Challenge Instructions

Part 1:

Begin by thinking of a culturally inclusive prompt that embraces diversity and different perspectives. Consider themes that challenge various stereotypes, cultural diversity, and promote empathy. Participants would create a prompt to ask on ChatGPT as well as write their own story.

In the challenge, participants will be using ChatGPT to create digital storytelling with the provided keywords. Participants will work in small groups, and be advised to write the story with **both** ChatGPT and on their own, in a specific narrative. They are required to incorporate their story with the following keywords, *Reconciliation, Empowerment, Unlearn, Collective Memory, Harmony, Unity, and Respect*. Example prompt will be: "In a world where cultures intertwine, write a story that celebrates the beauty of diversity, with characters from various backgrounds coming together to achieve a common goal."

Building off each other's ideas, they will take turns inputting their prompt and extend the story generated with the model. With the EDIDA framework, participants will reflect on the story written by ChatGPT and compare it to their human-written story. They will be prompted to reflect:

- How are the voices being portrayed in this story?
- Whose voices are missing these narratives?
- How was your story different from what ChatGPT has generated?

- What was something that was considered by ChatGPT, but was missing from yours?

Part 2:

Participants will follow the guided questions to identify the reflection and use another Venn diagram to display the compare-and-contrast of the two stories.

Participants will have the opportunity to refine their prompts and re-create their story after their reflective sharing session. They will consider both outcomes which are generated by the model and the group respectively, compare, and contrast the cultural responsiveness of the two stories. Then they will consolidate all ideas in a table, just as in the previous provocation. After completing the table, participants will be guided through a follow-up discussion, on the topic of AI's position in digital storytelling and in a bigger educational setting. Participants will delve into deeper reflection on leveraging the participation of AI and human input in a project like this, as well as in their own classroom. Their awareness to bridge cultural gaps, and understand diversity and inclusive biases will be raised. Participants will contribute to fostering a more equitable and respectful storytelling practice.

Challenge Objectives

Upon completing this challenge, participants will be able to:

- Critical thinking and Problem-Solving:
 - Participants will develop critical thinking skills to compare, discuss, and analyze GPT-generated content to their own content.
- Creativity and Innovation
 - Engaging with GPT can inspire participants' creativity in storytelling.
 - GPT can elicit participant's creativity on the use of AI technologies.
- Collaboration
 - Working in groups of three to four participants can foster teamwork and learn to leverage collective intelligence for enhanced outcomes.
 - Understand how to teach their students to work collaboratively with GPT in their educational context.
- Communications
 - Participants will learn to convey their ideas to GPT and how to ask the questions which lead to a desirable answer.
 - GPT helps educators understand and consolidate ideas from AI, and thus better communication while teaching others to use GPT.

Critical Questions for Consideration

- Whose voices are missing in the story?
- Which differences have you noticed in the AI-generated story as compared to the story you have created?
- Which missing part in your story was present in the AI-generated story?
- Why do you think the AI performs more/less inclusively in their storytelling?

- How could you be more inclusive of different voices in your story, perhaps with the help of ChatGPT?
- How would your story be written differently, when you are given this prompt?

Background/ Additional Information

[AI in Education - Opportunities and Challenges](#)

This video by Reid from UBC Geering Up, explains how ChatGPT helps in multiple fields in education. For instance, brainstorming, bringing conversations, training technical skills, and fostering writing. Sometimes we might experience barriers in the field that we are learning, and ChatGPT is one of the helpers for us to overcome our barriers. ChatGPT understands natural language and simple language; this helps many people who struggle with asking



questions to learn to ask a question and learn from the question asked. For example in the case of learning to code: other than physical barriers (i.e. no tools, internet, etc.), we might have some knowledge barriers (i.e. unfamiliar with coding language, in some marginalized groups that are unwelcoming to try and learn, inadequate resources, time, language barriers etc.).

However, with artificial intelligence like ChatGPT, even if we do not understand the coding language, we can still ask ChatGPT to generate the coding through ChatGPT by asking it, “Write me a P5.JS code which shows a RED moving square.” ChatGPT then creates codes based on your prompts and identifies the bugs. In the modern era, computers are a medium of creation, rather than a barrier to creation. Furthermore, ChatGPT can act as a translation machine that translates both human and computer language into easier language to understand. It serves as a bridge between humans and computers.

Some educators, especially adults, are uncomfortable about this rising notion, and are skeptical that it might degrade our thinking and functioning. ChatGPT is an artificial intelligence and a language model that is capable of generating human-like text based on given prompts. Through it, we can extend to do what we normally cannot do.

This digital storytelling challenge provides an innovative method to explore the potential of ChatGPT in consolidating information, creative writing, and inclusive storytelling. This challenge aims to demystify the biases which educators have for their students using ChatGPT for their assignments and empower participants to foster a culture of partnering with ChatGPT as a helper for their students, to bring out the maximum potential of their students under the EDIDA framework.

Inclusivity Focus

- Use small groups: Adult learners might be more conservative when discussing about their struggles
- Options of [no sign-up required GPT model](#)

- Written instruction on worksheet: For our participants to follow through the process. Instead of using a slide deck to present it through the screen, it will be easier for our adult participants to have things written out which they can preview ahead or refer back.
- Technology Fluency: Understanding our participants might be more mature than a normal tech user, the language used in this workshop will be modified and accommodated based on their technology fluency, to avoid any miscommunication and misconception.

No-Tech, Low-Tech, High-Tech Options

No Tech:

Participants have the option to write out their compare-and-contrast Venn diagram on paper and present it to the group.

Low Tech:

Participants have the option to utilize different craft materials to represent their observations. They can present their challenge in different multimedia documents.

High-Tech:

Participants can utilize other online collaborative platforms (such as Google Documents, Miro, Figma, Padlet, etc.).

Extensions

They can use Twine to recreate the finalized story (the combination of their own story and ChatGPT-generated story) as an interactive presentation. In different steps throughout the story, prompts can be asked to review the diversity and inclusiveness of the story, to empower participants to always critically engage with the voice of the story. This is a reminder to participants that they should always bring a critical lens while using ChatGPT.