# AI and Digital Literacy Teaching and Learning Story

| TASK DESIGN | |
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| **Learning Experience Title** | *Ethics of Generating AI Images of BC First Peoples and Local Indigenous Art* |
| **Grade** | 12 |
| **Learning Area(s)** | BC First Peoples 12 |
| **Curricular Competencies** | <ul><li>Using appropriate protocols, interpret a variety of sources, including local stories, or oral traditions, and Indigenous ways of knowing (holistic, experiential, reflective, and relational experiences and memory) to contextualize different events in the past and present (evidence)</li><li>Make reasoned ethical judgements about actions in the past and present, and assess appropriate ways to remember, reconcile or respond (ethical judgement)</li></ul> |
| **Links to Core Competencies** | Personal and Social<ul><li>Personal Awareness and Responsibility</li><li>Social Awareness and Responsibility</li></ul> |
| **Links to First Peoples Principles of Learning** | <ul><li>Learning involves recognizing the consequences of ones actions</li><li>Learning recognizes the role of Indigenous knowledge</li><li>Learning involves recognizing some knowledge is sacred and only shared with permission and/or in certain situations</li></ul> |
| TASK SUMMARY | |
| Students selected and prompted a generative AI platform to create images of either Indigenous people or Indigenous art. Students adjusted and tracked their prompts to generate images multiple times, using different prompts each time.<br><br>Students analysed the generated images considering aspects such as stereotypes, generalizations, accuracy, appropriate protocols, and permission. They made ethical judgments based on their experience using image-generation AI platforms. | |

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| LEARNING STORY |
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| **PLANNING** |

Students require access to different generative AI platforms and some background knowledge of:

- First Peoples Principals of Learning.
- Indigenous worldviews (connection to land, interconnectedness, oral traditions, role of elders, creation stories, artistic expression).
- interpreting stereotypes and media portrayals of Indigenous peoples.
- an ethical judgement framework in social studies.
- regional differences in Indigenous art and culture from British Columbia First Nations.
- digital literacy skills to sign up for an AI image generator using a school email address. These skills include proficiency in word processing, utilizing the Teams application, and the ability to save, copy, and paste images.

To access AI platforms, users need to log in with an email address. We utilized district email addresses along with district-approved devices and obtained district approval for this process.

| **TEACHING** |
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Instruction for this lesson began with an introduction to worldviews and the understanding that BC First Nations are 'Nations,' akin to countries, with some exercising self-governance. All Nations in BC are unique, having distinct cultures, languages, customs, and traditions.

Students participated in a short 'how to' lesson on how to use AI to generate images.

Formative assessment methods were incorporated throughout the lesson, such as checking for understanding, troubleshooting access issues, and varying the prompts used for AI.

Some students were able to move from one topic to the next with great understanding, others needed more time and guidance. To prepare the class for the task of using AI, sufficient background understanding was required.

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**TEACHING CONTINUED**

To facilitate summative assessment, students were provided with rubrics and reflective sentence starters.  These tools helped students demonstrate their learning.

After presenting AI image generation to the class, students found using AI to be the easiest part of the lesson due to the intuitive nature of the platforms.

Overall, most students did not have technical issues with access to the AI platforms. However, given that these are new types of technology, frequent bugs and errors can be expected.

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**Fig. 1 (sentence starters for student reflection)**

Prompts to help you start:
- Using AI to generate images is unethical because…
- Using AI to generate images does not embody specific cultural values because…
- Using AI to generate images does not promote indigenous knowledge sharing because…
- Using AI to generate images does not promote understanding of cultural narratives because…
- Using AI to generate images is damaging to indigenous cultural revitalization because…
- Using AI to generate images does not demonstrate regional artistic differences… therefore…
- Using AI to generate images produces images that have generalizations/ stereotypes, therefore…
- Using AI to generate images is not respectful of …
- Using AI to generate art does not involve the band or tribe, as a result…
- Using AI to generate art removed the _____ process, therefore…

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**Fig. 2: Ethic framework to guide student understanding and interpretation**

Ethics
- **Respect for Indigenous Cultures:** Students should understand and respect the cultural significance of First Nations artwork and representations. Indigenous cultures often have deeply rooted spiritual, historical, and communal meanings attached to their art. Using AI to generate images of Indigenous people and their artwork without proper understanding or respect for these cultural aspects can be seen as disrespectful and insensitive.
- **Authenticity and Representation:** AI-generated images may not accurately represent the diversity and nuances of Indigenous cultures. Students should critically assess whether AI-generated images uphold the authenticity and diversity of First Nations' identities, rather than perpetuating stereotypes or misconceptions.
- **Informed Consent:** Students should consider whether the use of AI-generated images of Indigenous people and their artwork respects the principles of informed consent. In many cases, Indigenous communities may have specific protocols or customary laws regarding the use of their cultural expressions and images. It's important to seek permission or consult with relevant Indigenous representatives or organizations before using AI-generated images in educational or other contexts.
- **Cultural Appropriation:** Students should be aware of the concept of cultural appropriation and its implications. Cultural appropriation occurs when elements of a marginalized culture are adopted or exploited by members of a dominant culture without proper understanding, respect, or acknowledgment. Using AI to generate images of First Nations and their artwork without appropriate cultural context or acknowledgment of the source can contribute to cultural appropriation.

**The Ministry's ethical considerations for teachers and school and district leaders, can be found in the** Considerations for Using AI Tools in K-12 Schools (PDF) **document**.

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**STUDENT A**

**TEACHER OBSERVATIONS AND STUDENT WORK**

After students had used AI to generate images of local First Nations and completed a detailed analysis, the students wrote a reflection.

**The following reflection was assessed as Extending:**
"Using AI, it was clear to see how misleading AI generators can be. Using AI to generate images does not promote a proper understanding of cultural narratives because of the false information it can provide. Artificial Intelligence, something that is held to such a high standard, can be easy to believe the answers it gives, though, it is not as intelligent as it may seem. Indigenous cultures have been fighting against stereotypes and false information for many years the media painted their version of Indigenous people and culture, assuming things with little understanding that they had, giving the audience assumptions and not real facts. By using AI, it created answers based solely off of stereotypes with zero accuracy or very little accuracy as well as grouping all Indigenous people together even though there are many different Nations with different views and perspectives. Asking AI to generate images about Indigenous people, it was able to create parts of truth but not necessarily the full truth, it gave generalised answers. Focusing on Indigenous art with some specifics it still gave a generic image, same use of colours and details, no stories or references behind the images. I have learned how inaccurate AI can be, I can understand how much websites and other research can be built around misleading data and how it can lead to ethical issues be coming more prominent."

**The following reflection was assessed as Proficient:**
"Using AI to generate Indigenous art does not accurately represent the works of First Nations and their traditions. Using AI in this way is unethical because these depictions don't show the authentic processes and traditional ways Indigenous art has been created, instead using different patterns, shapes, and colors different from their authentic counterparts. The art styles of the images generated using AI are not very accurate to the Nation's style stated in the prompt it was given. "

**Teacher reflections**
Helpful tech tips for AI platform usage:

- Make sure students know their school login credentials.
- Different platforms have different methods for login and different login pages for their AI. Provide direct links for login whenever possible.
- Sometimes AI generators would give the following message: 'unable to complete what you ask, because it breaks rules for our platform'. In this case:  try restating/ rephrasing the prompt. (These 'rules' were inconsistent as some students did not have any issues with identical phrasing.)
- Deleting cookies on school devices allowed for better access
- Changing internet browsers solved many login / viewability problems with the AI platforms.
- Restarting the device can be helpful for older devices.

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| STUDENT B |
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| **TEACHER OBSERVATIONS AND STUDENT WORK** |

Two students recorded their AI image generation prompts and analysis of stereotypes and ethical judgement of generating art and images. Both students were assessed as Proficient.

**Student #1**

| Prompt: | Image | Stereotypes/ Generalizations | Accuracy |
| --- | --- | --- | --- |
| "Kwakwaka'wakw first nations Mask art" |  | - looks intimidating<br>- warrior-like | - These people focused more on circular masks or transformative masks |
| "Totem pole from the First Nations of Okanagan" |  | - this image used two sets of wings rather than the single ones seen on regular totems<br>- lack of shape; all in one straight line. | - shows "too much", and too little<br>- background is usually filled with vegetation or forest |
| "Drum from coast Salish first peoples" |  | - larger than the usual drum used by the peoples<br>- lazy; no artwork on the skin of the drum | - no artwork<br>- not handheld |

**Student #2**

| Prompt | Image | Accuracy | Stereotypes/ Generalizations | Ethics |
| --- | --- | --- | --- | --- |
| "Give me an image of a Katzie woman" |  | Not accurate at all. Due to other testing I know it knows who the Katzie are.<br>I mean one of the pictures aren't even human. | They all seemed to be based off the American plains Hollywood stereotypes. With a little bit of Disney thrown in.<br>Their skin is looks sun burnt in some and they all wear the same style of traditional clothes that I have never seen a Katzie person wear. | If this is what some clueless person saw as what the Katzie first peoples looked like, I have no doubt they'd believe it. It plays off of stereotypes just enough to get the idea across with out being overtly racist. |

> **Teacher reflections**
> This lesson was successful and easily adapted for different age groups and courses, allowing for differentiated instruction to meet the varying learning needs of students. For example, it could be simplified by narrowing the focus of the lesson to either 'appropriate tools and usage' or 'accuracy and authenticity'.