

Supplementary material for
Braiding Indigenous Knowledge Systems and Western science
through co-creation and co-teaching.

Thomas J. Jones, Glyn Williams-Jones, Harry Nyce Jr.

Correspondence to Thomas J. Jones
Email: thomas.jones@lancaster.ac.uk

This PDF file includes:

- Supporting text
 - Pre-course survey questions
 - Post-course survey questions
 - Full set of course learning objectives

Supporting Information Text

Pre-course survey questions

How old are you?

- ☐ Under 18 years
- ☐ 18 – 24 years
- ☐ 25 – 34 years
- ☐ 35 – 44 years
- ☐ 45 – 54 years
- ☐ 55 – 64 years
- ☐ 65 – 74 years
- ☐ 75 years and older

Which gender do you most identify with?

- ☐ Man
- ☐ Woman
- ☐ Non-binary/ Third gender
- ☐ Prefer not to say
- ☐ Prefer to self-describe (detail below):

What ethnic and cultural origin do you identify with? (Check all that apply)

- ☐ Indigenous origins (First Nations, Métis, or Inuit)
- ☐ North American origins
- ☐ Latin, Central and South American origins
- ☐ Oceania origins
- ☐ Caribbean origins
- ☐ European origins
- ☐ Asian origins
- ☐ African origins
- ☐ Prefer not to say
- ☐ Other ethnic and cultural origins

Display This Question:

If What ethnic and cultural origin do you identify with? (Check all that apply) = Indigenous origins (First Nations, Métis, or Inuit)

Which Indigenous Nation do you belong to?

What is your current student status?

- ☐ Undergraduate student, please add the number of credits completed in the text box below

- ☐ Masters student

- ☐ PhD student

- ☐ Other: _____

Have you taken a course with the WWNI before?

- ☐ Yes
- ☐ No

To allow us to do some geographical analyses, please provide the first three characters of your postal code or town name including province **where you were born**

To allow us to do some geographical analyses, please provide the first three characters of your postal code or town name including province **where you live now**

How did you hear about the course?

Have you ever conducted fieldwork before?

- ☐ Yes
- ☐ No

Display This Question:

If Have you ever conducted fieldwork before? = Yes

Please provide details of your previous fieldwork

For each of the following subject areas, rank the amount of formal training you have received. Where 0 is no formal training, 1 is pre-university training, 2 is minor university training (e.g., 1 or 2 courses), 3 is subject/degree major.

	0: no formal training (1)	1: pre-university training (2)	2: minor university training (e.g., 1 or 2 courses) (3)	3: subject/degree major (4)
Indigenous studies	☐	☐	☐	☐
Social Science	☐	☐	☐	☐
Humanities	☐	☐	☐	☐
Volcanology	☐	☐	☐	☐
Earth Sciences	☐	☐	☐	☐
Physical science (e.g., maths, engineering, physics, chemistry)	☐	☐	☐	☐

What is your level of Indigenous Knowledge?

What interests you about Indigenous Knowledge?

Why did you decide to enrol on this course? Please elaborate as much as possible

Please list your reasons for taking an Indigenous Knowledge course

What are you most looking forward to in the course? Please rank in order, where 1 is most excited for, 4 the least:

- Fieldwork
- Indigenous studies/knowledge
- Volcanology science
- The mixture of and co-teaching of volcanology and Indigenous studies

Is there anything we have missed from the above list? If yes, where would you rank it?

☐ No

☐ Yes

Please tell us what you want to get out of the course **personally**

Please tell us what you want to get out of the course **for your current or future career/job**

Post-course survey questions

The course met my expectations

- ☐ Strongly disagree
- ☐ Somewhat disagree
- ☐ Neither agree nor disagree
- ☐ Somewhat agree
- ☐ Strongly agree

The assessments/assignments were a fair test of my knowledge and ability

- ☐ Strongly disagree
- ☐ Somewhat disagree
- ☐ Neither agree nor disagree
- ☐ Somewhat agree
- ☐ Strongly agree

Overall, I was satisfied with the course

- ☐ Strongly disagree
- ☐ Somewhat disagree
- ☐ Neither agree nor disagree
- ☐ Somewhat agree
- ☐ Strongly agree

Please list up to three strengths of this particular course

What will you do differently now you have attended the course?

Regarding Indigenous Knowledge, what will you seek further?

If you had to change one thing about the course what would it be?

Learning objectives for course components

Nisga'a Origins, Ayuukhl Nisga'a Volume I

- Describe Nisga'a Ontology and Nisga'a Epistemology
- Explain Ayuukhl Nisga'a
- Describe Nisga'a Cultural Institutions

Nisga'a Volcano Story

- Describe the Nisga'a perspective of the volcanic eruption
- Explain the eruption events
- List the post eruption information

Indigenous Knowledge

- Describe some of the elements of Indigenous Knowledge Systems
- Explain how Indigenous Knowledge Systems can work with Scientific systems
- Describe how Indigenous Knowledge Research benefits Indigenous peoples

Classifying volcanic eruptions and their landforms

- Explain why volcanoes and their landforms are classified
- Outline the different classification schemes commonly used and how classifications are determined
- Evaluate the positives and negatives of the different schemes

Canadian volcanoes, tectonic setting, magma reservoirs

- Where are Canadian volcanoes located and how do they relate to plate tectonics
- Describe the types of volcanoes we see and what makes them different to US volcanoes
- Explain the connection between volcano type and subsurface magma supply

Lava flows

- Outline the different types of lava flow morphology and appearance that occur across the compositional spectrum
- Describe how lava flows and explain the factors controlling their propagation
- Outline the hazards associated with lava flows
- Evaluate how lava flows can change during transport

Magma fragmentation and eruption columns

- Outline the differences between explosive and effusive eruptions and their associated hazards
- Describe and evaluate how magmas break
- Outline the key features of an explosive eruption column
- Evaluate how eruption columns can be unstable and describe the consequences

The Sii Aks eruption sequence and field trip briefing

- Describe how the Sii Aks (Tseax) eruption progressed through its duration
- Describe the physical products produced and associated eruption processes
- Evaluate how these physical features provide insights on the sequence of events

Sii Aks Volcano Field Trip (Full day excursion to the pyroclastic cone and lava flows)

- Identify the locations of events and ancient communities
- Describe the events that occurred in the lead up to the *Sii Aks* (Tseax) eruption
- Distinguish between the products of explosive and effusive volcanism and outline their key physical attributes
- Evaluate how volcanic eruption products interact with the local environment

Exercises based on field trip data collected

- Conduct fieldwork and synthesise your observations and findings into sketches, quantitative datasets, and a written field report
- Discuss the evidence (from Adaawak and Volcanology) of the eruptive sequence and evaluate its implication for community members living there at the time

Monitoring volcanoes and their hazards

- Outline the range of volcanic hazards and those most likely to see in Canada
- Describe how volcanoes can be monitored and the challenges of doing this in Canada
- Explain the implications for forecasting eruptions and possibility of mitigating hazards impacts