

How First Peoples Traditional Storytelling Can Be Used as a Strategy to Improve Literacy in the STEM Classroom

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Who Am I?

- From where do I come?
- Who are my family?

A stylized landscape illustration featuring rolling green hills in the foreground, a small tree with a purple and pink canopy on the left, and blue wavy bands representing hills or clouds in the background. The text is positioned on the right side of the image.

How Did I Get Here?

- *Student teacher*
- *TRU's first B.Ed. STEM Program*

Acknowledgement

- Weyt-kp. Thompson Rivers University is located on the traditional and uncaded territory of the Secwépemc Nation within Secwépemcul'ecw.
- We, at TRU, acknowledge and give honour to the Secwepemc — the ancestral peoples who have lived there for thousands of years — upon whose traditional and uncaded land Thompson Rivers University is located. The Secwepemc maintain a spiritual and practical relationship to the land, water, air, animals, plants and all things needed for life on Earth. It is with that in mind that we owe this debt of gratitude.

TRU Dedication

- Thompson Rivers University is dedicated to Indigenous student success, to fostering meaningful relationships with Indigenous communities and to promoting Indigenous knowledges and scholarship. Through collaboration, innovation, respect, and humility, the university fosters a welcoming environment that is grounded in the principles of reconciliation and is able to address the calls to action placed on everyone in this country.

Truth and Reconciliation Commission of Canada – Calls to Action

#10. We call on the federal government to draft new Aboriginal (i.e. First Nations, Métis, and Inuit) education legislation with the full participation and informed consent of Aboriginal peoples that would incorporate the following principles:

- ii. Improving education attainment levels and success rates
- iii. Developing culturally appropriate curricula



New BC Curriculum

British Columbia's K-12 Curriculum has recently been redesigned & in answer to the Calls to Action, Aboriginal Perspectives & Knowledge have been embedded into it. Guided by the voices of Aboriginal people, BC's education transformation has a goal of improving school success for Aboriginal students and ensuring that Aboriginal content is part of the learning journey for *all* students.



B.Ed. STEM Program

Literacy Across the Content Areas – Gloria Ramirez

Aboriginal Culture & Learning – Roxane Letterlough

Lisa Andrykew

Lisa grew up in Revelstoke, BC and has resided in Kamloops, BC for 12 years. She is currently completing her Bachelor of Education with a teachable in Chemistry. Lisa identifies as Metis and has ancestry linking back to Batoche, Saskatchewan. Lisa is a performer and instructor of Metis cultural dance and has taught people of all ages the art of Metis jigging.



What is First Peoples Traditional Storytelling?

- First Peoples traditional storytelling is the verbalization of a legend, folktale or experience that contains a lesson or analogy that is passed down from one generation to the next, usually by an elder in an effort to impart values, beliefs, morals, history, or life skills
- Oral narrative or storytelling is a traditional Aboriginal teaching tool that comprises an integral component of Aboriginal epistemology.

Why Incorporate Storytelling?

- Not only is storytelling familiar and culturally relevant to Aboriginal children, the mastery of such narrative capabilities is critical to cognitive and literacy development in children of all cultures.
- Storytelling activates prior knowledge allowing students to make connections between curricular content and their own personal experiences.

Storytelling as a Strategy to Improve Literacy

- First Peoples traditional storytelling can be used as a strategy to improve literacy in the STEM classroom by enhancing both spoken and written language,
- by promoting a deeper reading comprehension and understanding of scientific topics,
- and by illustrating concepts through meaningful and transformative interactive activities.

Develops Use of Decontextualized Speech

- As a precursor to written texts, the skills established in the production of an oral narrative develop the use of decontextualized speech (i.e using explicit vocabulary, appropriate pronouns, and temporal connectives) which can then be transformed into the written word.

Oral Then Written

- When students are provided with an opportunity to convey the essence of a story or concept orally, a mode in which they are already comfortable, they are then more readily able to engage in the more challenging task of recounting the story using written text.
- Practicing storytelling orally first and then writing stories as the next step is beneficial for all learners including students with exceptionalities and language barriers as it helps students develop language for writing.

Storytelling Before Writing

- Studies have demonstrated that the use of storytelling as a pedagogical strategy strengthens vocabulary acquisition, eloquence, and content recollection.
- Storytelling prior to writing serves to positively impact students' selection of language, story structure and organization, understanding of target audience, and clarity of the story's intended purpose.
- Subsequently, students are able to transfer their skills in narrative writing to other more analytical forms.

Incorporating Essential Elements

The use of storytelling demonstrates to students the manner in which essential elements such as:

- point of view
- plot
- style
- characters
- setting and
- theme

are incorporated into narrative, preparing them for writing their own stories.

Strategy for Reading Comprehension

- First Peoples traditional storytelling can be used as a strategy to promote reading comprehension and a deeper understanding of scientific topics by providing meaningful connections between abstract concepts and personal experiences through a metaphoric interrelated holistic approach wherein each new unit, concept, or theme is viewed as an opportunity to make new connections.

Creates Relationship to Real-Life

- First Peoples use story as analogy to explain relationships between people and the natural world.*
- When students can relate new information to real-life examples, prior knowledge is activated and the motivation to learn is increased.*

Fosters Active Engagement

- When a lesson is opened with a story, students become more engaged and begin to develop deeper understandings.
- This active engagement can strengthen reading comprehension enabling students to make sense of text and derive meaning from a story.

A Story Told is More Impactful than a Story Read

- Studies have shown that a story that is told to students is more memorable than a story that is read to students.
- Students who are told a story can recall more details related to the plot, characters, and setting when compared to students who are read a story because the storyteller employs expressive and increased eye contact, movements and gestures, repetition, and changes in intonation that actively engage the audience.

A Journey Together

- Teaching through the use of engaging, creative, and entertaining stories makes more of an impact than simply sharing facts.
- Through storytelling the listener has an opportunity to go on a journey with the teller emerging with new insights and understandings.

Interconnectedness

- Central to Aboriginal understanding of the nature of knowledge is a recognition that all things in the world, be they animate or inanimate, possess spirit and are interconnected to form the whole.
- Education, therefore, becomes the process of understanding the entwined interconnected relationships of all life.

Personification of Inanimate Content

- Additionally, many indigenous languages are verb-based rather than noun-based (e.g., the Maliseet word/verb for moon is *nipawset*, or “walks at night” and the Secwépemc word *Secwepemctsín* literally means “knowing the land”).
- Building on this tenet, the personification of inanimate content through storytelling in the classroom serves to indigenize the lessons bringing the curriculum to life for all learners.

Enhances Classroom Culture

- Since oral language is improved through social interactions and collaboration, encouraging students to take turns telling assigned or experienced stories in pairs or small groups benefits all learners and helps build trusting relationships within the classroom.

Storytelling Teaching Activity for the Sciences

- The teacher tells a story introducing “characters” related to a scientific concept.
- The teacher goes over vocabulary and repeats important information.
- The teacher makes connections to curricular content and scaffolds with more detailed scientific information.
- The students retell the story to each other in pairs.

Storytelling Teaching Activity for the Sciences

- The teacher provides the opportunity for students, in pairs, to graphically illustrate connections, and to practice summarizing or acting out the scenario.
- For their assignment, students, in pairs, research a scientific topic and create a written story or skit to explain it. The story can relate to personal experiences or it can be a tale that is made up.
- Students practice reading their stories or performing their skits in pairs.
- Students present their skit or story to the whole class.

Protocols – From Roxane Letterlough, Aboriginal Culture & Learning Professor

- Introduce yourself
- Share where you come from and who your family is
- Begin to build a relationship with the audience
- Share how, from whom, and why you learned the story
- Indicate your “rights” to the story (Not everyone can tell certain stories...some stories are sacred)
- Every time the story is told may be different
- Different parts of the story may be left out

Peace Treaty with the Mi'max'inuxw – The Killer Whales''

- This story is about a peace treaty between the Kwakwaka'wakw people of Village Island and the killer whales of the Johnstone Strait.
- Permission granted for the telling

PEACE TREATY WITH MI'MAX'INUXW - THE KILLER WHALES





Pre-teaching connects Environmental Science 11 Big Ideas

- 1) Complex roles and relationships contribute to diversity of ecosystems,
- 2) Human practices affect the sustainability of ecosystems, and
- 3) Humans can play a role in stewardship and restoration of ecosystems.



Connect Story to Big Ideas

This story demonstrates how First Peoples ecological knowledge sustains biodiversity and how human actions can impact ecosystem integrity.

Curricular Competencies

This story also highlights several curricular competencies, such as:

- 1) assessing risks and addressing ethical, cultural, and environmental issues,*
- 2) experiencing and interpreting the local environment,*
- 3) applying First Peoples perspectives and knowledge, other ways of knowing, and local knowledge as sources of information,*

Curricular Competencies (cont'd)

- 4) analyzing cause-and-effect relationships,*
- 5) contributing to finding solutions to problems at a local level through inquiry, and*
- 6) implementing strategies to solve problems in real-life.*

Cross-curricular Connections

Peace Treaty with the Mi'max'inuxw'' connects cross-curricularly to content taught in Science For Citizens 11 relating to how human actions and decisions can impact Earth's natural resources and affect the local and global environment, including those of First Peoples.

Cross-curricular Connections

In addition, it connects to content areas found in Explorations in Social Studies 11, such as,

- 1) natural resource use and its effect on local and regional development,*
- 2) systems of power and governance in global cultures, and*
- 3) sacred texts, traditions, and narratives of cultures.*

Adaptability

- This story can easily be incorporated into the classroom as it transcends and connects curricular content in many different subjects and is easily adaptable across numerous grade levels.

Conclusion

First Peoples traditional storytelling can be utilized in the classroom as an effective pedagogical strategy to improve student competency in spoken language, reading comprehension, and the written word.

Incorporating storytelling into the classroom builds a culture that is supportive, allowing students to become more comfortable and confident in verbalizing assigned or experiential stories related to scientific topics or authentic real-life situations.

Conclusion (cont'd)

- The use of storytelling enhances students' listening comprehension abilities and increases their competence in composing a well-structured story.
- The integration of graphic, oral, and written modalities, as in the activity example above, has been shown to maximise learning.
- Most importantly, storytelling is a strategy that crosses subject boundaries and is universally designed to help all learners succeed in literacy.



Thank you!

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WISE OWL

- *A Story from the People of the Eastern Woodlands*
- *Retold by Spencer Morran & Heather Graffunder*

<https://bit.ly/2OEdM8W>



Curricular Connections

- *Biology – evolution*
- *Math – equal vs. equivalent*
- *Core Competency – patience, gratefulness*