

Sqigwts.org

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Title: *Sqigwts.org*: An Interdisciplinary Approach Identifying and Conveying Indigenous Knowledge and Practice through an Interactive 3-D Landscape to Address Climate Change.

The Background: *Sqigwts.org* is a “proof-in-concept,” interactive 3-D Landscape project, developed through an interdisciplinary collaboration between members of the Coeur d’Alene Tribe, including elders, and cultural and language experts, and members of the University of Idaho, including faculty in ethnography, natural resources, data management, and virtual world design. Funding was provided by the Department of the Interior Northwest Climate Science Center and the USGS National Climate Change and Wildlife Science Center.

This project was initiated and completed using a best-practices research protocol, including a legal agreement that protects the intellectual property and traditional knowledge of the Tribe, while providing an avenue for collaborative research. Acknowledging the Tribal sovereignty of the Coeur d’Alene, and as the project involved “culturally sensitive” information, only after a thorough review by the Tribe could the project’s cultural content be publically disseminated. It was approved on September 9, 2015 by the Coeur d’Alene Tribal Council.

The Coeur d’Alene call themselves the Schitsu’umsh, the “ones that were found here,” in reference to *Chatcolet* “Lake Coeur d’Alene” and to the creation story that places them at this lake. It is from the waters and soils of this lake that one of their traditional root foods has flourished and has nourished, known as *sqigwts* “water potato” *Sagittaria latifolia*. The Coeur d’Alene Cultural Committee was asked which plant or animal species to focus its research and the committee selected *sqigwts*, so closely associated with Tribal identity.

The Objectives: The overall objective of this project is to demonstrate the relevance of indigenous knowledge/practice that, in consort with scientific knowledge, it can offer unique insights addressing issues associated with climate change. To accomplish this objective, the team had to first identify and **describe** the Schitsu’umsh knowledge and practice. Second, the team needed a means to render Schitsu’umsh knowledge and practice **accessible** and meaningful to USGS climate scientists, as well as for high school students and for the general public, all of which needed to retain Schitsu’umsh meaning. Third, the team needed to **identify** any Schitsu’umsh knowledge and practice insights that might be applicable to issues associated with climate change.

The Challenges: As the research project unfolded, it has become evident that what the Schitsu'umsh define as their indigenous knowledge/practice, termed *hnhkwelkhwlnet* "our ways of life in the world," embedded with *mijyp* "teachings from all things," had unique structural and dynamic attributes. While having overlapping qualities, *hnhkwelkhwlnet* has critical distinctions from what is typically defined as Traditional Knowledge "TK" and Traditional Ecological Knowledge "TEK." Even more challenging, *hnhkwelkhwlnet* is based upon fundamental ontological (what is real) and epistemological (ways of knowing) principles distinct from that of Western worldview and science. And in its traditional setting, *hnhkwelkhwlnet* is disseminated from generation to generation through the spoken word (orality) and storytelling, what is termed, '*me'y'mi'y'm* "telling stories," and not via the written word (literacy). Each mode of communication, i.e., orality and literacy, has a significant and differing effects on the meaning of words.

How were we to describe *hnhkwelkhwlnet* that did not conform to established definitions of Indigenous knowledge/practice? How then is phenomena to be described that was itself not predicated on Cartesian Dualism – the unequivocal separation of thought and material, on Aristotelian Material Reductionism – the causal primacy of what is empirically physical, and on literacy-based communications – writing? Given these unique structural and dynamic attributes, how is *hnhkwelkhwlnet* to be rendered accessible and applicable to climate scientists as well as high school students, and even the general public?

And given one of our primary target audiences, i.e., USGS climate scientists and the standard means by which these scientist access data, how is *hnhkwelkhwlnet* to be linked to and placed within an International Standards Organization (ISO) metadata repository? And further, given the ontological and epistemological schism between *hnhkwelkhwlnet* and the scientific, how are these two seemingly "mutually exclusive" epistemologies to be mediated?

The Resolutions and Results:

A. Identified Indigenous Knowledge and Practice - *hnhkwelkhwlnet*. The team identified and described the unique structural and dynamic attributes of *hnhkwelkhwlnet* as:

Phenomena that have existence as a transitory intersection of those participating - human, animal, plant, water, rock, spirit - anchored in place-based perennial, the *mijyp* "teachings from all things," that are conveyed through orality-based communications. It is an event made real by those participating, their relationships with each other guided and rendered meaningful by the oral traditions of a specific landscape.

The key dynamic and structural *hnhwelkhwlnet* attributes are:

- transitory event, unfolding process (a reality not focused on and reducible to its discrete, physical objects),
- participatory (human not detached, not as an observer of the world), and actively engaged, attentiveness (human not as passive),
- collective and relational with other participants, including spiritual participants (the individual not in isolation, not autonomous from others),
- place-based to a specific landscape (not abstracted),
- orality-based (not literacy-based),
- perennial teachings, intergenerational disseminated, derived from the Creator and First Peoples/Animal Peoples (not human invented meaning).

As encapsulated in the Schitsu'umsh term, *hnhwelkhwlnet*, the project identified and articulated the critical structural/dynamic attributes of one example of indigenous knowledge/practice, not done so previously for any indigenous group world-wide. While overlapping, this articulation goes deeper than, with critical distinctions separating it from other standard definitions of the indigenous, and significantly adds to the "TK" and "TEK" discussions.

B. Developed a Means of Communication - Aligning *hnhwelkhwlnet* with an Interactive 3-D Landscape. In attempting to convey *hnhwelkhwlnet*, the research project not only sought to identify its unique content attributes, but also sought to present it in a format and means consistent with that content. As there is an unequivocal relationship between "what" is conveyed and "how" it is conveyed, taking a cue from Schitsu'umsh storytelling techniques as expressed in 'me'y'mi'y'm "telling stories," and the dynamics of orality, an alternative means of conveying Indigenous knowledge and practice through an interactive 3-D Landscape (using virtual world technology) was developed. It seeks to render *hnhwelkhwlnet* accessible to a wide audience, without compromising the authenticity of its indigenous meaning. This is a most intriguing alignment of 'me'y'mi'y'm attributes with those of an interactive 3-D Landscape, which in turn alignment with *hnhwelkhwlnet*, the "what" with the "how."

The key dynamic and structural 'me'y'mi'y'm attributes are:

- unfolding storyline event,
- traveling a landscape,
- convergence of those attentively participating,
- experience unique to each participant,
- collective relational,
- orality-based, revealing of embedded perennial teachings

The key dynamic and structural interactive 3-D Landscape attributes are:

- unfolding event,
- convergence of those attentively participating,
- avatar has a distinctive “profile,” which influences the experience,
- collective,
- can be orality-based,
- traveling a territory,
- discovery of embedded lessons.

As a “**proof in concept**,” the project demonstrates that indigenous knowledge/practice (*hnhkwelkhwlnet* – the “what”), in alignment with storytelling (*‘me’y’mi’y’m* – the “how”), can be presented and engaged through an innovative interactive 3-D landscape platform (using virtual world design and technology, as a new and alternative means – the “how”). The experiential and orality-based, interactive 3-D Landscape is able to present *hnhkwelkhwlnet* on a platform akin to its indigenous anchoring, conveying its meaning and integrity, avoiding the challenges brought forth through a literacy-based format and Cartesian Dualism. In so doing, the project seeks to indigenize the digital, avoiding a digitization of the indigenous.

We have presented the indigenous via an interactive 3-D Landscape, aligning the attributes of the indigenous with the virtual world platform. This innovative means begins to address the challenges brought forth by Cartesian Dualism, material reductionism and literacy. This means of indigenous presentation has not been done previously. It provides an accessible means for dissemination of the indigenous to multiple and varied audiences, while retaining its indigenous authenticity.

C. Adjusting ISO Schema. To help “indigenize” ISO metadata repository access used by climate scientists, and avoid compromising the meaning of the Schitsu’umsh *hnhkwelkhwlnet*, appropriate adjustments were made in language codes and ISO schema.

D. Insights in Addressing Climate Change and the “Mutually Exclusive.” As encapsulated in the Schitsu’umsh term, *snukwnkhwtshkwts’mi’ls t stsee’nidmsh* “empathetic adaptability,” we have identified and articulated a critical *miyp* embedded in *hnhkwelkhwlnet* that offers insights into addressing the dynamics of cultural change, especially when faced with significant challenges, i.e., climate change. This *miyp* also offers insights on how to bridge the perceived “mutual exclusivity” between the indigenous and scientific, and a means of addressing and resolving the seemingly “mutually exclusive” in our lives.

Applications. With an effective means to authentically identify and convey the subtle nuances and deep meanings of Schitsu’umsh knowledge and practice, the indigenous can be better legitimized and positioned for educational and research endeavors, with applications as varied as in communication, curriculum, counseling, and climate change policy. Through this interactive 3-D Landscape platform, *hnhkhwelkhwnet* is rendered accessible to wide and diverse audience.

Key Words: Indigenous knowledge/practice, interactive 3-D landscape, climate change, storytelling, orality/literacy, best-practices protocol/legal agreement, curriculum, “empathetic-adaptability.”

To engage the interactive 3-D Landscape and explore the Schitsu’umsh world, see: <https://www.sqigwts.org/>



