Science and the Swinomish: Principals' Role in the Creation of Professional Development for K-12 Teachers with Support from Cross-District, Tribal, and University Partners

Tim Bruce[1]

[1] *Ph.D., Department of Education Leadership & Inclusive Teaching, Western Washington University, USA*

Abstract

In 2015 the Washington State Legislature enacted a new state-wide curriculum requirement: Since Time Immemorial: Tribal Sovereignty in Washington State (SSB 5433, 2015). Elements of this legislation included an expectation that school districts would use a place-based approach and that teachers would have an opportunity to choose how to fulfill the related curricular requirements. The "what" of the law was clear; unanswered, though, was the "how."

The current study examines the implementation and outcomes of a grant-funded collaboration between two western Washington school districts; the Educational Leadership department at Western Washington University; Huxley College of the Environment at Western Washington University; and the Swinomish Tribe. K-12 participants in the project included principals and teachers from the LaConner and Concrete School Districts.

The value gained from sharing of ideas, not only about the project, but also through the collaboration of educational practices in general, became an unexpected but welcome outcome, and a major benefit to both school districts. As one participating principal stated, "We cultivated friendships and working relationships that will continue long after the project is over."

Keywords: Tribal mentoring, Tribal history, science, environment, inter-district collaboration, professional development, principals, teacher evaluation

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Introduction

A New Vision

In the mountains and in the cities,
In courtroom, classrooms, and legislative halls,
A living People stands and fights for its place on this earth,
For its unique identity and sovereign dignity.

Carvers, painters, speakers, teachers, writers
Find forms, colors and words to embody
New Visions coming to a living People. (Twohy, 1999, pp.102-103)

In traditional Native American education, all members of the Tribe had a part to play in the educational process: "the planning of teaching is…the responsibility of family, imparting wisdom the responsibility of elders, listening the responsibility of the child…and monitoring adherence to the teaching the responsibility of the community" (Clarke, 1989, p. 17). As an Upper Skagit Elder, Vi Hilbert (1985), shared, traditional education was to learn to live, to have the skills to keep yourself alive, and to make certain the life you led was proper.

Historically, elders developed specialized skills and knowledge, which gave them positions not unlike today's scientists. Not only did they know, but also they were continuing to act and learn. Elders were expected to teach by example, to interact with others, to lead religious and cultural ceremonies, to give public talks, and to guide community organizations. Throughout these endeavors they were to show the value of respect, responsibility, reciprocity, and reverence (Archibald, 2001).

School was not confined to a particular space or time; learning was connected to each day's events and continued for a lifetime. During the day children learned the livelihood of family members; in the evenings grandparents taught through stories. These stories were much more than entertainment; they were full of messages

about life and how to live (Swinomish Tribal Mental Health Project, 2002).

Understanding and dealing with the current educational needs of all students while fully embracing accurate Tribal History, as rich in culture and traditions as it is in hardship and challenges, is at the heart of this research project. To face this challenge, Western Washington University's Woodring College of Education and Huxley College of the Environment, in collaboration with the Swinomish Tribe, partnered with the La Conner and Concrete School Districts to immerse K-12 teachers and principals in the *Since Time Immemorial* (STI) curriculum in the "Science and the Swinomish" project. LaConner and Concrete were asked to join the project because the school districts are located on different parts of the Skagit River watershed, and Native communities whose students are enrolled in these districts have been and remain dependent on the habitat that the Skagit supports. Participants were selected using purposeful sampling (Patton, 2002). In preparation for the overlapping work that comprised the collaboration between principals and teachers, participants gained a thorough understanding of the formative assessment process. Teachers and principals were trained in the basics of the STI curriculum, and then dug deeper into the aspects of the curriculum that relate to science, focusing on topics such as salmon recovery, tideland impacts, and water use. Utilizing scientists from Huxley College of the Environment and the Shannon Point Marine Center (SPMC), and Tribal experts from the Swinomish Tribe, participants gained first-hand knowledge of locally relevant, culturally important issues in science.

The two-district project began in the summer of 2016. Teachers, principals, and university faculty, guided by Swinomish Tribal leaders, learned together in a four-day summer institute, combining classroom and field experience in both science-related STI and formative assessment. As the school year began, principals and teachers met to collaboratively develop lessons and/or units that incorporated their new learning. With the guidance of instructors from Woodring and Huxley, teachers created robust, scientifically sound, culturally significant, and enduring lessons linked to the Next Generation Science Standards (NGSS Lead States, 2013).

Working with their principals through the autumn and winter, teachers adapted their lessons to the needs of individual classes. Once the lessons were ready, teachers from one district traveled to observe the lessons in action in the partnering, job-alike teachers' classes in the other district. Principals from La Conner and Concrete, mentored by faculty from the Woodring Education Leadership Program, observed lessons implemented by teachers in both districts. Principals shared their observation records amongst themselves, applied interrater-reliability metrics, and calibrated their evaluation scoring as they compared notes on the lessons and observations. Following the lessons and accompanying observations, principals and teachers met to discuss and refine their work, incorporating formative assessment data and adjusting instruction as needed for future lessons. Participants shared and met in this way throughout the life of the project, observing, collaborating, teaching, and refining in an iterative process to build exemplar lessons and units of instruction designed to engage and inform all students. Further, through the in-depth process of developing and critiquing lessons, principals and teachers were able to use the knowledge and skills gained from this opportunity to critique and create lessons outside and beyond the immediate scope of the grant.

Purpose of Study

The purpose of this qualitative study "was built upon a profound concern with understanding what other human beings are doing or saying" and offers a means to identify key information from the participants' point of view (Schwand, 2000, p. 200). The current study relies on the following premise: if principals support and understand what is needed to produce good instruction (which research informs us is critical to student achievement), and if they have the skills to collaborate with teachers to put into practice rigorous, culturally relevant learning in science, including formative and summative assessment strategies, then they will better facilitate students' higher levels of learning, sharing culturally-relevant, engaging content that meets the needs of all students, including those in the achievement and opportunity gap (Jensen, 2013; Rentfro, 2007; Silverman, 2016; University of Washington Center for Educational Leadership, 2014).

Methodology

Participants for the current study, both principals and teachers, were identified purposefully (Merriam & Tisdell, 2016; Patton, 2002). The Science and the Swinomish grant specified that districts identified for the study would be small and rural; in addition, the Tribes served by the districts needed to be connected in their reliance on the waters of the Skagit River and the Salish Sea. Thus, elementary and secondary principals from the Concrete and La Conner School Districts, as well as members of their teaching staffs, were identified as within the parameters specified in the grant. Furthermore, the researcher has enjoyed a professional relationship with both school districts, as well as the Swinomish Tribe, for more than 30 years.

Based on his first-hand knowledge of the powerful role that oral traditions and relationships play in the Swinomish Tribe, and since the teachers and principals involved in this study developed curriculum based on traditional Swinomish teaching, the researcher chose a relational ontology as the philosophical foundation for the

method of this study (Jackson & Williams, 2002). Previous knowledge of Tribal traditions helped drive this decision, with the fundamental assumption that relationships are the key to understanding the culture, history, and traditional teachings of the Swinomish.

The researcher chose hermeneutics as the epistemological framework for this study. "The goal in hermeneutic research is to fuse the horizons of past, present, and future" (Paterson & Higgs, 2005, p. 346). The hermeneutic investigative process sets holistic guiding principles to be used by the interviewer: encouraging open-minded conversations, challenging prior assumptions, and focusing on and becoming a part of the interview journey as it unfolds.

Patton (2015) views hermeneutic research as a way "to establish context and meaning for what people do" (p. 115). Hermeneutists understand the fact that they are constructing a reality based on the interpretations of data provided by the participants; therefore, it becomes important to know about the researcher as well as those being researched to place any study in the proper hermeneutic context. Hermeneutic theory argues that one can only interpret meaning based on their own perspective and understanding, and that interpretations can never be absolutely correct. "It must remain only and always an interpretation" (p. 114). In hermeneutic research, the meaning and understanding of text is something that is negotiated and agreed to by all who have participated in the study. An effort to understand not only the text but to interpret the dialogue, vocalization, facial expression, and gestures of those being interviewed informs the methodology. In accordance with hermeneutic philosophy, the research methods for this study integrated: (a) an initial written questionnaire administered anonymously, (b) a follow-up individual interview utilizing the same initial questions, and (c) a final text check where all of the participants had the opportunity to provide feedback to gain a level of trustworthiness concerning the findings before publication. Reflections by principals who participated in the study guided the conclusions shaped by the project.

Questions Addressed in This Research

As a means of encouraging reflection on outcomes related to the Science and the Swinomish collaboration, two open-ended questions were posed to the principals who participated in this study:

(1)   For you as a principal, what have been the major learnings/experiences gained from this project?
(2)   What have been the major learnings/experiences gained from this project for your teachers?

Findings and Recommendations

The following findings and recommendations are categorized into two major themes: (1) The importance of school districts developing strong, lasting relationships with the tribes located in their region; and, (2) the benefits of small, rural school districts working together to provide authentic professional development opportunities for their administrators and teachers.

At the heart of the recommendations is the ongoing expectation that school districts work with their local tribes to better understand and honor tribal culture and customs. It is hoped that by building better relationships, school employees and tribal members will feel comfortable in seeking and learning about the supports necessary to provide all students with culturally accurate history and authentic learning experiences developed in cooperation with tribal leaders.

Developing Strong, Lasting Relationships With Tribes

Creating strong, lasting relationships with tribal leaders and family members is at the heart of creating a positive school climate where administrators and faculty have the skills, resources, and support needed to provide students with a curriculum that is not only culturally sensitive, but also supplies an accurate history of the tribe's experiences both pre- and post-contact. The power of creating these relationships provides the foundation for a strong school culture that goes beyond simply overlaying a curriculum with a canned curriculum, or Native arts and crafts (Bradley, 1984; Hull, Phillips, & Polyzoi, 1995; Powers, et al. 2003).

The following statements from principals who participated in this study demonstrate the benefits of learning from and building strong relationships with tribal leaders and family members.

- The experience brought to light that it is invaluable for our students to learn how the Native peoples, who have had a stewardship over these lands for many generations, were able to manage the wild resources and how they incorporated the natural world into their customs and traditions.
- Our two schools are located in an area with a wonderfully diverse natural setting and a rich Native heritage. This project provided the opportunity for educators and their students to explore both aspects and come together for a contextually rich learning experience.
- The collaboration with another district was huge; the ability for grade-level and content-level teachers to

collaborate and build lessons based on the learning we did with the Tribe was enormous. For us as principals, being a part of the grant and watching teachers and students blossom, was very fulfilling.

- We are all connected. Having this opportunity to work with the Tribe provided me with a bigger picture of how we all fit together.
- This was a great unifying experience that we can now pass on to all of our students.

These statements follow a time of learning and sharing where the Swinomish Tribe provided history, cultural lessons and activities, and information about their various industries, successes, and the hardships still being felt after the damage of the boarding school era. Every project participant spoke about how grateful they were to have these opportunities and experiences. No one will forget the day the Tribe took principals and participating teachers out on the Salish Sea in Swinomish family canoes. This day was followed by a traditional salmon meal that brought everyone together and cemented memories and friendships. Through these relationships, learnings, and greater understandings, all students will benefit.

The Benefits of Small Rural School Districts Working Together
Findings from the current research included the benefits of small, rural school districts working together to provide authentic learning for principals and teachers who participated in the study. A principal participating in this project explained, "In small, rural districts we work mostly in isolation; so having the opportunity to work together with another small district was priceless." The value gained from sharing of ideas, not only about the project, but also from the collaboration of general educational practices, became an unexpected but welcome outcome, and a major benefit to both schools. As another principal stated, "We cultivated friendships and working relationships that will continue long after the project is over." The supporting relationships that were built between principals from different districts in this project are consistent with other research where participants learned to support one-another throughout their learning. Christman, Guillory, Fairbanks, and González (2008) point to the benefits of school administrators learning in a cohort model; and while this project did not start out as a cohort model, the participants came to describe their relationship as similar to one.

The following statements from the participants help to explain further the benefits of building a collaborative model so that rural, isolated, small-school principals might have someone with whom to exchange information about curriculum, instruction, and assessment:

- There have been many learning experiences that were impactful in regards to our work with the Science and Swinomish grant. The most important in my experience was the opportunity to collaborate with administrators from another district. Our exchange of information and observation of teacher lessons provided us an opportunity to discuss instruction and classroom practices around evaluation and feedback.
- This has been such a positive experience as it has allowed teachers from two different schools to come together to collaborate on instruction and student learning. I was able to witness the power of peer observations to strengthen classroom instruction through the Science and the Swinomish project.
- Having the opportunity to visit other classrooms and see varying methods of instruction, classroom management, and technology, along with engagement of students using the lessons developed in this grant, was rewarding. Teachers have been very appreciative of the time spent working collaboratively to develop lessons and then see the lesson in action.

As one principal observed, "There's so much more that unites us than divides us, but we would have never known that if we hadn't worked together."

Recommendations/Conclusion

As the current study confirms, for small, rural school districts, creating partnerships and working together to strengthen professional development and student opportunities is highly recommended. Any school district working with a Native population will benefit from intentional, ongoing staff training in the cultural expectations and traditions of the Tribe they are serving.

The grant that supported the current research included funds to pay participants for the time they invested beyond their contracts. In addition to cultural training for faculty, providing them with, and compensating them for, the time they spend working in the Tribal community is advised. While many faculty members are often willing to work beyond their contract without additional compensation, expecting a faculty to do this work as volunteers is unsustainable, and will leave gaps in the expertise needed to provide high quality educational support programs. By working in the Tribal community, educators will have the opportunity to see first-hand the role that each Native child has in supporting his family and Tribe. With knowledge of the time commitment this work demands, educators may gain an awareness of how they can best support each student as they strive to meet both academic and cultural expectations.

The journey that these administrators took with their teachers is rooted in the Swinomish tradition of working together and helping one another to succeed. This is the essential core cultural value that has made it possible for the Swinomish Tribe to survive the test of time.

The birth of these learning opportunities was dependent on a strong foundation of trust and on-going communication between school districts and Tribal leaders which can be summarized in three simple recommendations: Be a good neighbor. Attend Tribal community functions. Ask how you can be involved.

The following unpublished poem by Father Pat Twohy (1992) captures the Tribal tradition that characterized and unified this study:

What We Do

We observe and listen.
We encourage one another.
We travel often to be with the People.
We seek Stillness and Courage.

We sometimes sing or speak,
or write some words, and paint
or carve in cedar what we see
in the dreams that arise from this good Earth.

From the Elders we learn
thousand year old secrets
about the values of kindness and equality,
generosity and respect,
forgiveness and acceptance,
humor and patience,
and a remembering that includes all
and is Eternal.

Sometimes we go out to the mountains and streams
or to the wide and deep waters
seeking Light, seeking a Vision to guide us.

Sometimes we go in to the ceremonies
in the Longhouses, Smokehouses,
Churches, family homes, or Sweathouses,
seeking Warmth, and Companionship to encourage us.

Whether we go out or go in
it is the same Goodness that we seek.
It is the same Goodness that we find.

Professional Development Plan

A foundational element of this project was that principals agreed to engage fully in every aspect of the planning and learning experiences alongside their faculty. The following chart provides a comprehensive look at the professional development provided to teachers and principals along with the evaluation method used for each objective.

Goal 1: (Track 2)	Teachers of core academic subjects have the subject matter knowledge and standards-based teaching skills necessary to use the state's Since Time Immemorial Curriculum to improve instructional practices and student achievement for *all students*.
	Principals and/or assistant principals have the instructional leadership skills that will help them work most effectively with teachers in implementing the state's Since Time Immemorial curriculum to help all students master core academic subjects.

Objective	Success Criteria	Planned Activities
Increase K-12 participant principal and teacher knowledge of Washington State's STI curriculum and their ability to adapt and use it in their schools and science classrooms.	Scores on STI principal/teacher cultural understanding assessment will increase from pre- to post-test.	• STI training for all participants. • Best instructional practice for Achievement Gap students, including engagement strategies. • Pre- and post-assessment of STI understanding.
	Evaluation Method	
	STI pre- and post-summer institute assessment for principals/teachers.	
	Scores on principal and teacher cultural understanding assessment will increase from pre- to post-test.	
	Evaluation Method	
	Principals and teachers create portfolio of materials from trainings, field trips, and summer workshops.	
	Teachers develop customized lessons aligned to NGSS that connect the information shared.	
	Evaluation Method	
	For teachers: peer review of pilot science lessons. For principals: successful identification of components to be evaluated by WWU leadership mentors.	
	Principals and teachers work collaboratively to identify best practices for reading instruction to help all students understand content of materials.	
	Evaluation Method	
	Principal and teacher peer review/calibration of reading materials for science lessons.	

Goal 2: (Track 3)	Teachers of core academic subjects have the subject matter knowledge and standards-based teaching skills necessary to use a formative assessment process and instructional resources to improve instructional practices and student achievement for *all students*. Principals and/or assistant principals have the instructional leadership skills that will help them work most effectively with teachers to help *all students* master core academic subjects.

Objective	Success Criteria	Planned Activities
Increase K-12 participant principal and teacher knowledge of the formative assessment process.	Principals and teachers can access and utilize formative assessments in designing lessons.	Principal/teacher institute on using the formative assessment process.
	Evaluation Method	
	Grade-band teams, guided by their principals with feedback from WWU leadership mentors, will demonstrate understanding by developing a model assessment.	
Use common structure in development of localized STI/science curriculum.	Grade-alike teacher partners develop model science lessons that incorporate appropriate formative assessment.	Teachers pilot STI-connected science lesson, receive feedback from partner teachers and principal/university evaluators, and refine lessons for submission to the Swinomish Tribe for their approval.
	Evaluation Method	
	For teachers: successful completion of lesson and assessment. For principals: successful teacher leadership in creation of lesson and assessment.	WWU mentors will provide feedback to principals using Association of Washington State Principals (AWSP) Leadership Framework, Criterion 5: Improving Instruction (2014).
Increase collegial learning opportunities between K-12 teachers, principals, and WWU faculty.	Participants have collaborated and learned with teachers, principals, and experts in the field: Cultural Science Education	Workshops for principals, teachers, and experts in the field to understand cultural and science connections. Shared lesson study and evaluation calibration between principals/teachers and schools.
	Evaluation Method	
	Peer review of lesson and assessment strategies for both principals and teachers.	

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