



I-WISE Collaboration Strand Brief Summary

Strand leaders: Marcia DeChadenedes, Paul Coleman

Strand synthesizer: Laura Peticolas

Strand support: Victoria Coats

I. Introduction

The I-WISE Collaboration Strand was held along with the other topic strands at the September, 2015 3-day I-WISE conference in Albuquerque, NM with science education practitioners, researchers, and evaluators from Indigenous and non-Indigenous communities. The objectives were built to align with the overall I-WISE objectives but with specificity to the collaboration strand. They were to...

1. **Identify, integrate, and synthesize** participants' reflections on their personal experience and research on what it looks like to co-create, honor voice, honor different & complimentary value systems, and to develop meaningful relationships?
2. **Advance and strengthen** these reflections by recording what people have said and creating a record for what we have done in these collaborative projects, specifically looking at the collaboration models.
3. **Formulate a research agenda** based on an initial set of research questions and any emerging questions in order to determine participants' goals for collaborating and the relative importance for collaborating. In formulating a research agenda around collaboration, we feel it is imperative to the success of this work to ensure that participants' goals are not contradicting each other, i.e. that there is a solid overlap in goals.
4. **Establish next steps**, from considering the strand's outcomes and next processes to ensuring the involvement of the young adults at the conference in order to sustain the work with the next generation.

The discussion within this topic strand of collaboration was built to model, as much as possible, collaboration with integrity with the following protocols: Introductions from place, deep listening with an open mind, being in circle, and choosing 2-people act as 'witnesses' for the discussion. There were between 15 and 30 people in our strand sessions at any one time. Over a quarter of the time was spent on introductions to start to build trust and relationship by discovering overlapping personal and professional commonalities to place, science, and education topics. Time was spent on what does it mean to collaborate well, or with integrity and an attempt to create or share graphical models for the type of collaboration that works best between Indigenous and non-Indigenous knowledge holders/scientists, science educators, researchers, and evaluators? Mini-case studies, or stories, were used to examine ideas of collaboration to try and better understand what is effective and what is not effective in these cross-cultural collaborations. The ideas gathered in these discussions were recorded on large post-its during large group circle and mini-group circle sharing as well as individual note taking and memories through oral storytelling means.

II. Research Questions

The I-WISE collaboration strand organized the discussion of collaboration around five main questions. A sampling of key points brought to light during the three days are described along with each question below.

1. Why collaborate?

By the end of the strand discussions, participants had come up with many reasons for collaborating. These were expressed often in English, but also in some of the Native languages of the participants in order for them to better communicate their views on why collaboration was so important. As we have not yet had the time to provide a review of the languages and translations from our notes, we will wait to include them in the longer report on this strand's findings. Having the languages included and translated to English in the final full report will help us to provide an accurate and respectful synthesis of the participants' voices. But as we have not yet had the time to provide a review of the languages and translations from the participants, we list the reasons here in English as best we can given the limited time and resources for this brief report.

Collaboration is important because it i. ensures sustainability of the work, ii. increases the probability of successful navigation of roadblocks and hurt feelings in the collaborative work, iii. is the only way to survive, iv. ensures giving voice to all creatures, v. helps to evolve in positive ways, vi. provides an opportunity to critically examine where one comes from, vii., promotes self-reflection and growth, viii. teaches one how to love those who differ from you, ix. teaches new languages, and x. makes new discoveries by way of multiple cultural lenses of nature and the Universe.

2. What is necessary to collaborate with integrity?

After participant introductions and in building relationships, the participants discussed this question from the perspective of finding a graphical way to best describe successful collaboration. The different models drawn will be described in the longer report. The graphic that seemed to be most aligned with the key messages of what is necessary to collaborate with integrity was from our Mauri participant and shown in Figure 1. In this graphic and in general discussions, participants brought up the ideas of "ethical space of engagement" as where collaboration begins. And that collaboration needs teams and individuals to be willing to cross borders rather than patrol borders. Most participants with successful collaborations agreed that relationships are key to collaboration and that a crucial part of collaborating successfully is being willing to be changed by any good relationship. It was suggested that it is necessary to be open to being changed, but at the same time it is necessary to remain separate to maintain one's integrity. Because institutions often don't make long term, lasting connections and relationships, they end up not being good long-term collaboration 'partners.'

Participants felt that there are some key messages in terms of what is necessary to collaborate with integrity (again without the depth of the Indigenous languages in this brief report): i. Develop trusting relationships, ii. Starting as equals and with the brainstorming from emergence such that goals are co-created from the beginning, iii. Shared authority, iv. Communication, v. Respect, vi. Inclusivity, vii. Shared goals and values, the most important being the shared desire to collaborate (willingness to 'trade eyeballs') viii. All stake-holders are present, ix. Mutual understanding of each other's privilege (e.g. financial, economic,

academic degree, breadth and depth of personal relationships/networks, x. Mutual respect, creating safe space, many diverse pathways for communication, xi. Focus on capacity, fund capacity, not projects, and xii. start with leaders to find collaborators. Go in person and speak directly to people.

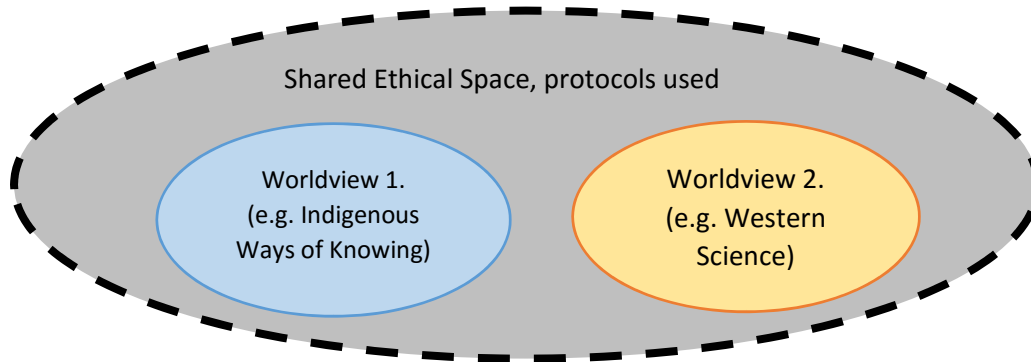


Figure 1: The outer oval boundary is a boundary of protocol. This boundary is a one-way membrane: only the good comes into the collaboration space, leaving negative expectations, prescribed views, or attitudes outside the protocol boundary. The gray oval space surrounding the two circles is the collaboration space. The two small ovals represent the whole of each collaborator's worldview. This is a 2-D plane in a 3-D space so that the worldview ovals can be brought together to overlap in some cases.

3. When do you think it is best to not collaborate?

Participants felt that there were definitely times when it did not make sense to collaborate. Most of the discussion centered around conflicts that would become irreconcilable. For example, participants suggested that it is not best to collaborate when one community might destroy the other because of conflicting values and cultural approaches. Another participant discussed how without integrity and trust, there is no collaboration. Other participants spoke of protecting knowledge or resources for their community that are explicitly not allowed to be shared with people outside the community. If individuals do not want to collaborate for any reason, then participants agreed that it would not be fruitful to collaborate. And finally, when shared goals between two groups or teams trying to collaborate are contradictory to the other groups' core values, then collaboration is not an ideal approach.

4. What are the costs of not collaborating?

Participants reflected also on the costs of not collaborating when it does make sense. They spoke of how this question is a relative question and cannot be easily answered out of context. Thinking back to specific situations where collaboration would have been good, participants shared that often without collaboration, i. projects do not last for a variety of reasons, such as people get left out of the process and then can try to stop the process or there is no building on collaborative relationships to move a project forward and grow it, ii. economic vitality remains with those in power, iii. minority value systems can get destroyed even if those value systems are needed within a project, iv. scientific understandings and discoveries may not include the knowledge and practices of those left out in science and

science education, v. the project misses out on benefits of collaboration: connection turns to isolation, education turns to ignorance, large networks turn to fragmented networks, and wealth of ideas, understandings, and creative solutions turns to a poverty of ideas, understandings, and creative solutions.

5. What are the benefits of collaborating?

When participants reflected on their work or research and looked to see what are the benefits of collaborating, the main benefits that were brought out were i. projects last for generations, projects are not only successful but heal past wounds, iii. economic vitality is shared between those in power and those outside of the power structure, iv. minority value systems can survive, especially when those value systems are needed, and v. scientific understandings and discoveries can be included in the knowledge and practices of science and science education

In addition to these initial questions, participants felt it was important to speak to one additional question, **“What is the cost of collaborating?”** There were several participants that felt that collaboration often ends up in giving up on a firmly held belief or principal in order to find a compromise or way forward between two different worldviews. And that even when the collaboration led to positive outcomes for communities, it still could lead to personal feelings of guilt and sadness, being split down the middle, loss of identity, feelings of being crazy because of holding two many paradoxical views, or only being allowed to “walk on one foot”. Some talked about these negative aspects of collaboration as sometimes creating lasting trauma and “losing the spirit, breath, and soul.”

III. Conclusions

Collaboration is clearly an important topic to the cross-cultural work with Indigenous and non-Indigenous worldviews in the field of informal science education. It is seen to be necessary for the survival of people’s cultural worldviews and ways of life, and at the same time can lead to loss of deeply held beliefs and positive cultural practices in order to find a way to work together in a collaborative space. However, as the graphical model shows above, most participants felt hope and could see how to initiate new informal science education efforts using the important aspects of collaboration with integrity from the very beginning before any projects had been imagined. New initiatives with a renewed sense of hope have already begun after participants took part in these discussions and understood better why some of their collaboration stories had ended with protests or angry feelings of betrayal.