

Framework for Co-Creation & Collaboration

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Framework for Co-Creation & Collaboration: Part 1

Knowns & Unknowns

The Big Picture

Developing a Community of Practice

The Knowns & Unknowns Amongst Us

Our expertise – What position brings you to this workshop? What do you have to share?

Our experience - Our families, travels, education. Introduction to science, rural Alaska, etc.

Pre-conceptions – Naïve understandings. Previous experience, observations, and beliefs.

Mis-conceptions – Addressing them with one another throughout the process

Networking Strategies – Comfort levels. Addressing feedback. Inclusivity. Leaning in.



The Puzzle Pieces – It All Comes Together

School
Year

Lesson
vs
Activity

The
Scientific
Method

Scientific
Process

Meaningful
data

Team
Work
Roles

Field
Seasons

Risk
Assessment

Value
The
Profession

Role
Models

Open
Communication

Feedback

Community
Engagement

Using
Models

Cultural
Respect

NGSS
Next
Generation
Science Standards

Acronyms

Education
vs
Outreach

Subsistence
Seasons

Age
Appropriate
Science

State
Education
Standards

Accurate
data

Broader
Impacts

Accessibility

Framework for Co-Creation & Collaboration: Part 1

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The Big Picture

Program Goals and Objectives

1. Actively engage Arctic K-12 students, teachers, and community members with local research projects through a citizen science project.
 - Increase participating student and community members awareness of the Arctic, its changing environment, and Arctic research.
 - Increase participating teachers' awareness of the Arctic, the changing environment, and Arctic research through a citizen science project.
 - Increase participating researchers' understanding of citizen science and the relevancy within the larger body of science.
 - Increase participating researchers' interest and willingness to engage in citizen science and communities where they live.
2. Manage the teams' collaborative work resulting in K-12 Arctic-focused educational resources; based on citizen science projects.
 - Improve the use of quality-assured data sets, collected through citizen science, by teachers, students, and researchers.
 - Support the development of online K-12 educational resource(s) that utilize these data sets.
3. Manage dissemination of Arctic-focused educational resources and make these available to teachers in Alaska and other Arctic states.
 - Increase the number of teachers and researchers that utilize Arctic-focused education resources.
4. Develop ARCUS role in researchers meeting outreach goals, including citizen science projects as proof of concept.
 - Improve ARCUS-branded, institutionalized practices learned through project.
 - Develop and disseminate products that reflect lessons learned.
 - Increase researcher, agency, and institution awareness of ARCUS capacities.

The Big Picture

2. Manage the **teams' collaborative work** resulting in K-12 Arctic-focused educational resources; based on citizen science contribution in research.

- Improve the use of quality-assured data sets, collected through citizen science, by teachers, students, and researchers.
- Support the development of online K-12 educational resource(s) that utilize these data sets.

- Partnership in this room, long/short term

The Big Picture

2. Manage the teams' collaborative work resulting in **K-12 Arctic-focused educational resources**; based on citizen science contribution in research.

- Improve the use of quality-assured data sets, collected through citizen science, by teachers, students, and researchers.
- Support the development of online K-12 educational resource(s) that utilize these data sets.

- The end game but, how will we get there? That's what we figure out this week.

The Big Picture

2. Manage the teams' collaborative work resulting in K-12 Arctic-focused educational resources; based on **citizen science contribution in research**.

- Improve the use of quality-assured data sets, collected through citizen science, by teachers, students, and researchers.
- Support the development of online K-12 educational resource(s) that utilize these data sets.

- How can we the students engaged?

The Big Picture

2. Manage the teams' collaborative work resulting in K-12 Arctic-focused educational resources; based on **citizen science contribution in research.**

- Improve the use of **quality-assured data sets, collected through citizen science, by teachers, students, and researchers.**
- Support the development of online K-12 educational resource(s) that utilize these data sets.

- What data?
- Where?
- When?
- How do we know its quality-assured?

The Big Picture

2. Manage the teams' collaborative work resulting in K-12 Arctic-focused educational resources; based on **citizen science contribution in research.**

- Improve the use of quality-assured data sets, collected through citizen science, by teachers, students, and researchers.
- Support the development of online K-12 educational resource(s) that utilize these data sets.

- After we've developed that partnership, on the ground, and students are on-board, what does it look like to share the work publicly?

The Big Picture

2. Manage the teams' collaborative work resulting in K-12 Arctic-focused educational resources; based on **citizen science contribution in research.**

- Improve the use of quality-assured data sets, collected through citizen science, by teachers, students, and researchers.
- Support the development of online K-12 educational resource(s) [that utilize these data sets.](#)

- The ultimate challenge: How could students, use data sets (same ones or others) via the online tools/resources created, to find that same value in working with data as our students did in our communities?

Framework for Co-Creation & Collaboration: Part 1

Knowns & Unknowns

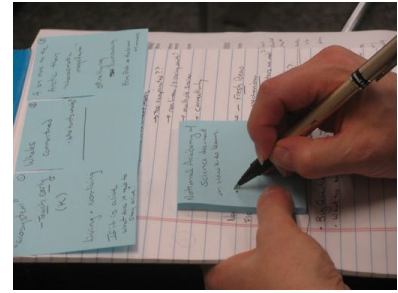
The Big Picture

Developing a Community of Practice

Who is on your team?

Find a core group by age level, community, area, interest, subject/discipline, motivation, etc.

How can ARCUS help enhance the collaborations?



Group 1

Kevin Neyhard
Mette Kaufman
Jennifer Watts
Alexis Will
Carol Scott
Jeanette Moore

Group 2

Amy Breen
Todd Hindman
Debbie Mekiana
Molly Tedesche
Veronica Padula

Group 3

Ryan Toohey
Santosh Panda
Katie Villano Spellman
Elisa Koler
Terri Mynatt
Tracy DiPaola



Framework for Co-Creation & Collaboration: Part 2

Timeframes

Deliverables

Actuals

Framework for Co-Creation & Collaboration: Part 2

Timeframes – We have all workshop! 1.5 hours Sunday, 5 hours Monday, and 3 more years...

Deliverables – A project plan template (draft), suggestions for the future, check-in during 2016.

Actuals – Adaptive management and co-creation throughout.

Framework for Co-Creation & Collaboration: Part 2

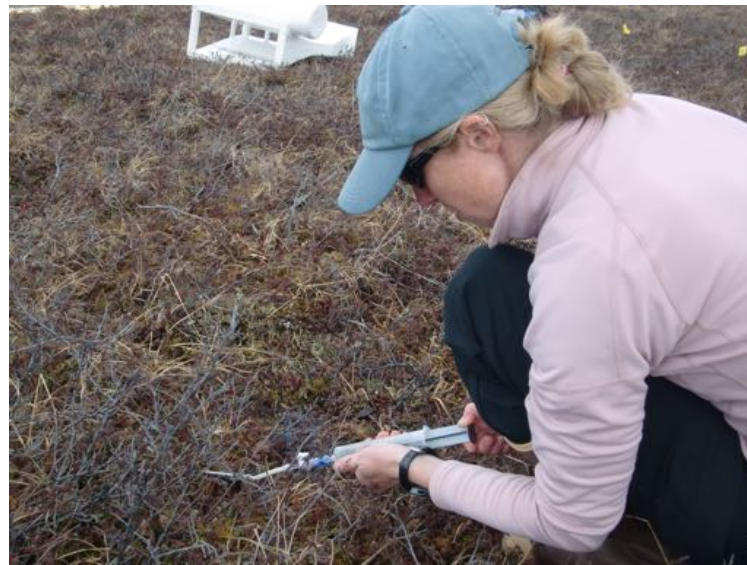
Project Plan Template

The Goal: To create a plan for implementing (or improving upon) a citizen-science based project between researchers conducting research in/near a community, a teacher based in that community, and interested community members. The project aims to engage local students in local research to increase their awareness of STEM (Science, Technology, Engineering, and Math) education and opportunities.

So.. where do we start...?

The Needs Assessment

The Needs Assessment should include your personal vision for your teaching/research/community and address your professional goals. It is an exploratory exercise, meant to contemplate and predict the ways that creating this project will help you make desired changes in teaching/science methods and help you grow professionally.



Needs Assessment

Personal Vision

Collaborators and Contacts

Resources



Planning

This is where the discussion becomes a bit bigger than just you. During our breakout sessions, utilize the perspectives in the room to help you build a professional plan. You may be working with people in this room on the same project, or implementation happens in separate communities. Use this workshop collaboration time to develop an adaptive management strategy; create a framework with wiggle room that allows for success.



Planning

Establishing the Basics

Cultural Relevance

Connection to Research and Education Goals

Teaching and Learning Goals

Citizen Science Activities

Evaluation



What can ARCUS do??

Our organizational goal for The Arctic in the Classroom program and this workshop, is to best serve you as leaders in science and education to reach students and communities through citizen science.