

# Molly Community Science Project: An Evaluation of the Process of Co-Designing Informal Environmental Science Programming with Alaska Native Communities

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## Process Evaluation Report

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# Executive Summary

The Molly Community Science project successfully implemented equitable co-design principles, emphasizing equity, personal relationships, trust, and respect. This collaborative approach fostered meaningful partnerships and highlighted the strengths of community-driven design. As a result, the project co-designed and pilot-tested **informal environmental science camps** for three communities, focusing on culturally significant topics: birds and beach habitats (Hoonah), blackfish (Bethel), and birch trees (Northway), before ultimately creating a final version of the camp that focused on salmon. While the process demonstrated strong adherence to co-design principles, it also revealed challenges related to capacity limitations and the need for intentional decision-making, both of which were influenced by project time constraints.

The goal of the Molly Community Science project was to co-design informal environmental science camps, based on the popular PBS KIDS series *Molly of Denali*, that could support the development of 6- to 8-year-old children's understanding of science and sense of environmental stewardship. The co-design team responsible for creating the informal environmental science camp included (1) public media producers and curriculum developers from GBH, Boston's public media station; (2) representatives from partners, including the Association of Interior Native Educators and Alaska Public Media, and (3) community members from Bethel, Hoonah, and Northway.

This report assesses how the Molly Community Science project implemented the co-design process by evaluating it against the following indicators:

- **Equity:** reduction or removal of barriers to active participation of all members in a co-design process.
- **Trust and respect:** skills, expression, and knowledge systems are trusted and respected as having value to the project.
- **Relationships:** valuing connectedness and long-term relationships beyond the scope of a project.
- **Capacity:** Indigenous members have appropriate supports and tools to feel empowered through the process.
- **Deliberate and intentional decision-making:** decisions are thorough, equitable, and made iteratively, reframing power inequities.

Goldstream Group used evaluator observation notes, document reviews, and interviews with co-design team members to assess how the Molly Community Science project co-design process demonstrated an understanding of equitable co-design principles, and to provide recommendations for future co-design projects.

## Key Findings

Key findings emerged across four themes:

### **Commitment to Centering Community**

- Non-Indigenous co-design team members demonstrated a commitment to centering Alaska Native voices and values throughout the co-design process, and in the resulting environmental science camp curriculum.
- The co-design team prioritized the expertise and autonomy of community members and Elders, involving them as leaders in shaping the environmental science camp curriculum, rather than developing standardized activity instructions.
- Non-Indigenous co-design team members valued opportunities to work directly in Alaska Native communities, particularly curriculum development staff who do not typically observe community testing.
- With small, Alaska Native communities being subject to a history of outsider disinvestment, the Molly Community Science project implemented practices to support long-term capacity building for project communities.

### **The Role of Limited Community Time, Resources and Work Style Differences**

- The project relied on community liaisons in each community to serve as key points of contact and to coordinate community involvement. A challenge of the co-design process was that it required a greater time commitment from these community liaisons than project leaders originally intended, and sometimes more than what community liaisons were able to provide.
- Dividing the co-design team's responsibilities—assigning smaller groups to develop the science camp curriculum while larger groups focused on gathering feedback—proved effective for managing the challenges of a large co-design team. However, this approach required careful and strategic communication to ensure coordination and success.

## Establishing Clear Roles and Equitable Participation

- Community representatives on the co-design team expressed a need for greater clarity from project leaders regarding project roles, research objectives, and clear instructions for providing feedback on the science camp curriculum.
- Project leaders learned that equitable participation requires paid staff to play a more active role in co-design, while still centering community voices.
- Project leaders found that it was easier to engage with communities in co-design of media production than in developing the curriculum for the environment science camp.
- Project leaders found that when working with multiple communities, it is important to ensure that the same level of participation and engagement is offered to each community.
- The co-design team benefitted from recruiting a diverse group of community members, allowing for multiple Indigenous viewpoints throughout the process.

## Importance of Personal Relationships

- When visiting the community, having local members introduce non-local co-design team members to the land from their perspective helped lay the groundwork for personal relationships between co-design team members.
- The popularity and importance of *Molly of Denali*, a PBS KIDS series, among Alaska Native communities was helpful in building relationships among the co-design team members.
- The co-design team found that in-person opportunities to share personal stories, food, and customs led to stronger relationships among team members.
- Communities responded best to having the same project team member as their primary contact and representative during community visits.

## Discussion

The Molly Community Science co-design process findings highlight the successful application of equitable co-design principles, while also identifying areas for improvement and persistent challenges. The project upheld co-design principles of equity, personal relationships, and trust and respect. Most of the project's challenges stemmed from limitations related to capacity and the need for deliberate, intentional decision-making, which were largely influenced by project time constraints.

## Lessons Learned

- Hire an internal Alaska Native curriculum developer who lives in or near the target communities.
- Prioritize in-person kickoff meetings with the entire co-design team.
- Establish clear roles for the co-design team and communicate those roles to co-design team members regularly with both written and oral presentations.
- Use smaller teams to guide the direction of curriculum development and larger teams to gather feedback on created materials.
- Develop shared communication strategies that prioritize the preferred methods of community members.

## Implementation Map

Included in this report is an [implementation map](#) synthesizing the findings and lessons learned from the project's co-design process. The goal of the implementation map is to identify key steps that can be followed by educational media producers and Indigenous community members who wish to engage in co-development of educational interventions.

# Implementation Map

The following is an implementation map that synthesizes the findings and lessons learned from Goldstream Group's evaluation of the Molly Community Science Project's co-design process with three Alaska Native communities - Bethel, Hoonah, and Northway - from September 2022 to December 2024. The goal of this implementation map is to identify key steps that can be followed by educational media producers and Indigenous communities in co-designing of educational interventions.

## Map Overview

The map is divided into three stages of the co-design process: 1) preplanning, 2) creating the co-design team, and 3) curriculum and materials development. This map represents an iterative co-design process so that once a co-design team is created, the tools and considerations in the research and curriculum development phase should be utilized and assessed throughout the co-design process, depending on a project's scope and capacity.

## Indicators of Co-design

At the top of the map are five indicators that draw on some of the most recent work around Alaska co-design specifically, defining what makes western and Indigenous Arctic research collaborations successful and equitable (Ellam Yua et al., 2022; Bremer & Meisch, 2017; Chambers et al., 2021). Importantly, research emphasizes that evaluation measures of these projects should be created collectively and subject to ongoing negotiation by project members (Norström et al. 2020, p.187). Therefore, while these indicators are used as a framework for this map, they are not intended to be prescribed as indicators for assessing all co-design projects.

**Equity.** Discussion or actions reflect intentions to reduce or remove barriers to active participation of all partners, during any part of planning or implementing the project. Each of the subsequent indicators can be thought of as conceptual tools that are utilized to enact equity (Ellam Yua et al. 2022).

**Trust and Respect.** Participants feel trusted and respected. Individuals feel their particular skills and modes of expression, as well as the knowledge systems they work from, are trusted and respected as having value to the project, and are understood to have validity as whole systems of knowledge (Ellam Yua et al. 2022).

**Relationships.** Self-reflective discussions within the team are a part of the materials development or research design/implementation process. Team members take time to share and learn about each other's motivations and goals for participating in this project (and more broadly), as well as each other's knowledge systems. Actions reflect valuing of long-term relationships and connectedness beyond the scope of a particular project (Ellam Yua et al. 2022). Actions reflect a willingness to navigate differences (Chambers et al. 2021).

**Capacity.** Participants are ready to engage in co-design. Participants (especially those coming from western frames of reference) know all members of a team (regardless of role) need to examine their own assumptions about Indigenous knowledges and know they will need to practice the approaches of the other indicators (Ellam Yua et al. 2022). Participants (especially Indigenous Peoples) have access to funding or other supports for participating community members, and the tools and proficiencies (such as receiving specific training) needed to fully participate in the process equitably; having appropriate means and abilities enables empowerment through the co-design process (Ellam Yua et al. 2022, Chambers et al. 2021).

**Deliberate and Intentional Decisions.** Decisions are thorough, careful, intentionally equitable, and made iteratively (Ellam Yua et al. 2022). Decisions consider power imbalances and are made with the intent to reframe power inequities, especially if doing so elevates Indigenous and/or traditional ecological knowledges (Bremer & Meisch 2017, Chambers et al. 2021).

## Implementation Steps

The map includes several tools and considerations for equitable co-design, displayed as boxes within the three stages that were decided to be useful practices during the Molly Community Science project co-design process. We detail these steps and their contributions to an equitable co-design process below.

**Hire Indigenous staff to the internal project team.** Educational media production teams (production teams) should prioritize hiring Indigenous staff to the internal development team. Indigenous staff should be recruited from the identified Indigenous community or have ties to the identified community. Co-design processes require considerable input and time from community members. Having an internal staff member (or preferably multiple) who can develop content, gather input from community members, and provide cultural perspectives on day-to-day decisions made by production teams can ease the burden of community members in co-design teams and streamline the intervention development process. Ideally this individual (or individuals) would have experience in community organizing or community education programs. Indigenous team members should not be a

replacement for community members in co-design teams, as equitable co-design process requires insights from a diverse set of local, Indigenous perspectives.

**Recruit community liaisons to help with co-design processes**, including recruitment of co-design team members, facilitation of co-design team meetings, and coordination of testing and sharing results. Co-design teams should identify and partner with Indigenous leaders and community organizations to support the recruitment of a community liaison. Community liaisons should be active community members, with strong ties to multiple groups and individuals, and should be compensated for their role. They can assist with identifying potential barriers to community participation in the co-design process and help orient non-local production team members to cultural customs and communication styles. Community liaisons, supported by the production team and partnering organizations, would ideally recruit a diverse group of community members to participate in the larger co-design team.

**Establish vision, goals, and expectations.** In order to facilitate deliberate and intentional decision-making, co-design teams should collaboratively decide on the project vision, goals, and expectations of members, preferably at the proposal stage. This process should center community member perspectives, and production teams should be active in participation, providing members with the context of the project. For example, during the Molly Community Science project, development staff found that providing examples of education interventions with similar goals of the co-design's project helped facilitate conversations and give community members needed guidance. Providing adequate context can help build community member capacity in being an active participant in the co-design process.

**Host in-person meetings when possible.** Once a co-design team is recruited, production teams should prioritize an in-person kickoff meeting with the entire co-design team, anticipating that a large group gathering can be challenging to schedule. In-person meetings should ideally take place in the identified community, with the agenda dictated by local Indigenous members of the co-design team. The purpose of the meeting should be to foster relationship building between local and non-local team members, allowing team members to share in customs, traditions, and values – as agreed upon by community members. It is important for non-local, and specifically non-Indigenous team members, to demonstrate a willingness to learn about the community's culture and values, an openness to feedback, and an interest in making long-term connections with team members. Demonstrating these characteristics is important throughout the project, but particularly beneficial in early stages of building relationships. If the project involves more than one co-design community, consider hosting in-person meetings for individuals from different communities to come together and share their experiences. These meetings can be held at one of the co-design communities, or in a central location.

**Establish and communicate clear roles.** Although co-design processes can evolve over time in how members participate, it is essential for the production team to clearly communicate the roles of both internal team members and key figures within the co-design group, such as community liaisons and advisory groups. All roles should be mutually agreed upon by the project leaders and community leaders. Production teams should have roles outlined in a shared format that community members can easily access and refer to throughout the project. The project roles should be updated as necessary as the project continues. Communicating roles can prevent production teams from over-asking of community members while also fostering better participation from community members.

**Provide consistent communication.** Once the co-design team is fully realized, production teams should work with local co-design team members to identify preferred communication methods, both within the co-design team and with the community overall. Large co-design teams can be difficult to gather regularly and oftentimes the co-design team will break into smaller groups to accomplish various research and development tasks. Having a regular communication schedule to keep all co-design teams and communities informed can foster trust from the community, as well as keeping co-design team members engaged.

**Identify and address barriers to participation.** When planning for co-design activities or intervention testing in the identified community, allocate time with the co-design team to identify and address potential barriers to community participation. Examples may include: lack of transportation, access to child care, requiring multiple forms to be signed by parents. Development teams should make efforts, as possible, to prevent barriers. As community-based activities and intervention testing occurs, allocate space in follow-up meetings to identify any room to improve equitable access from community members. For example, streamlining documents or expanding the intended age range of an intervention program.

**Share the results of any implementation testing with participants:** Whether or not the co-design project has a formal research or evaluation component, project teams should plan to share findings with the community, focusing on individuals and families who participated in the testing. Findings should be presented in an accessible and engaging way, centering the experiences of participants (i.e., pictures, videos, drawings). This should be an ongoing practice for any iterative testing.

**Demonstrate a long-standing investment.** Rural, Indigenous communities are historically subject to short-lived outside investment, causing burnout and distrust among community members and organizations. It is important for production teams to demonstrate a commitment to providing the communities they work in with resources that exceed the scope of the project. Holding community screenings or events, providing

trainings for young leaders, fostering connections between local communities, and providing a curriculum that local organizations could continue to provide to youth (with existing resources) were all examples from the Molly Community Science project. Production teams should work with Indigenous members to identify how to ensure that any research or evaluation findings are mutually beneficial to local and non-local parties.

# The Molly Community Science Implementation Map

## Indicators of Equitable Co-design

### Equity

Reduction or removal of barriers to active participation of all members

### Trust and Respect

Skills, expression, and knowledge systems, are trusted and respected as having value to the project.

### Relationships

Valuing connectedness and long-term relationships beyond the scope of a project

### Capacity

Indigenous members have appropriate supports and tools to feel empowered through the process

### Deliberate and Intentional Decisions

Decisions are thorough, equitable, and made iteratively, reframing power inequities.

1

### Preplanning

Hire Indigenous staff

Recruit community liaisons

2

### Creating the Co-design Team

Host an in-person kickoff meeting

Establish vision, goals, and expectations

Establish clear roles

