Laidlaw Scholars Program

Mapping the Sea and Society: Tides of Youth Leadership in Sanriku Coast

Leadership-in-Action Project Report

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Introduction

For my six weeks of Leadership in Action (LiA), I lived and worked in Otsuchi on the Sanriku coast, in the Iwate prefecture of Japan, hosted by the Atmosphere and Ocean Research Institute (AORI) and partnering with local high schools in Kamaishi, Otsuchi and Omoe. I planned and led ArcGIS workshops and iterated the program in response to technical and cultural realities. The project mattered because this is a community still marked by the 2011 Tōhoku earthquake and tsunami - places of rebuilt facades, empty lots, and demographic decline - and any intervention here had to reckon with that context.

There are three leadership themes I will explore in this reflection: adaptability (the necessity of pivoting plans when they meet reality), cultural humility (listening and recalibrating expectations in a different classroom culture), and relationship management (prioritizing individual attention and local continuity over polished outputs).

Challenges Faced

Technical fragility and constrained software: Early workshops revealed how brittle even careful plans can be. Projectors were small and blurred; printers failed at inconvenient moments; and crucially, the student computers often ran a constrained version of ArcGIS that lacked many of the analysis tools I had designed lessons around. In week three this mismatch between plan and reality became acute: activities depended on functions that simply were not available to students, and the session stalled.

Scale anxiety versus local norms: I arrived with an expectation that the impact would look like full classrooms and polished final maps. The local reality was different: depopulation meant small classes; teachers and researchers routinely invested attention into single students; and community priorities centered on individual resilience and long-term continuity rather than headcounts. My early anxiety about small class sizes reflected an assumption that numbers equaled value - bias that proved unhelpful in this context.

Cultural and linguistic gaps: My Japanese was limited, and classroom cues were not always the same as what I expected. I initially equated quiet participation with disengagement. That interpretation led to frustration and unproductive self-criticism. It took conversations with my Laidlaw coordinator (You Jia Lee), my Laidlaw coach, and sustained observation to see other forms of participation as legitimate and meaningful.

What I hoped to achieve: At the start, my impact-oriented aim was to introduce students to GIS and spatial thinking so they could map and reason about their own landscape. As the challenges mounted, the underlying goal shifted: rather than producing a single perfect final map, I wanted students to develop curiosity, learn repeatable GIS skills, and begin asking spatial questions about their coast and community.

How I approached these challenges and what I learned: I paused and reoriented rather than doubling down on the original plan. Conversations with You Jia and my coach nudged me to ask different questions: “How are the students? What do they already know?” These were small, practical reframes that shifted attention from metrics to people. I also redesigned activities to be resilient: shorter demonstrations, micro-tasks that required fewer software

privileges, offline datasets, and paper-based fallbacks. For the technical aspect, I treated glitches as entry points for discussion rather than proof of failure: failed layers became prompts for whiteboard conversations about what an analysis would mean in practice.

Leadership Skills Applied and Developed

Communication and pedagogy: I learned to simplify technical explanations into brief, clear demonstrations and then allow extended hands-on time and discussion. Yuki-san's translation was essential: her rephrasing made instructions culturally intelligible and allowed students to engage on their terms. I practiced framing questions that invited modest contributions - "Where have you seen this?"- instead of insisting on participation style and form I was used to back at home or in Canada.

Problem-solving and contingency planning: Recurrent technical failures forced me to develop a fallback plan: offline datasets, transferable and public maps, paper activities, and modular lesson components. This iterative problem-solving sharpened my capacity to diagnose failure quickly and redesign lessons in the moment.

Adaptability and design thinking: The pivot from deliverable-driven teaching to curiosity-driven facilitation required me to erase parts of my original plan and rewrite objectives by hand. Sometimes, entire lesson plans and datasets would be struck away from my agenda. Rather than seeing the pivot as defeat, I reframed it as learning: the best lessons were not the ones I had prepared but those that emerged when students began asking their own questions.

Cultural humility: I began by assuming that vocal class participation equaled engagement. After talking with You Jia, Yuki-san and Roxane, and after observing classroom patterns, I explicitly challenged that assumption and learned to read quieter forms of involvement as meaningful. I worked closely with AORI researchers, teachers and coordinators of Kamaishi high school, and Yuki-san in particular to let their priorities shape session design. For example, spending time in AORI's basement lab with a professor and a single student taught me to value depth over breadth. That experience shifted how I structured workshops - more paired tasks, more one-on-one time, and more space for students to bring in local knowledge.
When students were reserved, I moved away from public calls for answers and towards paired exercises and private check-ins. This helped students tremendously by allowing them to express knowledge in forms that suited them and revealed local insights that had previously been invisible to me, particularly during the later workshops and our final presentation.

Ethical Considerations

Working in a community still shaped by disaster required caution. Mapping depopulation and disaster-related features can risk retraumatization. To help mitigate potential ethical flaws and differences in lived experiences, students chose what to include in their own maps and outputs, and I always ran my plans by Yuki-san, who was very knowledgeable about local issues and sensitivities.

This taught me that sometimes our own resources and knowledge are not enough to be culturally or ethically appropriate and seeking help and assistance can only improve my standing in these areas.

Collaboration and Team Dynamics

My project succeeded because of so many amazing professors, teachers, and students that surrounded me in Otsuchi as well as supported me from abroad. Key partnerships included:

Yuki-san (mentor and translator): Her translations were not mechanical transfers; they were cultural reframing that made tasks intelligible and comfortable for students. She also provided logistical and emotional support throughout the project and acted as a check for all materials I would deliver. Yuki-san was crucial in my pivoting stage and allowed me to see cultural elements of workshops better, as well as provided significant emotional support.

You Jia Lee and Roxane Ducasse: Their remote mentorship helped me reframe goals and think beyond immediate deliverables. Their questions encouraged a focus on students' needs rather than my original metrics.

AORI researchers and local professors: They opened labs, offered demonstrations, and modelled how to invest attention in single students. They took me to their visits to high schools, crab-catching sessions in the Otsuchi river, and seaweed-tasting day trips. Events organized by them such as the basement lab session was a clear example of how researchers engage with youth in the region.

Local teachers in Kamaishi, Otsuchi and Omoe: They were the ones who actually recruited students, procured the software license from ESRI Japan, and logistically supported my workshops throughout the 6 weeks.

What all these dynamics taught me was straightforward: projects in community settings require shared ownership. When local teachers, professors and students are co-creators, the work is more resilient and more likely to continue after my departure and materialize into what is most important: a source of inspiration and curiosity for the youth of Kamaishi.

Conclusion

The work in Otsuchi changed how I think about leadership. I came with plans and expectations; I left with a different metric for success: attention, curiosity, and the capacity to ask spatial questions. Practically, that meant designing resilient, modular lessons; using paper fallbacks and offline datasets; and structuring sessions around short demos and long discussion. Ethically, it meant centring consent and local control. Culturally, it required humility - listening to quieter forms of participation and letting local norms reshape the program.

This experience will influence my future leadership in concrete ways. I will prioritise listening before acting, design for continuity rather than a spectacle that serves more so my ego rather than the community around me, build contingency into technical plans, and centre ethical stewardship of local knowledge. The lasting changes I saw - students asking different questions, teachers adopting small spatial-thinking activities, researchers and professors investing time in

individual learners - are not headline-making, but in a place rebuilding after loss they are the kind of small, stubborn outcomes that persist. That is the kind of leadership I want to practise going forward.

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