![Koh-Learning in our Watersheds logo](Transforming education by connecting students, communities, and waterways)

Group Workshops Preliminary Summary Report

Associated with the research project:
"Linking School-Based Monitoring to Land & Water Decision-Making"
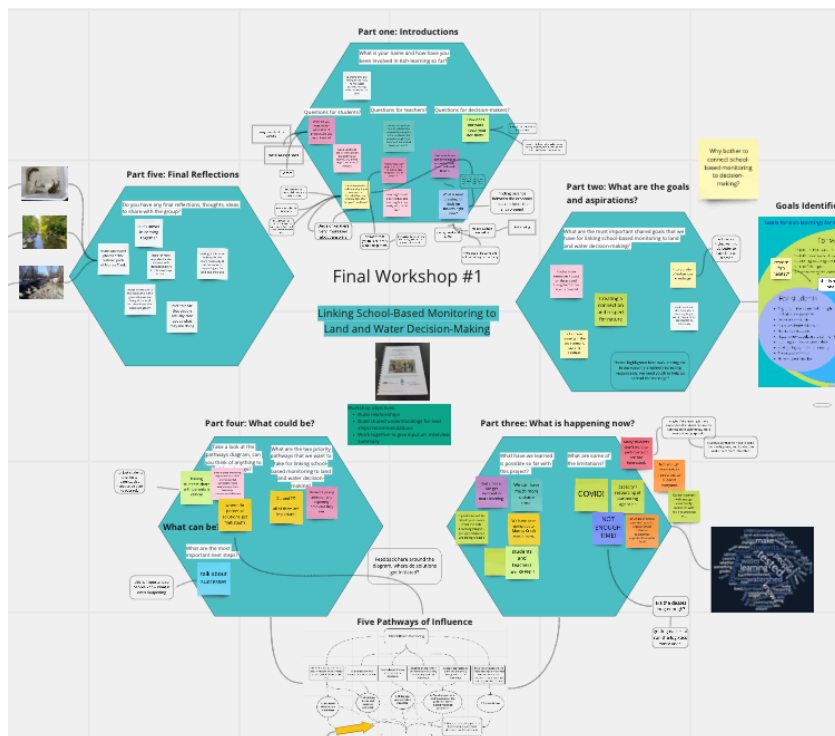
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Screenshot of the 'Miro' virtual whiteboard used during the workshops to gather ideas

This research takes place on the Traditional Territory of the Saik'uz First Nation. This project is happening in coordination with the "Koh-learning in our Watersheds" project and is supported by many community partners and funders including:

Background

This report provides an overview of a set of 'Final Group Workshops' for the research project titled 'Linking School Based Monitoring (SBM) to Land and Water Decision-Making'. The workshops were the final stage of the research project, following two rounds of water monitoring trials and interviews with students, teachers, and decision-makers. The objectives of the final workshops were to:
- build trust and relationships between students, teachers, and decision-makers;
- develop shared understandings and recommendations for influencing decision-making through school-based monitoring; and
- gather feedback on the analysis and synthesis of interview findings.

The workshops were held on June 22nd and June 24th, 2021 and both workshops were two hours long and followed the same format. Participants were encouraged to attend on the date that worked best for their schedules. A total of 18 participants attended the workshops, with nine participants taking part on each date. Figure 1 below shows the break-down of participants from each group (students, teachers, and decision-makers) at each workshop.
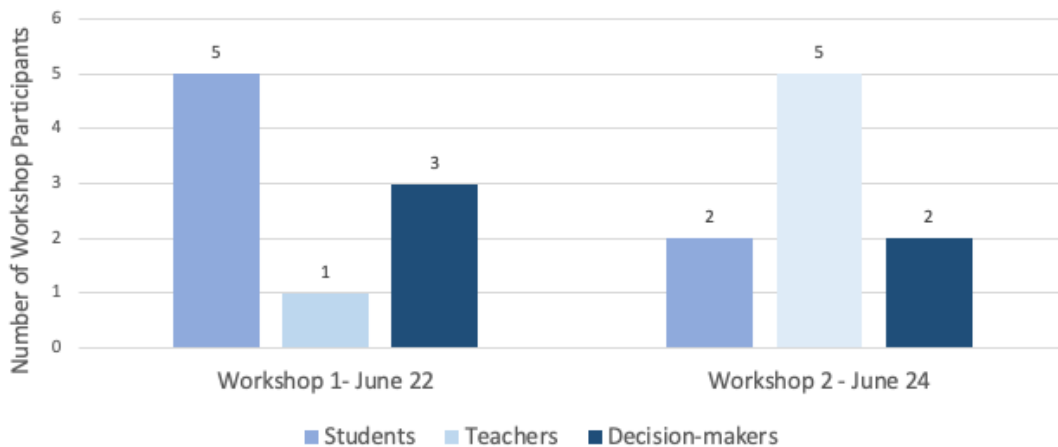

Figure 1. At each workshop, there was at least one participant from each of the three groups: students, teachers, and decision-makers.

Workshop Format

Due to the Covid-19 pandemic, the workshops took place virtually using the Zoom platform. The workshops were designed to be interactive and provide an opportunity for sharing and exchange between students, teachers, and decision-makers. Each workshop began with a round of introductions. Participants were asked to share their names, the territory they were joining from, and a favourite memory that they had of the Nechako or another waterbody. To limit the typical establishment of hierarchies and power dynamics, participants were not asked to say their job title/position as part of their introductions. This is a practice consistent with decolonial introductions, where emphasis is placed on sharing relations to land and each other (Ta7talíya (Nahanee), n.d.). Following this, participants were given the opportunity to brainstorm and ask questions to members from other groups about land and water decision-making or monitoring.

The workshop then consisted of a series of break-out and full group discussions answering four questions from the "Collective Social Learning Pattern" (Brown, 2008), a pattern designed to bring together multiple types of knowledge and to enable collaborative thinking. The four questions included:

- What should be? (Sharing ideals);
- What is? (Establishing facts);
- What could be? (Creative ideas); and
- What can be? (Collaborative action).

During the workshop break-out discussions, the Miro Virtual Whiteboard tool allowed for participants to record their ideas anonymously using virtual sticky notes. Throughout this report, direct quotes from the virtual whiteboard are included as figures. The comments made on sticky notes have been rearranged and edited slightly for clarity.

Findings Part 1: Q & A Across Groups

During the first part of the workshop, participants were divided into break-out rooms and asked to brainstorm questions that they had for the other groups related to land and water decision-making or water monitoring. A large range of questions were asked and demonstrates the value of bringing students, teachers, and decision-makers together to better understand each other's roles. Some examples of the questions asked are presented in Figure 2. Some of the themes that were discussed during the Q & A period include the following:

- **Who can respond to issues in the watershed?** During the first workshop, the discussion centered around the idea that the decision-makers present felt limited in their ability to tackle issues in the watershed. They noted that there is a need to come together with decision-makers at other government agencies and other watershed players to find solutions.
- **How do decisions get made?** During the second workshop, students and teachers were very curious to understand how provincial decision-making works. For example, do staff scientists help to advocate for certain decisions to be made? One participant indicated that their role as a staff scientist was to provide objective information to officially designated decision-makers. Decision-makers must weigh scientific data against social and other factors.
- **Education relevant to current issues:** In both workshops, students and teachers were interested to hear from decision-makers about the latest issues and concerns in the watershed. They highlighted the importance of having the opportunities (like these workshops) to interact with decision-makers to ensure that education is responsive to real world events.
- **How is SBM meaningful to youth?** During both workshops, decision-makers were interested to know if SBM had changed students' perspectives, job aspirations or if they felt they were making a difference. Students responded that they felt the program had allowed them to see the Nechako in a new light after learning about the animals that depend on it. They also felt more engaged in the community. However, the students felt that their voices carried little weight and wanted to know how to be heard by decision-makers.

- **How does SBM fit into the curriculum?** During both workshops, decision-makers were interested to know how SBM fit into the school curriculum. They were curious if teachers had logistical constraints on the timing of activities and if it could be blended across different subjects. Teachers responded that it is getting easier and easier to do these kinds of activities in the school system and that yes, they were trying to make it cross-curricular.
- **What are the issues in the watershed?** Decision-makers identified several concerns in the watershed, including algae in the Stoney Creek watershed, increased littering and human impacts in parks, and declining populations of moose, wolverines, caribou, and salmon. Other concerns included climate change, water quality and water quantity.

Figure 2. Examples of questions asked across groups for decision-makers, students, and teachers.

Findings Part 2: What should be? (Sharing Ideals)

The Collective Social Learning Pattern begins with the question of "What should be?". This question aims to identify broad aspirations for what participants want to achieve through connecting school-based monitoring to decision-making. Participants identified two broad goals for connecting school-based monitoring to decision-making, each with related subgoals. The goals are presented in Figure 3.
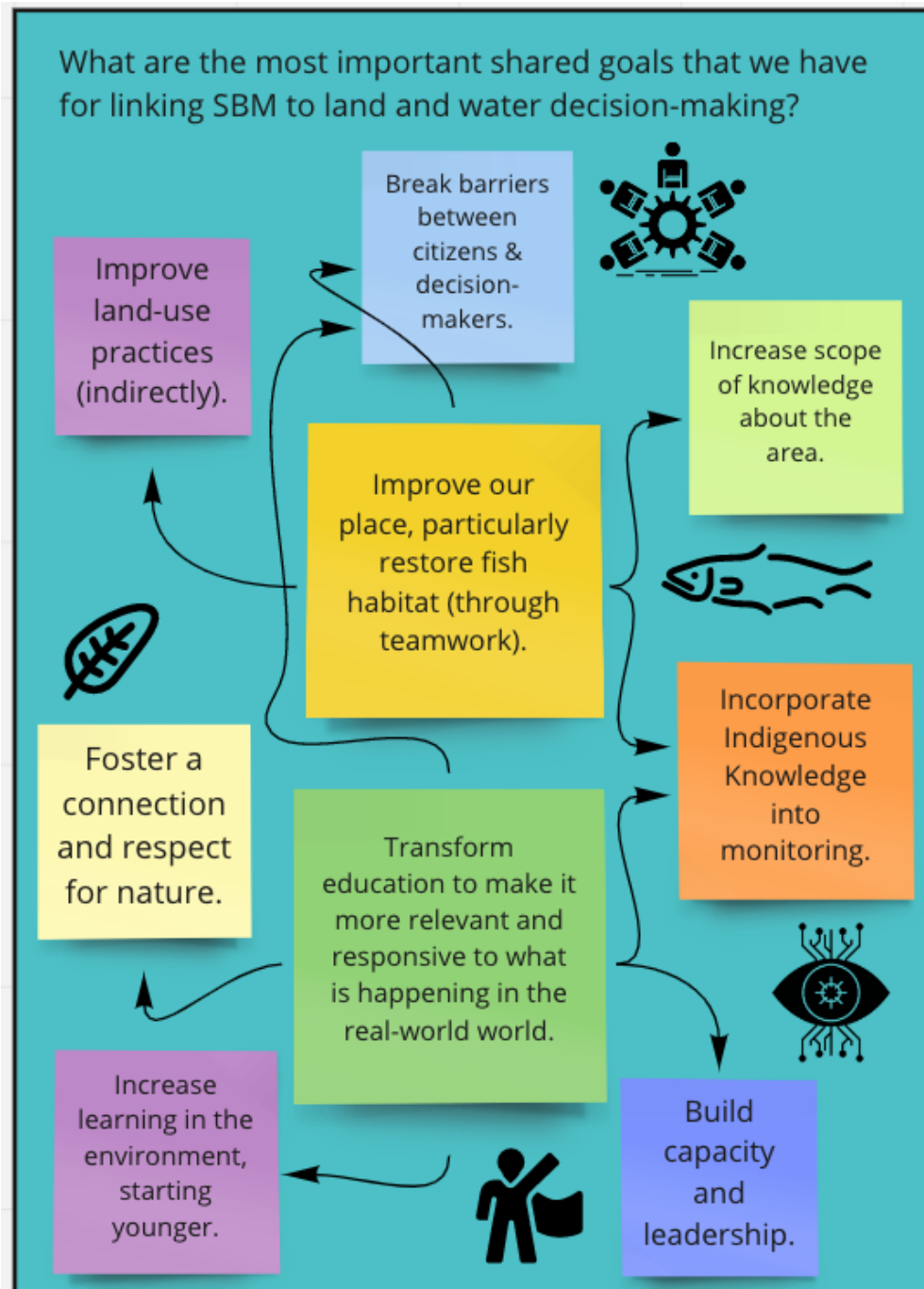

Figure 3. Shared goals identified by teachers, students, and decision-makers that we hope to achieve while/by connecting school-based monitoring to decision-making.

Findings Part 3: What is? (Establishing Facts)

In the "What is?" phase of the workshop, participants were asked to discuss and share about what has been learned so far in the project, and what some of the limitations are for connecting to decision-making. Participants mentioned that we have learned a lot this year about how "student monitoring is valuable both for collecting data and for student experiences". Participants also noted that we have learned that it is logistically possible to have more outdoor learning, and that older students can effectively teach younger students. Another area that participants learned about was that Koh-learning can help support the entry of high school students into environmental field-based summer jobs.

While participants discussed strong potential to connect with decision-making, they also identified some key barriers. These include:
- he covid-19 pandemic restrictions and the inability to connect with community members;
- limited capacity and resourcing of partnering agencies; and
- the school year does not align with the time when water quality should be measured (i.e. seasonal low flow is during August).

General limitations for the program were also discussed and included:
- having enough time to complete the monitoring in the field and within the school schedule;
- aligning schedules of Grade 11 mentor students and Grade 8 classes; and
- some students don't want to participate or are not interested.

This final limitation, the fact that some students were not interested in conducting the water monitoring, generated a lot of discussion and is the focus of the next section.

Increasing Student Engagement: Designing Meaningful Experiences for Students

Much of the discussion during both workshops focused on the idea of how to get students more invested in conducting water monitoring. Students described how some of their peers became very engaged in the water monitoring, while others did not at all. Participants provided some suggestions for how to help students become more engaged in the monitoring.

- **Spend more time going over data/results**: Students thought that spending more time learning about the research design, the scientific method, and the meaning of results would help student see the value of the work.
- **Have more peer-to-peer discussions about the monitoring purpose**: One student suggested that more time could be set aside while in the field for Grade 8's and mentors to discuss as a group how the monitoring applies to their communities and to their lives.
- **Let them be a part of decisions-making**: Participants also suggested that giving the students choices for what to monitor and having them involved in outlining a goal set for changes they would like to see (and decisions they would like to influence) would make them more invested in the monitoring.

Findings Part 4: What could be? (Creative ideas)

In the Collective Social Learning Spiral, the "What could be?" question focuses on generating creative ideas for how to move closer towards the aspirations defined with the "What should be?" question. For this section of the workshop, participants were asked to review the "Pathways of Influence for SBM to Inform Decision-Making" diagram (Figure 4 below). This diagram was developed based on the initial interviews with students, teachers and decision-makers and outlines five potential pathways for SBM to inform decision-making. Part of the goal during this phase of the workshop was to learn about whether the pathways diagram made sense to participants, and whether they had any additions or edits to be made. Some of the feedback included:

- Participants identified that the pathways diagram generally made sense to them and was an accurate description of the potential pathways to inform decision-making.
- When asked which pathways they think should be prioritized, some participants mentioned that all five pathways were important. However, in both workshops some people identified that they felt that pathway #2 and pathway #4 really resonated with them and should be prioritized.
- One participant emphasized that, to him, the most important pathway was to equip youth with the skills necessary to become leaders who were able to find the balance between the economy and the environment and to tackle other complex problems facing society.
- Participants also noted that in relation to pathway #2, the diagram did not include information about where solutions for issues *should* be initiated. This is an area where the diagram could be expanded.
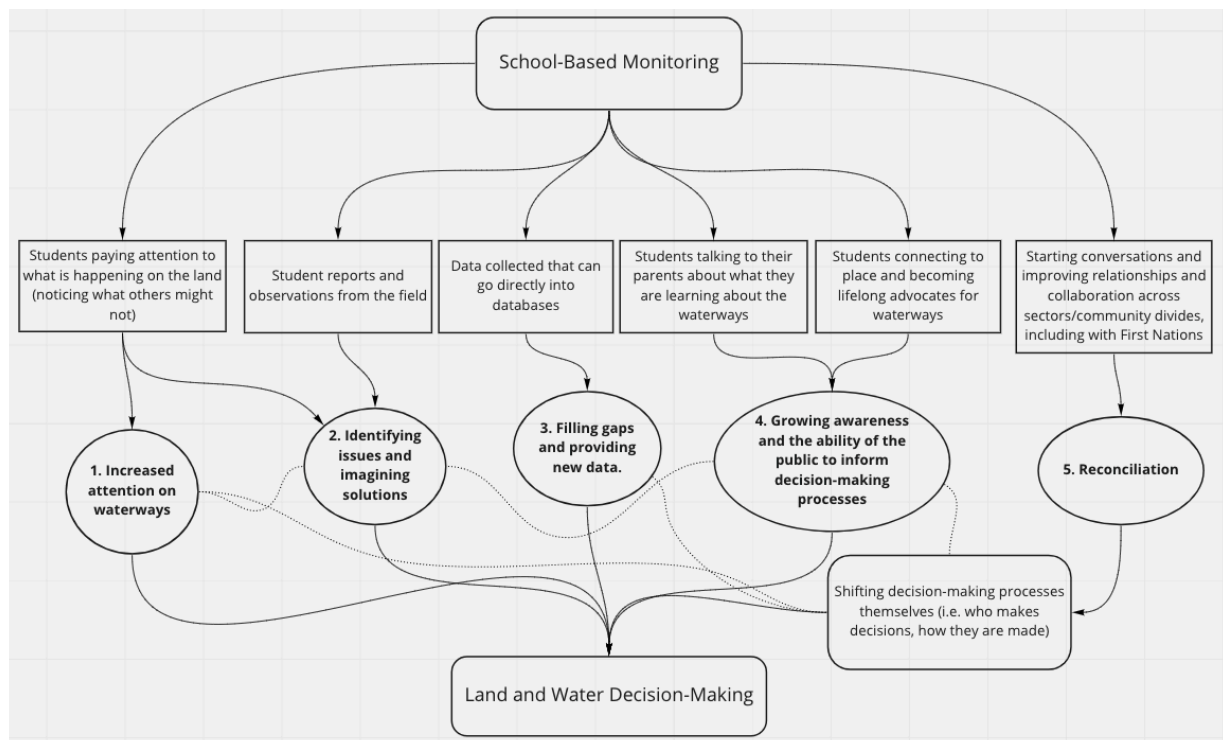

Figure 4. The Five Pathways of Influence diagram was included in the workshop to help determine which pathways most resonated with participants and could be targeted with Koh-learning.

Findings Part 5: What can be? (Collaborative Action)

The "What can be" part of Collective Social Learning Spiral focuses on tangible next steps and actions that can realistically be taken. During the final section of the workshop, participants were asked to focus on thinking about the most important next steps. Four priority areas for action were identified, and included 1) student engagement, 2) connecting with decision-makers, 3) incorporating Indigenous Knowledge, and 4) talking about successes. Specific action ideas are also presented in Figure 5.
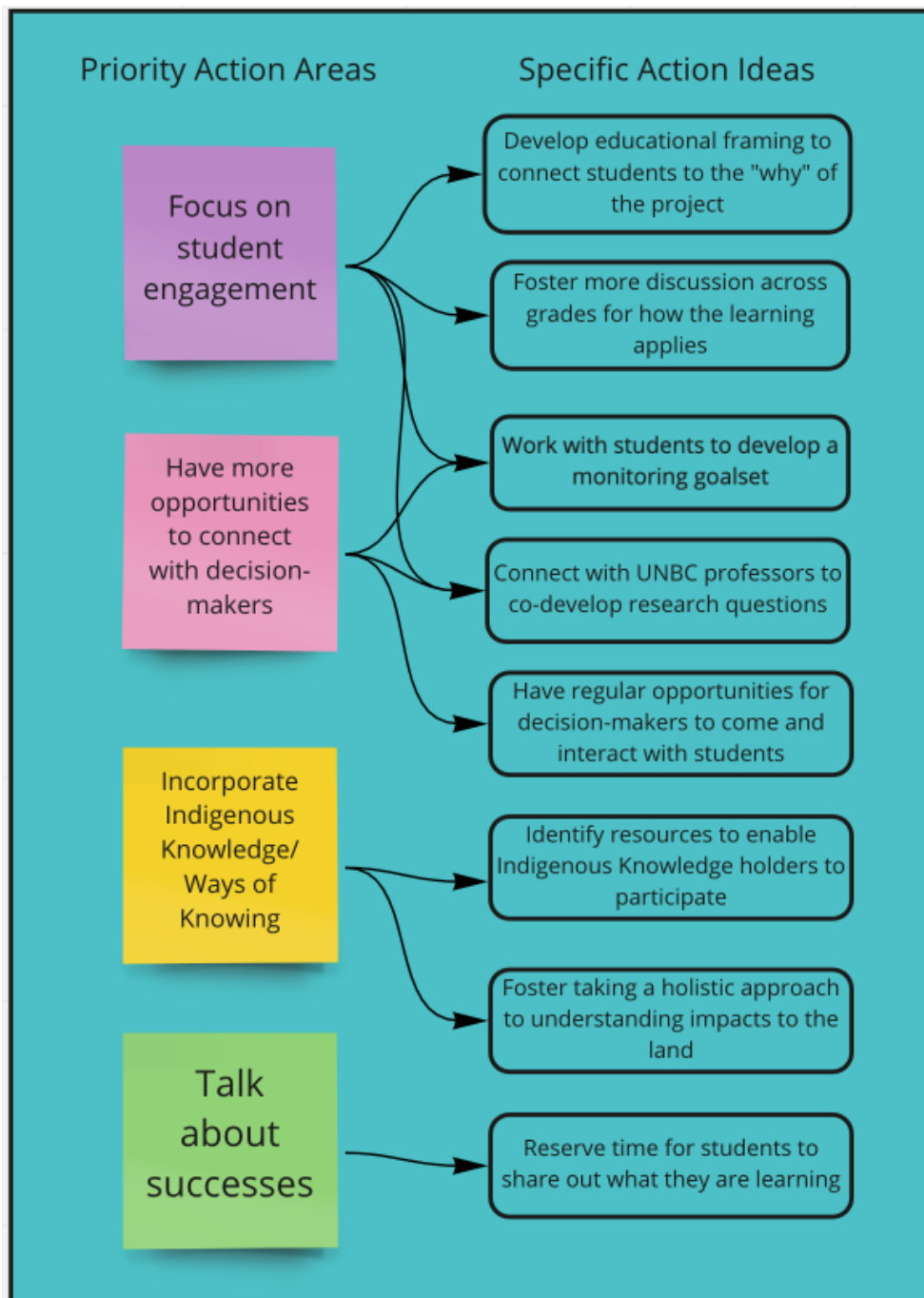

Figure 5. Priority collective action areas and next steps discussed during the workshop.

Conclusion

Research has identified that one of the most important steps for linking school and community-based monitoring to decision-making is to bring students, teachers and decision-makers together (Ady, 2016). During June 2021, we held two workshops to do just that, with the three goals of 1) building relationships, 2) building shared understandings for next steps/recommendations, and 3) working together to give input on the interview summary report. The workshops achieved these objectives in the following ways:

- **The workshops were an effective method for building relationships**. All participants expressed gratitude for the chance to interact with those from other groups. Students expressed how grateful they were to be heard by decision-makers. Decision-makers expressed how hopeful they felt after having a chance to interact with youth. Teachers expressed how helpful it was to learn about current issues in the watershed from decision-makers.

- **The workshops fostered a collaborative pathway forward**. The model of using a virtual whiteboard tool and break-out rooms was effective for generating discussion and identifying shared goals. With the help from the four guiding questions participants worked to identify two priority aspirations for what can be achieved by linking SBM to decision-making (Figure 3). Additionally, participants outlined four areas of priority action to move in this direction (Figure 5).

- **The workshops were an effective forum for learning about participant feedback on the research findings**. Having 18 of the research participants review the 'Pathways of Influence' diagram during the workshop was a valuable opportunity to ensure that the analysis of the interview data resonated and aligned with the views of participants. Key feedback on the diagram included the idea that it should be expanded to indicate where solutions are initiated.

The success of these workshops indicates that the format used could be a model going forward for facilitating the collaboration necessary to link school-based monitoring to decision-making in this context. These workshops were the concluding step of this research project, and information from this report will be incorporated into the thesis document produced for the research.

Work Cited:

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