Community Engagement Report

Intersecting Visions: Dialogue at the Art-STEM Crossroad
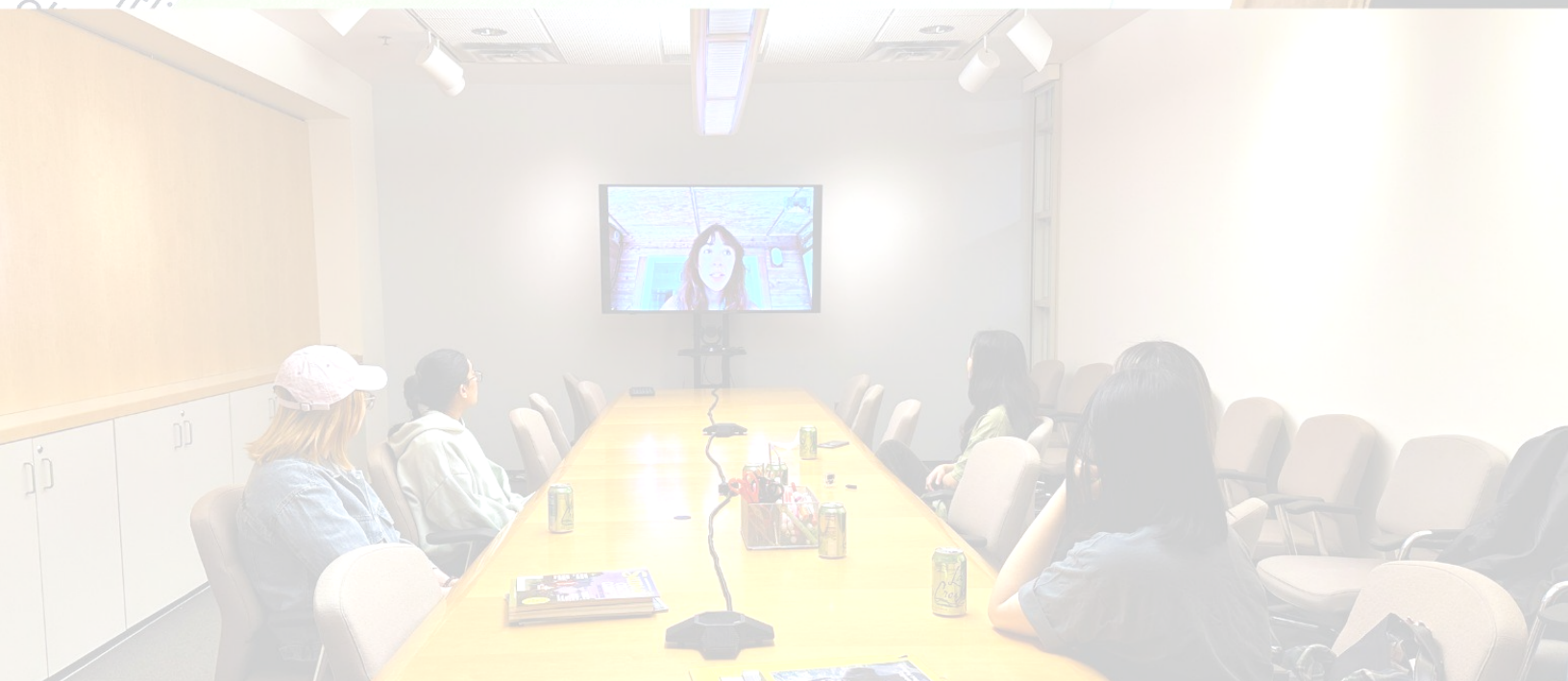
Henry Art Gallery

University of Washington

ART 496 B: Henry Art Liaison Program 2023 – 24

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Situation Analysis

Intersecting Visions is a public program developed through the Henry Art Liaison program with the intention of bridging the gap between the humanities and STEM (science, technology, engineering, and math) students. Through centering students in the program development process and prioritizing mutually beneficial exchange, we hope to spark conversations about the benefits of collaborative models between the humanities and STEM disciplines. In our experience, we have noticed a divide amongst students in the arts and in STEM disciplines. This program will allow us to address this divide as well as the Henry's strategic goals by providing an opportunity to expand audiences and build stronger foundations within the student body at the University of Washington.

There has long existed a divide between these realms, which could be described as "the two cultures" by C. P. Snow. Snow depicts this art-science divide as the "intellectual life…of Western society…increasingly being split into two polar groups."[1] Present Museum intersectional programming attempts to address this gap through a relatively one-sided approach. At the Art Institute of Chicago, initiatives like *Conserving Photographs* and *Secrets of the Collection: Materials of the Medieval*, infuse science into art museums through a display of technical history of photographic processes and in-gallery demonstrations of historical materials and techniques.[2] The Getty's "PST Art: Art & Science Collide" develops a series of public programming that uses artistic works to visually represent scientific concepts or phenomena, such as *The Gift,* presenting the concept of astrophysics through "music scores" and "digital interventions."[3] Similarly, science institutions like the Exploratorium in San Francisco and Fermilab have artists in residence programs through which they explore visual and auditory representations of scientific ideas. Whether implementing scientific methods in the analysis of artwork or illustrating science through the creation of art, the emphasis of intersectional practice

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[1] C. P. Snow, "The Two Cultures," chapter in *The Two Cultures and Scientific Revolution* (New York: Cambridge University Press, 1961), 1–22.

[2] "Intersections in an Art Museum: Where Art Meets Science," the Art Institute of Chicago, 2017, https://www.artic.edu/about-us/departments/academic-engagement-and-research/research-initiatives-2.

[3] "PST ART: Art & Science Collide," the Getty, 2023, https://www.getty.edu/news/getty-announces-expansive-public-programming-for-pst-art-art-science-collide/.

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still lies primarily at either arts or science. Though this approach opens a door to a dialogue about possible interdisciplinary intersections, it does not provide opportunities through which interdisciplinary exchange occurs, relying on the disciplines as tools rather than rethinking how ongoing conversations can result in alternative approaches to both STEM and art.

In our program development, we looked to institutions like the University of Chicago, which have developed programs to promote interdisciplinary exchange in a more thorough nature through their Arts, Science + Culture initiative, bringing together students from various humanities, science, and arts fields to co-create research and artistic projects.[4] We appreciated the emphasis on equal exchange and participation from both creative and STEM fields throughout this program. Our program will be similarly collaborative in nature, working with labs on campus to bring students from various creative and STEM disciplines together to learn about art and science as well as develop projects that respond to the program. Through this approach, we hope to create both an opportunity for cross-discipline interactions and an exercise in how these exchanges can extend into interdisciplinary research as well as into technical and creative projects. A method that we found useful is a "STEAM education model" wherein the arts and design are integrated with STEM education.[5] Park, Nicole, and Raymond's convivial approach is also based on the premise, STEAM (science, technology, engineering, arts and mathematics)—building twenty-first century skills through transdisciplinary learning and engagement that is mutually supportive.[6] Though this programming will be limited to a select number of students in its initial iteration, we hope that it may serve as a jumping off point for further developed programming that serves both art and STEM students alike in the development of mutually beneficial interdisciplinary conversations. *Intersecting Visions* hopes to construct ongoing conversations and relationships that allow for alternative approaches to the work that happens both within the Henry and in the wider University of Washington community.

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[4] Arts, Science + Culture Initiative." *Arts, Science + Culture Initiative*

[5] James W. Bequette, and Marjorie Bullitt Bequette, "A Place for Art and Design Education in the STEM Conversation," *Art Education (Reston)* 65, no. 2 (2012): 40–47.

[6] Sean Park, Nicole Knibb, and Raymond Tolentino, "Convivial Education: An Autoethnography of Integrating Visual Arts and Design Thinking into STEM through Art Museum-Based Education," *International Journal of Design Education* 16, no. 2 (2022): 155–74.

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    -initiatives-2.

Park, Sean, Nicole Knibb, and Raymond Tolentino. "Convivial Education: An Autoethnography
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    https://www.getty.edu/news/getty-announces-expansive-public-programming-for-pst-art-
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    New York: Cambridge University Press, 1961.

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Goals

Goals Outline

1. Expand Audiences and Build Relationships:
   - cultivate a broader audience with a focus on the campus student body, supporting the Henry's strategic goal of amplifying diverse voices & ideas and engaging & expanding our audiences
2. Facilitate Interdisciplinary Dialogue:
   - promote a vibrant exchange between the arts and STEM fields, fostering interdisciplinary understanding and exchange
3. Collaboration and Co-Creation:
   - encourage collaborative projects between arts and STEM participants, leveraging a STEAM-derived approach for a holistic learning experience

Preliminary Research

We found it important to center the thoughts of STEM students in the development of this program, so we held a roundtable discussion and developed a survey. In total we had 8 students respond, all recruited through the Liaisons' personal connections. The students who participated encompassed a wider range of STEM disciplines, including a participant who double majored in Computer Science and Art History as well as a participant who had only visited art museums about three times in her life. We began with some preliminary questions to gauge their previous levels of engagement with art. Generally we found that most participants had decent exposure to contemporary art and general arts spaces, about half having taken an art history class in the past and about three fourths having visited art museums 10+ times. All of our participants had heard of the Henry Art Gallery before with most having visited, though a portion of these visits were only to the cafe. The primary definition given for contemporary art was work that is connected to the present. People appreciated its ability to speak on relevant issues but also noted that it was abstract and sometimes difficult to conceptualize. When asked about how comfortable people were in Contemporary art spaces, we got two primary answers, the first being that they were

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welcoming spaces and the second being that they could be intimidating. Participants noted that there was often a learning curve, and museum resources that provide further insight were appreciated.

Do you feel welcome and comfortable in contemporary art spaces?

somewhere inbetween
25.0%

yes
50.0%

no
25.0%

Do you feel welcome and comfortable in primarily STEM spaces?

somewhere inbetween
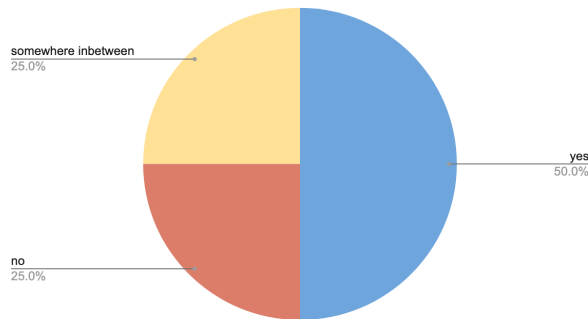25.0%

yes
25.0%

no
50.0%

Figure 1. The graph shows the distribution of participants' responses to the question "Do you feel welcome and comfortable in contemporary art spaces?"
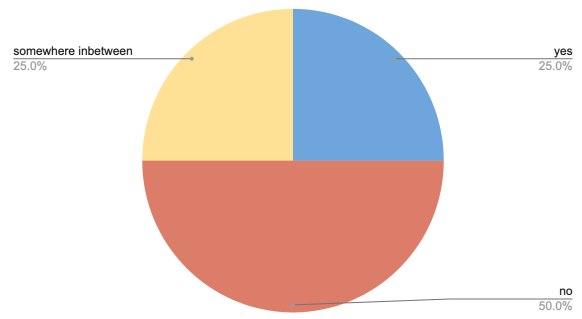
Figure 2. The graph shows the distribution of participants' responses to the question "Do you feel welcome and comfortable in primarily STEM spaces?"

In response to questions about comfort in STEM spaces we also received varied answers. Many spoke about a competitive culture that felt alienating, and female participants specifically spoke to issues around sexism. They additionally pointed to a loss of individuality in STEM spaces. Generally people highlighted that the realms in which they had knowledge were more comfortable than those in which they lacked. We also asked about how the two fields can learn from one another, and they pointed out that STEM could gain from critical thinking and collaboration while Humanities could gain from the logical thinking process. Lastly, we asked questions about what people wanted out of art. The biggest question people were asking when looking at art was "why?" There was also an interest in contextual information. In regards to why people attend museums, we received responses about personal meaning, supporting artistic institutions, taking pictures, spiritual engagement, creating connections, building community, decompressing, education, and a production of culture and meaning.

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Measuring Progress

- <u>Qualitative Assessments:</u> Progress will be measured through qualitative methods including post-engagement reflections, comparing them to pre-engagement surveys and roundtables. This will help gauge shifts in participants' perceptions of museum spaces as platforms for learning and interdisciplinary engagement.

- <u>Key Indicators:</u> Changes in participant understanding, engagement levels, and the quality of collaborative projects will serve as primary indicators of success. Additionally, an increase in student body participation and interest in future programs could be measured to assess audience expansion efforts.

- <u>Feedback Loops:</u> Continuous feedback from participants and other stakeholders will be integrated into program evaluation, ensuring iterative improvements and alignment with our main goals.

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Itinerary

Part 1
Thursday, May 2, 2024, 2:30 PM – 3:15 PM
Henry Art Gallery, Lower Level Galleries, *Kelly Akashi: Encounters*

Part 2
Monday, May 13 2024, 3:30 PM – 4:15 PM
Earthlab office

Part 3: Friday, May 17, 2024, 4:00 PM – 4:45 PM
Henry Art Gallery, Conference Room

The program was divided into three parts, where participants learned about science-informed art and art-informed science, applying their findings to develop hypothetical interdisciplinary collaborative projects. We recruited six program participants (three art majors and three STEM majors) through personal connections and word of mouth.

In part 1, we met at the Henry Art Gallery. We started by introducing land art and eco-critical art examples as a framework to provide an entry point for participants to understand how an interdisciplinary artwork could be discussed. Then, participants formed pairs to explore Kelly Akashi's artworks discussing land as a medium and how Akashi uses science as a tool in her artwork. Through this engagement, participants expressed that they gained insights and became more comfortable reading and discussing contemporary art.

Figure 3. Participants explore Kelly Akashi's *Encounters* [documentation of event, May 2, 2024, Henry Art Gallery, Seattle, WA]. Photograph by Ayla Tanurhan.

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In part 2, we held a conversation at the EarthLab, a visionary institute at the University of Washington involving environmental and sustainability initiatives that intersect with social justice. We met with Research Scientists Rishi Sugla and Ruff Granados from the Climate Impacts Group. They shared different interdisciplinary initiatives they created in building climate resilience through community-centered projects. They described "Stories of Science," a documentary project where they use oral history to inform research on constructing new food systems and deliver the project through a social documentary film. In the "Community Assemblies Project," they pursue policy change using community-driven art as a method, such as zines, murals, and playback theater, seeking a way to communicate about climate. After the talk, we had a group discussion about the difficulty in art and STEM collaborative projects where either art or STEM could be deemed as a "side thing." Sugla beautifully responded to the art and STEM discrepancies, saying, "both art and science are an act of making sense of the world."

Figure 4. A project example shared by guest speakers. Photograph by Rosaline Dou.

In part 3, we reconnected at the Henry Art Gallery's conference room. In pairs of art and STEM participants, we discussed the previous two programs and the art/STEM approach to integrate the other discipline. Then, in the same groups, participants co-ideated and developed new interdisciplinary project ideas together.

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Figure 5. Project development session [documentation of event, May 17, 2024, Henry Art Gallery, Seattle, WA]. Photograph by Rosaline Dou.

One group developed a project using interactive art to inform environmental issues. They envisioned combining art, technology, and engineering, using sensory triggers to change the environmental projection as a human steps into the installation. Another group ideated a navigation system in museums for children on the autism spectrum. They envisioned using visual assistance and virtual reality to develop personalized modes of exploration, rendering safe spaces and positive stimuli for children to feel comfortable in a public space with many simulations.
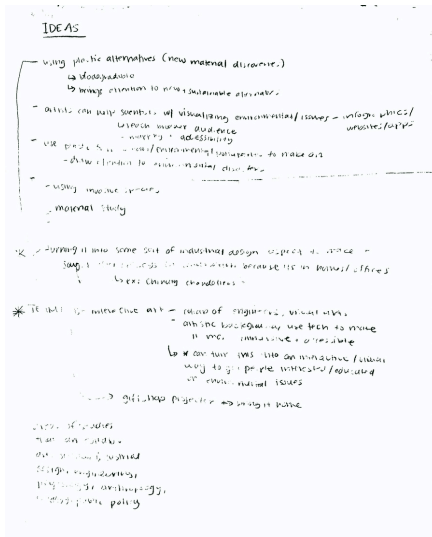

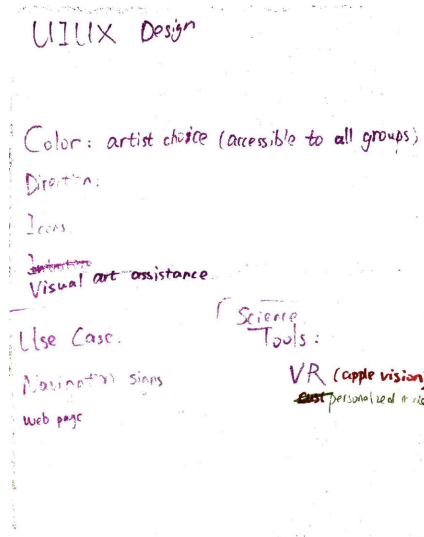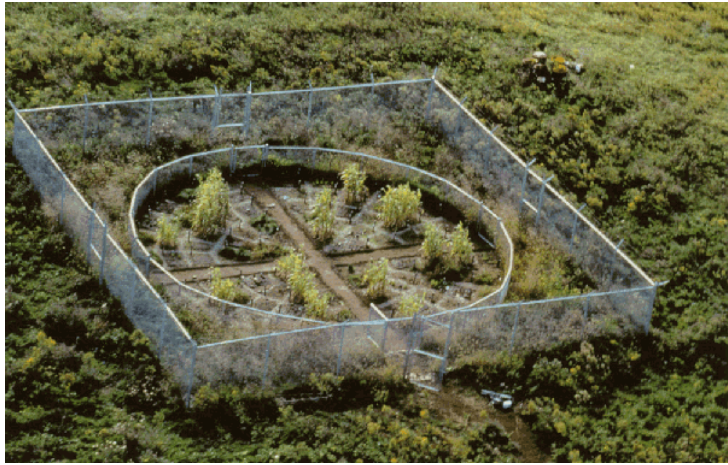
Figure 6. Group 1 project idea.

Figure 7. Group 2 project idea.

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Programming Outline

Part 1: Art History and The Environment Through Kelly Akashi's *Encounters*

	Kelly Akashi CEP Script
Introductions @ Ed Studio (5 min)	Welcome participants in the lobby and bring them to the Ed Studio. *Point out bathrooms (gendered on top floor and gender neutral on mezzanine level).* Introduce Ourselves: 1. **Name, pronouns, major** 2. **Relationship to art** 3. **Description of Henry Art Liaison Program** 4. **Introduce CEP** Introduce Program and share goals: 1. **Interdisciplinary exchange, specifically between art and STEM** 2. **Collaborative models** 3. **Share program inspiration and three-part model** Ice Breakers: 1. **Names, pronouns, major** 2. **In one word, describe the relationship between art and science.** Section 1 Introduction: 1. **Discussing art and the environment through the lens of Kelly Akashi** 2. **Overview of Land Art** 3. **Kelly Akashi mini tour** 4. **Short Reflection**
Land Art Introduction @ Ed Studio (15 min)	Introduction: Land Art and the Eco-critical Art movement are two examples of movements that have taken the earth as a ground for both artistic and political expression. Some of these artists are addressing environmentalist issues, but there is a large expanse of other topics addressed as well. Mel Chin, *Revival Field* (1991-ongoing)

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	<u>Information</u> ● Conceptual artwork with the aim of shaping a site's ecosystem ● Uses metal-tolerant plants to extract heavy metals from contaminated soil and revitalize earth ● Location: Pig's Eye Landfill in St. Paul, Minnesota <u>Discussion:</u> **How does earth become Chin's medium?** **Do you think of this as more art, more science, or both?**
Kelly Akashi @Lower Level Galleries **(20 min)**	**Heading to Kelly Akshi from Ed Studio** <u>Introduction:</u> Kelly Akashi is an LA-based multimedia artist. She first began her artistic career working with analog photography but has since expanded beyond photography to a wide set of materials like glass, wax, bronze, rope, and clay. In past works she has even included materials like chewed gum![7] Some themes and concepts that she explores throughout her work are time, scale, permanence and impermanence, and control and chaos. Akashi also implements tools like microscopes and telescopes to explore these concepts. In this exhibition, we see images created through the use of microscopes. These images were constructed by growing crystals on film strips. On the opposite end of the scale, we see a video of our galaxy colliding with another galaxy. To produce this work, Akashi was inspired by discussion with UWs astronomy department and collaborated with a video artist to create this visual representation of what that may look like. We see elements within the sculpture that point to environmental themes. The glass thorns are references to black berry bushes, which are invasive in Washington, and the use of this reference allows us to think about our impact on the environment. Throughout her work she uses scientific tools and elements to spark conversation around conceptual ideas. <u>Activity: (include if time is running low)</u> Now I will divide you into three groups. Each group will take a closer look at a certain section of this exhibition, and we will come together to discuss how we think they interact with one-another. Group 1 will look at the sculptures. Group 2 will look at the projection. Group 3 will look at the images. Some questions to think about as we walk through this space. **What scientific components might be at play? What are they communicating?** **How do these objects or images reference the planet?** In 5 minutes, we will circle back by the benches. I should note that only 6 people are allowed in the gallery space at a time, so let's make space for one-another accordingly!

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[7] Watlington, E. (2023, May 22). *Kelly Akashi on creating "sublimely offensive" sculptures and what happens when your medium becomes obsolete*. ARTnews.

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	Now that we have regrouped, why don't we go around and share one thought we had about the section we interacted with. **Looking at scale, material, placement, and other components, what tools does Kelly Akashi use to create conversation about the earth?** **How do we science/STEM as playing a role within her work?**
Closing (5 min)	Summarize all of the thoughts shared in the discussion. Connect to broader Art History and provide summary of how art is being used as a tool for understanding our relationship with the environment Questionnaire about takeaways ● One the scale of 1-10, how much do you feel connected to art before and after ● Whether inspired to use anything learned to their own work ● Ask they see science forming artistic practice ● How they see artistic practice forming science

Part 2: EarthLab Tour

Introductions (10 min)	Introduce Ourselves + Earthlab: ● Name, pronouns, major ● Introduce Earthlab and their initiatives ● Why the second part of the program takes place here Ice Breakers: ● Names, pronouns, major
Guest Speaker (15 min)	Guest speaker Rishi & Ruff introduce their work: - Projects that use art as a method in climate advocacy and climate research
Informal Q&A (15 min)	moderating and moving forward the conversation. Rishi & Ruff responding to questions (solicit participants thinking about interdisciplinary work)
Closing (5 min)	Summarize all of the thoughts shared in the discussion. Comparative reflection of the first part and this part of the program.

Part 3: Return to the Gallery: Project Development

Welcome and Section 3 Introduction (5 min)	*Meet participants in the lobby and bring them to the ed studio.* Welcome participants back to the gallery. Begin by asking participants to share reflections from Section 1 and Section 2. Summarize reflections and introduce Section 3. Ideate hypothetical project ideas, that implement components from both art and STEM Describe collaborative model and share University of Chicago project inspiration

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	This Section will be highly discussion based, and will change depending on how participants engage. We will include guiding prompts below
Discussion and Project Development (28 min)	***Divide the group into pairs, based on STEM and Art disciplines.*** **Discussion (10 min):** Take 10 minutes to discuss some of the following prompts. No need to stick to them directly, but allow this to inform the following project development. **Discussion prompts:** 1. What tools did we see artists implement vs. what tools did EarthLab implement in their varying approaches to questions about land and climate? 2. What did the goals of artists look like? What were the goals of EarthLab? How are they similar or different? 3. How can STEM inform artistic work, humanities research, and/or project development? 4. How might art inform STEM based research and project development? 5. Can we ideate how these two fields may develop interdisciplinary exchange? 6. In your own work and fields, how might you implement ideas from the other sector, Art or STEM respectively? 7. How does interdisciplinary exchange shift the way you work through hypothesis development, project development, research construction, and approach? Or if you are constructing a form of creative expression, how might the introduction of STEM shift your approach? 8. What can we gain from interdisciplinary exchange?
	Project Development: Now that we have had some time to think about how ART and STEM can interact, why don't we put this into practice. We will spend the next 18 minutes discussing and developing hypothetical project ideas. We have partnered everyone up with a STEM, Arts student pair. For inspiration, you might take pieces from the work both of you do and find an intersection to build off of. Or you may develop a totally new idea based on the work we saw throughout this program! We will be jumping between groups to help work through ideas! Offer poster making/collage as a means of expressing ideas. *Give them a 2 minute warning prior to discussion.*
Share Reflections and Project Ideas (9 min)	Why don't we group back together to share some pieces from the discussion as well as the projects you have all ideated.
Closing (3 min)	Summarize the key points from the reflections and the projects. Encourage students to continue thinking from an interdisciplinary perspective. In one word, describe the relationship between art and science. (see if the participants' answers have shifted) Thank everyone for participating and ask them to fill out a survey. Hand out compensation for participating.

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Project Timeline

Time	Goal/Task	Notes
1/14 – 1/20	Develop project timeline	x
	Set preliminary goals	x
	Conduct secondary research	x
1/21 – 1/27	Draft preliminary situation analysis	x
	Roundtable recruit and preparation	x
1/28 – 2/3	Conduct roundtable discussion	x
	Draft post-discussion goals and situation analysis	x
2/4 – 2/10	Develop contingency plan	x
	Develop program outline and script	x
2/11 – 2/17	Program partnership outreach	x
2/18 – 2/24	Catch up and refine the program plan	x
3/3 – 3/9	3/7 3:30 PM, visit program partner EarthLab	x
3/24 – 3/30	Recruit program participants	x
3/31 – 4/6	Coordinate program time with participants and Earthlab	x
4/7 – 4/13	Consolidate program delivery date	x
	Draft and send Letter of Agreement (LoA) to participants	x
4/14 – 4/20	Refine and update program script	x
4/21 – 4/27	Receive and confirm participant LoA	x
5/2 – 5/4	5/2 2:30 – 3:15 PM, Part 1 delivery	x
5/5 – 5/11	5/13 3:30 – 4:15 PM, Part 2 delivery	x
5/12 – 5/18	5/17 4:00 - 4:45 PM, Part 3 delivery	x

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Contingency Plan

Introduction

This contingency plan aims to ensure the successful implementation of the community engagement project, addressing potential risks that could impact participation levels, program execution, and partnership collaborations.

Risk Identification and Mitigation Strategies

1. Low Participation in Roundtable Discussions
   - Mitigation Strategy: If not enough people sign up or if time coordination fails, shift to a smaller group format and create a survey to facilitate engagement and gather insights from participants who cannot attend.
2. Insufficient Program Registrations
   - Mitigation Strategy: Enhance outreach efforts by leveraging personal connections, engaging previous roundtable participants, and expanding outreach through targeted communications and social media promotion.
3. Disruption in the Three-Part Program Structure
   - Mitigation Strategy: Ensure participants are aware of the commitment by clearly stating the three-part structure in initial registration communications, reminder emails, and during the introduction of the first two programs. Emphasize the value and interconnectedness of each session to encourage full participation.
4. Partnership Alternatives
   - If the EarthLab partnership, our main intended program collaborator, faces unforeseen challenges:
     - Primary Alternative: UW Farm
     - Secondary Alternative: Friday Harbor Laboratories
   - Outreach Plan Adaptation: The focus of the outreach plan will shift based on the selected partnership, tailoring communication and engagement strategies to align with the new partner's strengths and thematic areas.

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Results

Through surveys provided after our first iteration in the gallery and questions posed after each session, we learned that participants felt not only more connected to contemporary art, but also inspired by the content with which they were engaging. One student noted that "[their] interest in land art as a part of [their] artistic practice has exponentially grown," after participating in the tour, as well as many remarks on how their perception of the value of art and science had shifted in the positive.
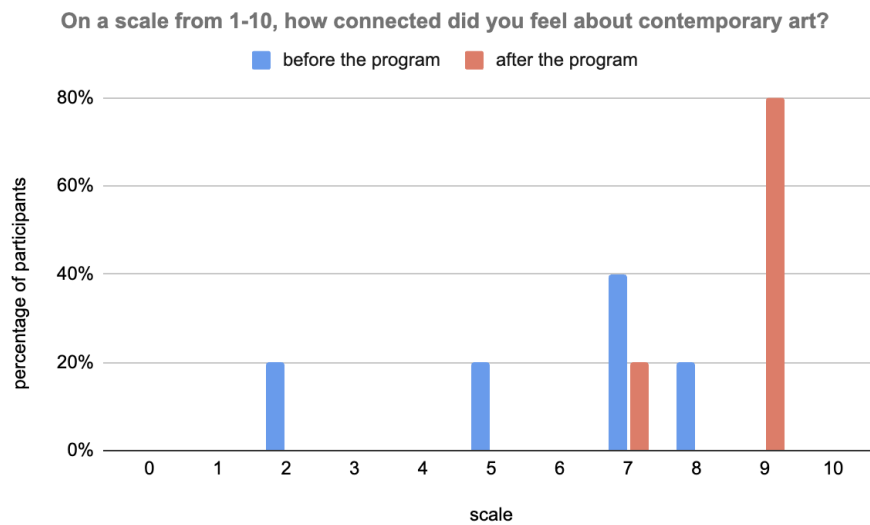

Figure 8. The graph compares the participants' response to the question "how connected did you feel about contemporary art ?" before and after the program.
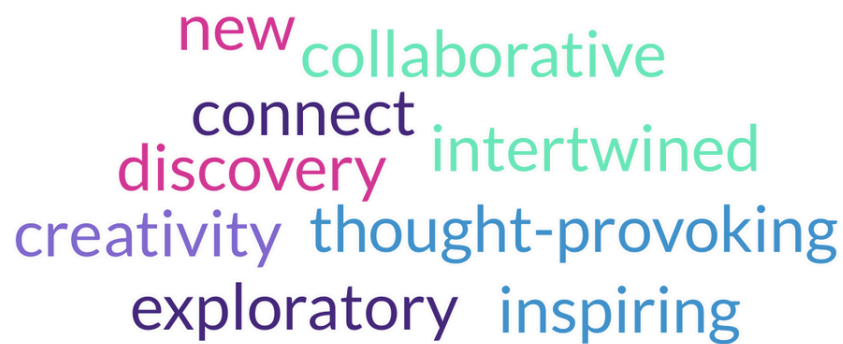

Figure 9. Word cloud visualizes the participant responses in the survey.

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Above we have the results from the noted survey in which a clear increase is depicted. We additionally pulled some key words out from both in person and online responses including new, collaborative, connect, discovery, creativity, thought-provoking, intertwined, exploratory, and inspiring. This list of words strongly reflects the initial goals and research we conducted, and we hope that collaborative and interdisciplinary programming continues to occur within this context.

Overall, *Intersecting Visions* was an introspective program, as reflected by the participants. The participants expressed that the program prompted them to actively engage in interdisciplinary discussions at a level that they could not achieve solely on their own. From the discussion in part 3, the participants also pointed out and recognized the existing tensions between art and STEM disciplines. Some participants stated that when art engages with STEM, it often becomes design-based, serving as a visual assistance rather than a creative art form. They reflected that this is an existing issue they have found in present interdisciplinary projects, and it is challenging for all disciplines to shine equally in an interdisciplinary setting.

We believe all the findings from this project could serve as a resource to establish future public programming that engages STEM fields or contains an interdisciplinary discourse, contributing to the creation of public programs that truly inspire interdisciplinary exchange. We want to consider art and STEM as one, in line with the STEAM model mentioned in the situation analysis, to benefit the public through a more holistic learning and engagement model.