RREV Academic Innovation Sustainability Template

This template provides an outline of the components required of a RREV Innovative Pilot Sustainability Plan. The information in this template will serve as the basis for requests for schools/districts to proceed with an individually designed RREV Pilot Sustainability Plan.

Section 1: Define the Primary Sustainability Need

Sustainability for your pilot innovation can be described in three different levels of impact which we will define below.

Maintain – Least amount of contextual change. You are basically working with the same group of students and teachers to solidify the potential impact of your pilot and gather enough data to consider the pilot's potential in new contexts.

Spread – Innovation or reform implemented in greater numbers of **similar grade level classrooms** and includes the activities, structures, materials, and underlying beliefs, norms, and pedagogical principles associated with the change strategy. –Coburn, 2003

Scale - Innovation or reform is implemented in greater numbers of **diverse grade level classrooms and schools** and includes the activities, structures, materials, and underlying beliefs, norms, and pedagogical principles associated with the change strategy.

A. In the table below, select the level of impact and describe the pilot-identified student needs / problems that your plan will continue to address for both the 2023/2024 school year and for the next 3-5 years.

2023 / 2024 School Year
Identify: MAINTAIN / SPREAD / SCALE

Define sustainability need(s):
From the outset, this pilot has sought to address inequities in the student experience in PPS regarding access to the outdoors, nature, and experiences that integrate learning and place-based education. The Pilot problem statement as written in our original document is: " There is inequitable access to outdoor and experiential learning opportunities. This impacts mental, physical, and emotional wellbeing and also decreases opportunities for success as a student and a community member."

Our team is aware that we continue to be ambitious in our sights and goals. Following what we learned at the Sustainability Symposium in Orono, we feel we can continue to make leaps and bounds given the level of support in our district for this work and the continuing success the original pilot is having. Our aim in the last few months for the Sustainability funds is to ensure that this work remains deeply embedded in our children's school days and experiences and seek to meet the RREV intention of replicability for the children of our state through models that can be shared, replicated and celebrated across Maine.

As we stated in the original pilot, 84% of families of color live in nature-deprived areas in Maine compared to 26% of their white counterparts. This statistic highlights the importance of the school day experience as a central opportunity to create equitable access to outdoor and experiential learning by connecting with the natural environment of the schoolyard.

With equity at the center of the Portland Public Promise, our pilot set out to address outdoor-related district-wide inequities affecting 3200 elementary students. Given the reality of this problem and seeing the window for possibility due to COVID-19 measures, we felt an urgency to create access on as large a scale as possible.

The needs we identified and continue to identify are multi-fold as our pilot seeks to address the whole child as one of our values in PPS. Still emerging from the effects of the pandemic, it is clear that students need the time outdoors to build physical capacity that was diminished from the time indoors and online during the pandemic years. Also, we have seen how the varying levels of emotional and mental well-being can be supported and mitigated through these integrated outdoor learning experiences within the school day. And finally, we postulated that student learning loss and achievement benefits would increase and through our data, it appears to be accurate. What began as an innovative response to a pandemic is proving to be a model that has long-term potential for students' emotional, physical, mental, and academic well-being.

We are aware of how ambitious the original plan was and are pleased that we were able to offer district-wide fieldwork to 1000 students our first year as a pilot model, a teacher cohort of committed classroom teachers impacting 120 students throughout the school year, and 5 Garden Living Schoolyard Teachers serving 2000 students through weekly engagements outdoors with all students.

This school year, we will expand fieldwork to all 3200 elementary students, launch Wabanaki/Life Science units with embedded outdoor and experiential learning to grades K-5, and service all 8 mainland elementary schools with our Environmental Literacy Teachers. It is important to note that the Environmental Literacy teachers are an evolution of the Garden Teacher Model from our original pilot.

As is clear from our original budget, we have been conservative and methodical in our spending approach, waiting until all the stakeholders, including district administration, school-based administration, teachers, students, and parents were at the relatively same level of investment in the project, which is no small feat given our district size. Also, we were doing the curriculum design and stakeholder meeting work so that our future (current) spending would be intentional and responsible. What this means for our RREV work this last year is a focused financial spending plan to finalize the implementation of all that we have been working towards so that it is sustainable moving forward for future student generations.

As we learn more in the field about the environmental dosage as outlined by the Stanford University Environmental Literacy Reports 1-4, we seek to meet this research by increasing student outdoor dosage. As the school day provides the ideal platform to create shared learning experiences in the outdoors, we seek to increase student exposure within the school day.

To do this, we have a 3-step plan for SY23-24

1. To continue and grow the fieldwork model offering all 3200 elementary school students fieldwork experiences integrated with the curriculum at each grade level this year. (An increase from two grades (K, 3) to all elementary grade levels K-5).

2. All PPS K-5 students will be introduced to consistent and ongoing outdoor experiences in their schoolyard as part of the PPS curriculum specifically in the content areas of Wabanaki Studies, Science, and Literacy. These will be at different dosage levels this year depending on grade. (SY 23-24 K, 1 have significantly higher dosage with 3rd grade at the next highest)

3. All 3200 elementary students will have classes with their Environmental Literacy Teachers (an increase in exposure of 1,200 students from SY 22-23).

3-5 year plan

Identify: MAINTAIN / SPREAD / SCALE

Define sustainability need(s):

As we look to a longer-term impact through the Innovation Sustainability part of the award, our focus looks at what the student needs will be in the coming 3-5 years.

As AI and technological systems and programs increase rapidly within the classroom experiences, there is a great risk of students becoming severely disconnected from the outdoors and the rhythms and cycles of life beyond the computer screen. As humans are a biological, and not a virtual system, one could make the case for the extreme need for students to increase exposure to sustained, meaningful outdoor experiences in their school days to mitigate the increased demand and pressure on their time and focus to be screen-based.

With this in mind, we propose the following steps to maintain, spread, and scale the work of this pilot in the next 3-5 years.

Maintain:

1. Ensure that teachers are taking students outside and that students are receiving exposure to place-based outdoor education within their curriculum on an ongoing basis. Provide student and teacher support as needed.
2. Monitor student evaluations of fieldwork experiences and continue and revise experiences to amplify student feedback and learning of integrated curriculum.
3. Observe students to see how technology / environmental factors influence their experience and modify an existing program to maintain student enjoyment and engagement.

Spread:

1. Ensure exposure to grades 2, 4, and 5 to the same level as K,1, 3 (SY 23-24)
2. Increase student fieldwork experiences with the aim to increase racial and economic diversity in the STEM field. To do this-model additional field work after Los Angeles' a la carte' model that both gives students equitable opportunity while supporting teacher agency.

Scale:

1. Replicate the Elementary School model of fieldwork and outdoor learning at the Middle School Level increasing student exposure and experience.
2. By developing and deepening our community partnerships with Maine Audubon Rippleffect, Wild Seed, Ecology School, and Maine Environmental Education Association, offer middle school students opportunities to meet and learn from community organizations that are also possible future employers in our community.

B. Identify which additional students would be impacted, targeted, or supported as a result of your sustainability plan.

Review and describe the evidence (quantitative and qualitative data and research) that demonstrates the impact your pilot had on the original student populations and describe how this data informs your choice to Maintain / Spread / Scale.

Use data that will provide evidence your innovation supports the target student population. This may include the performance of various groups of students (e.g., students in rural locales, students from low socio-economic conditions, students with disabilities, students who are Els, students at risk for dropping out, student who are homeless) with regard to academic achievement, graduation rates, social emotional and mental wellness, economic data, and/or workforce participation.

SPREAD / SCALE

From the beginning of the design model, our pilot had the whole district in mind. Through the help and support of RREV, we have been able to pilot, assess, and redesign in a way we could not have without the award. What happened is that we have been met with a success and reception we could not have imagined.

Our original pilot and continued aim of the Sustainability Award align with our district's equity goal and address students of all demographics and their ability to connect with the outdoors. In our sustainability plan, we hope to spread/scale to more students in the district but they are still representative of the demographics of the original students impacted. What is changing is the number of students served, the depth to which they are served (increased outdoor dosage), and the ages and grade levels served.

All the data that we collected from our innovation, illustrated the success of our model for students. Because of that, we are moving forward with a plan that spreads across all elementary schools and then scales up to older grades.

In the first 1.5 years of our RREV grant, we impacted ⅓ of our elementary students through fieldwork and the teacher cohort and this will help us impact the other ⅔ of the elementary student body. By the end of this year, all 3200 elementary school students will have experienced fieldwork integrated with their standards-aligned curriculum at each grade level.

As a result of the Sustainability funding, we will be able to affect all 3200 students to have consistent and ongoing outdoor experiences in their schoolyard as part of the PPS curriculum specifically in the content areas of Wabanaki Studies, Science, and Literacy. As the opportunities and experiences are woven into the curriculum being launched (as well as the former existing curriculum), we are building with sustainability, replicability, and continuity in mind.

Section 2: Data Informed Sustainability

A. Provide the Logic Model your school used to implement your Pilot

RREV District Logic Model

District: Portland Public School District

Instructions: First in the box below, write two to three sentences describing the problem your RREV project is addressing. Next, create a logic model in Table 1. Please refer to your project application for the resources, strategies and activities, outputs, outcomes, and impacts.

Problem Statement

There is inequitable access to outdoor and experiential learning opportunities. This impacts mental, physical and emotional well being and also decreases opportunities for success as a student and a community member.

Table 1. Project Logic Model[1]

Resources/ Inputs	Strategies/Activities	Outputs	Short Term Outcomes Year 1	Long Term Outcomes Year 2	Impact
District Leadership Advocacy, RREV Funding	DIstrict Wide Integrated FIeld Work	Shared experiences at all grade levels integrated with curriculum	3 grades pilot	3 grades pilot 3 grades sustain	Systemic Change of how Field trips are conducted. Cost effective model increases opportunity and shared experiences for students K-5 (program extends to 6-8)

	RREV financial support and coaching	For RREV Teacher Cohort: Provide professional development and modeling with students to teachers focused on integrated outdoor learning.	Number of teachers interested in professional development activities or consulting with a LSY, RREV or District OEL Coordinator Number of teachers actively engaging with the outdoors within their lessons.	Improved teacher knowledge of outdoor learning principles. Improved teacher attitudes toward experiential and outdoor learning.	Teachers incorporate outdoor learning in their teaching practices.	Greater appreciation and competence for the outdoors among students and teachers
	Community Support and Commitment Natural Resources RREV Funding	Living Schoolyard Teachers as Specials/Unified Arts Teachers implement integrated with curriculum outdoor learning activities across grade levels and subjects. Develop and maintain infrastructure, including nature trails, outdoor learning spaces, and gear storage facility.	Amount of time students learn outdoors. Garden/Living Schoolyard Environmental Literacy lesson plans and activities developed. Plans are connected to the curriculum.	Students demonstrate academic growth Students demonstrate socio-emotional growth Students demonstrate greater awareness of and interest in careers involving the outdoors	Improved attendance Improved Classrroom Behaviors Heighted awareness of environmental literacy Increased Pro Environmental Behaviors	Community awareness of environmental issues is heightened. Increased community and family use of Living Schoolyard Program continues as a Traveling LSY model

HS Program (21-22)	SCRE: Summer Credit Recovery as Immersive Experiential Learning Opportunity	Students achieve needed credit	Students exposed to new ways of being outdoors. Students increase sense of belonging. Students try new activities during school year Academic performance during school year increases	Model is being changed. 2nd year will be a pilot of a combination employment, internship, credit recovery. Students will care for PPS Schoolyards during summer working with an indigenous community member for design and plant choice. Students receive a science credit.	New HS Redesign committee begins to see value of ELOs (in the outdoors) as means for credit recovery. HS teams and admin see benefit of outdoorlearning as an integral approach to school pedagogy.

B. Describe the data you collected about your innovation pilot outcomes that will be used to inform and shape your plan to MAINTAIN / SPREAD / SCALE

SPREAD / SCALE

Through Interview questions conducted throughout Year 1 and in Year 2, it was evident that 72% of the RREV Cohort teachers felt as if they were successful teaching outside (these are new people new to integrating the outdoors into their teaching). The affinity cohort of Living Schoolyard Teachers (teachers who taught outside nearly all the time) reported 89% success rate.

Of these two groups 92% wanted to continue being a part of a program focusing on getting students outside as part of their school-day learning experience.

1500 students regularly kept field journals which were observed and assessed by the Affinity Group Teachers. These journals demonstrated that 70% of students gained in their experience and knowledge learning about flora and fauna of the schoolyard.
Multilingual students showed greater engagement when allowed to write and respond in their home language with the writing or activity prompt translated.

Out of a total of 53 parent responses, 96% said their child comes home talking about what they learned and is eager to go back out the next day and learn outside. Many respondents reported in the comments that it was their child's favorite part of each day/week.

Children asked and observed in class demonstrated an 86% average success rate for focus, behavior, and retention of information (ranging from 59-100%) from RREV and Affinity teachers. Factors involved that changed success levels for students were weather, the topic being studied, and fellow classmates' behavior.

Out of a total of 54 Regular (Non-RREV participation) Classroom teachers (81% said they felt that outdoor learning was of value to their students and could impact their indoor classroom learning.

The data collected supports our desire to maintain and scale the innovation. The positive data bolsters our desire to spread and scale our plan as efficiently and expeditiously as possible. Additionally, data from a 2021 survey of middle school students stated that 95% of Middle School students polled at King Middle School wanted to keep learning outside and asked the school to continue this programming after the pandemic. This further supports our future goals of scaling up to middle school.

The aim with the success we are seeing from our pilot model in the Elementary grades is to scale up the same models (Fieldwork, Integrating the outdoors into the standards-aligned curriculum, and support from skilled Environmental Literacy Outdoor Teachers, as well as small teacher cohorts).

C. List new data that you will need to collect to further inform and shape your plan to MAINTAIN / SPREAD / SCALE

SPREAD / SCALE

Our central questions around which we want to focus data collection going forward are:

1. Does engaging in a curriculum with outdoor learning embedded improve student engagement, behavior, and learning outcomes?
2. How does student engagement outdoors enrich the professional experience of teachers?
3. Do outdoor experiences have an impact on attendance?

To accomplish this we will conduct

- Teacher Surveys that examine K,1 seasonal outdoor learning experience 3x a year to evaluate levels of student engagement in comparison to previous curriculum.
- Student work products show the results of the learning, formative assessment
- Teacher satisfaction surveys of their experience watching their students outside as well as their experience instructing outside..
- Parent, Student, Teacher, and Admin feedback surveys about district-wide fieldwork and check for impact on student engagement, behavior and attendance.

Interviews will be conducted with:

- Environmental Literacy Teachers (at the beginning and end of the year)
- Administrators (twice a year)
- Targeted student and parent interviews (end of the year)

Throughout interviews, surveys and observational data, we will also be investigating student and teacher joy as a remedy for the National Mental Health Emergency as declared by the APA.

Section 3: What is the intended impact of your sustainability plan

A. Describe the goals/milestones of your sustainability plan.

Consider how your plan will continue to meet the needs of the identified target student population(s) and describe changes in policy, practice, or structures necessary to MAINTAIN / SPREAD / SCALE your innovation.

2023 / 2024 School Year
MAINTAIN / SPREAD / SCALE

Building on the success of the Teacher Cohort Innovation Model, we are spreading that model through the use of Environmental Literacy Teachers. Their charge will be to meet with, model for, and co-create experiences for students in the outdoors that are integrated and embedded into our standards-aligned curriculum.

In doing so, we will have scaled our pilot's impact from 120 students to all 3200 elementary students using the same model. The maintenance part of the model enters as teachers will have developed their capacity through watching another teacher model with their students and coupled with integrating the outdoors into the curriculum, the program will be able to sustain its measures.

Pilot problem statement: There is inequitable access to outdoor and experiential learning opportunities. This impacts mental, physical, and emotional wellbeing and also decreases opportunities for success as a student and a community member.

Our sustainability plan for the 23-24 school year has several key objectives that encompass maintaining, spreading, and scaling our sustainability innovation while meeting the needs of our target student population. To maintain our current initiatives, we will ensure the continued integration of environmental literacy and sustainability practices into our curriculum, shifting from siloed content area vertical teams to interdisciplinary content teams. This will facilitate a seamless student-facing experience and serve as embedded professional development (PD) for teachers. Additionally, we will maintain the distribution of materials and permission slips, streamlining administrative processes.

To spread our sustainability initiatives, we will focus on building buy-in among teachers, parents, and administrators. We recognize the importance of internalizing the program's value, and to achieve this, we will emphasize modeling engagement and joy in environmental education. Furthermore, we will develop systems for the effective management of our initiatives, including safety protocols for outdoor learning, ensuring the scalability of our efforts.

In line with our goal of sustainability, we are committed to advocating for the inclusion of Environmental Literacy Teacher positions and fieldwork transportation costs in the local budget. We also plan to engage community partners to provide expertise, resources, and materials for fieldwork experiences, further enriching our sustainability curriculum. Additionally, we will create a comprehensive asynchronous PD video library and supply resources for Environmental Literacy Teachers, ultimately enhancing the quality of sustainability education.

Ultimately, our plan hinges on building the capacity of administrators and teachers, as we recognize this as the key to benefiting our students and achieving lasting sustainability. By redesigning our garden class as a collaborative teaching model involving 4 teachers working with all 3200 students, we aim to significantly impact our community's understanding and appreciation of sustainability, thus ensuring the policy and stakeholder support necessary for the sustainability plan's success from 23-24 onwards.

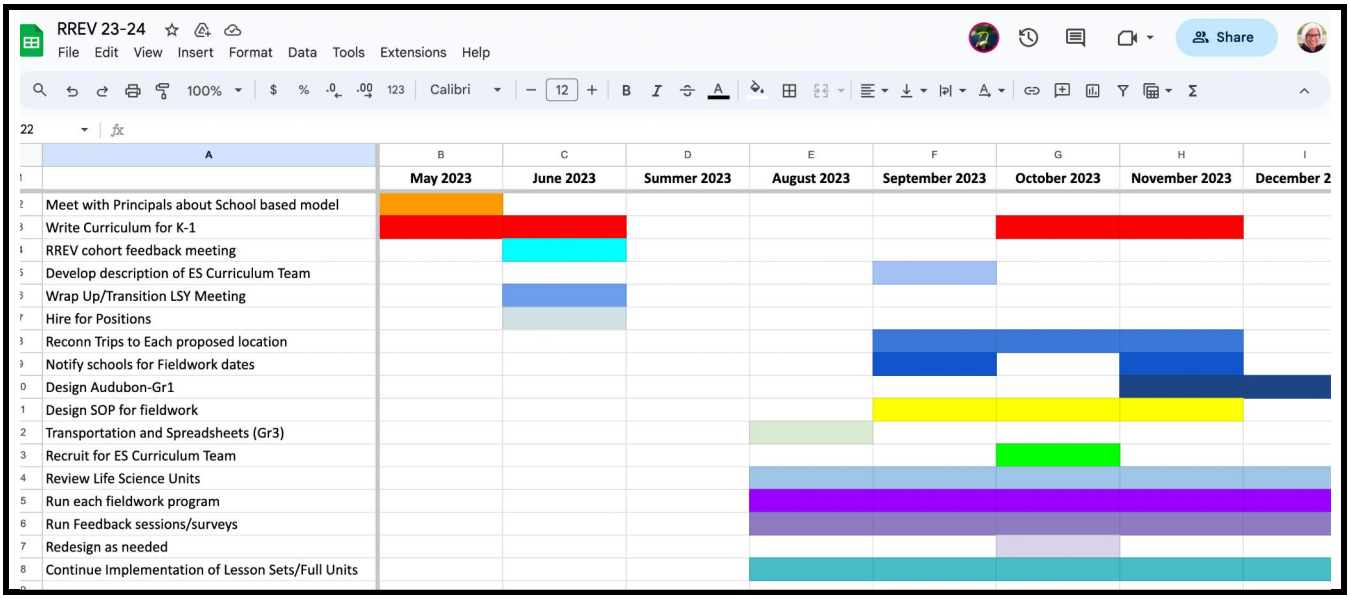
3 – 5 Year Plan

Our sustainability plan for the next 3-5 years is driven by a comprehensive set of goals that will ensure our continued success in meeting the needs of our target student population. To maintain our sustainability initiatives, we will revise elements within the current K-5 curriculum to align it with our curricular goals and the district's instructional vision, thus staying ahead of technological influences. Additionally, we will evaluate and enhance our elementary district wide fieldwork program, with the aim of making it a successful replicable model for other districts. To ensure the sustainability of our programs, we will also write and launch manuals that comprehensively document the Environmental Literacy/Outdoor Learning pathways in PPS K-5.

In the effort to spread our sustainability innovation, we will adopt a systematic approach. We will institutionalize fieldwork by equipping each elementary school with a calendar of trips for each grade, along with detailed fieldwork manuals containing both general and trip-specific information. This will enable us to systematize outreach to community partners, expanding the reach and impact of our sustainability initiatives. Additionally, we will embrace the concept of permeable classrooms, allowing instruction to seamlessly transition between indoor and outdoor spaces to deliver the highest quality education. To promote equity and inclusion, we will expand our teacher cohort model and introduce an Equity Officer model.

To scale our sustainability efforts, we will create a menu of additional opportunities, including integrating sustainability into the yearly onboarding process for new teachers in the district, ensuring alignment with the evolving curriculum. We also plan to implement our successful model in middle schools, analyzing the current curriculum to identify natural integration points. Furthermore, we will actively engage in conversations about high school redesign, fostering a holistic approach to sustainability education across all grade levels. In essence, our plan for the next 3-5 years seeks to maintain, spread, and scale our sustainability innovations through a strategic blend of curriculum alignment, program enhancement, and community engagement, all while addressing the needs of our target student population.

B. UMaine GANTT Chart



Section 4: Identify Key Expenses and Necessary Resources

A. Describe budget expenditures and necessary resources required to MAINTAIN / SPREAD / SCALE your innovation through June 2024.

Essential Expenditures:

Personnel Services/Salaries ($10K)

- Regular and Teacher Leader Stipends

Employee Benefits ($4K)

Purchased Professional and Technical Services ($40K)

- Indigenous representation for Wabanaki Studies/Fieldwork, experts ($1-2000 per field work experience, especially if spending the night close to Portland, up to $6-12000 for this alone)
- Filming-videographer, editing $15000+, once made we would have for a long time
- Signs-creating, placing, site work, installation

Other Purchased Services ($3500)

- Online Subscriptions - membership to organizations
- Printing - Student materials
- Employee travel for Professional Development (mileage)

Instructional Supplies ($4250)

- Multilingual resources
- Consumables
- Lending Library
- Books- field guides, trade books, fiction/non fiction picture books

TOTAL: $100K

Necessary Resources:

SPREAD/SCALE

- 4 Environmental Literacy Teachers SY 23-24
- High-Quality curriculum in which we are integrating the outdoor/experiential learning
- District curriculum team
- Existing materials purchased through the pilot
- Community Partnerships (Audubon, Wild Seed Project, Cultivating Community, Ecology School)

B. Describe budget expenditures and necessary resources required to MAINTAIN / SPREAD / SCALE your innovation BEYOND June 2024

Expenses could include staff time, materials, professional development activities, facilities, and other related expenses. This section does not need to include specific costs, but rather list out the different costs that should be considered to implement the innovation.

Essential Expenditures:

Maintain

- Materials, or a system of providing ES buildings with $ for teachers to purchase consumable materials ($5000--$100 per grade per building)
- Field work transportation costs ES ($24000)

Spread

- Environmental Literacy Teacher positions (currently funded in ESSERF) to work with ES and MS ($200K)
- Conference Costs to be a speaker and share Environmental Literacy Videos/Manual/Design at State/National level ($5000)

Scale

- Professional development for teacher capacity building at MS level ($5000)
- Funding for supporting MS curricular resources ($3000)
- Fieldwork costs for MS ($10000)

Necessary Resources:

Maintain

Environmental Literacy Practices Video Library
Environmental Literacy District Framework and Pathways Manual
Guide to Outdoor Learning (this is a summary of what was done in Covid and a How to guide for districts)
Continued Community Partnerships