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):

Harriet Beecher Stowe Elementary students need opportunities to interact with nature and engage in imaginative play through a child-centered outdoor environments. Providing opportunities for outdoor learning has been shown to improve attendance, student behavior, focus, and academic performance. It is a priority to make these outdoor learning spaces accessible to all students. HBS elementary students can benefit from outdoor experiences that promote motivation to learn and greater student engagement.

The inquiry method is a student-centered learning approach with the concept of students who are actively involved in the teaching and learning activity under the monitoring and supervision of teachers. In content areas such as science, the inquiry method allows children to connect new information to that which they already know as well as to enable transfer of patterns and knowledge to other similar scientific phenomena and in cross curricular learning. Students are tasked with investigating and asking questions about a phenomenon rather than being vessels into which teachers simply stand, deliver, and pour knowledge into.

Using the garden and natural outdoor spaces at HBS elementary, students can engage with topics related to math, science, economics, health and nutrition and social studies. Learning about community gardens can also allow students to be more involved in the local community outside of school. Inquiry methods also provide authentic differentiation, help students develop a love of learning through independence allowing them to become problem solvers and deep thinkers. Using outdoor learning spaces for more inquiry-based instruction has the added benefit of improved student well-being that happens when spending time outside in natural spaces. Children today spend less time outdoors, according to the National

Recreation and Park Association. Increased time outdoors has been associated with improved well-being, more curiosity, more self-control, and more emotional stability.

Interviews with students have exposed their desires for outdoor learning spaces, an interactive garden area, a more environmentally natural environment for play, and accessible play structures and areas for students with limited mobility.

3-5 year plan
Identify: MAINTAIN / SPREAD / SCALE

Define sustainability need(s):

Exposure to the natural world is associated with lower levels of stress, lower anxiety, and better overall social and emotional health. The role of outdoor environments in the service of student wellbeing as well as academic engagement are needs that will continue to be of importance in the next 3-5 years and perhaps with an increased use of technology (screen time) become an even greater need.

When kids head outside, they're getting physical activity, vitamin D, fresh air, and time away from screens. England's National Children's Bureau performed a comprehensive study on the importance of natural play and outdoor learning. They report that "the powerful combination of a diversity of play experiences and direct contact with nature has direct benefits for children's physical, mental, and emotional health. Free play opportunities in natural settings offer possibilities for restoration, and hence, well-being."

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.

The original pilot included all students at HBS elementary school with an emphasis on accessibility for all students to access the outdoor learning spaces. The sustainability plan continues to provide outdoor learning experiences that nurture student imaginations, uplift the senses, and promote happiness and productivity.

The sustainability plan builds off the first year of the pilot and increases more outdoor learning opportunities for students so they can further develop their creativity, problem-solving, independence, and confidence. Instead of being restricted to the traditional classroom structure, the sustainability plan provides more opportunities for students to use their curious minds to explore their outdoor environment.

Section 2: Data Informed Sustainability

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

Problem Statement

The current structure and arrangement at Harriet Beecher Stowe Elementary school regarding outdoor learning and play need to be improved, updated, and made accessible to all students to give children the opportunity to interact with nature and engage in imaginative play through a child-centered outdoor environment. Providing opportunities for outdoor learning has been shown to improve attendance, student behavior, focus, and academic performance. Teachers require support, resources, and time to make outdoor learning a common, well-connected, and meaningful part of curriculum and instruction. Regardless of mobility or learning abilities, all students at Harriet Beecher Stowe Elementary school will be engaged in hands-on learning.

Table 1. Project Logic Model[1]

Resources	Strategies and Activities	Outputs	Short-Term Outcomes	Long-Term Outcomes	Impact
RREV program funding Harriet Beecher Stowe Elementary School teachers and staff. A garden area, existing garden boxes Community partnership with MEEA RREV Coach	Professional development and collaboration with community partner - CREA (Cathance River Education Alliance). Ongoing professional development and collaboration with MEEA (Maine Environmental Education Alliance) Creation of an outdoor learning committee. Hire and provide a stipend for a coordinator and project manager. Use of a coaching model (supported by partners) to support teachers in their integration of new techniques.	• Teacher creation of thematic units. • 100% of faculty participate in professional development centered around outdoor learning. • 100% of students will participate in at least one or more extended outdoor learning experiences in 2022-23. • 100% of students will have access to nature based play areas on the playground. • Students and teachers have access to spaces for outdoor exploration,	Eliminates barriers to accessibility in outdoor learning environment. Students are more physically active during the day as they participate in experiential learning for our students. Students are engaged in creative play, critical thinking and problem solving in the outdoor learning environment. Teachers implement and strengthen thematic units.	Outdoor experiences promote motivation to learn and greater engagement. Students will experience and be exposed to schema around nature in Maine. Teachers become proficient at integrating otherwise unconnected subjects through a lens of the natural environment and create interdisciplinary unit of instruction. Teachers seeks out more opportunities for team-based teaching with a greater sense of ownership and connection to the learning process.	Strengthen and understanding of local ecological systems. Improved academic performance, focus, behavior and an increased love of learning. Social and emotional well-being of students will be positively impacted. Enthusiasm for learning increases.

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

● In the fall of 2022, we surveyed HBS teachers about their attitudes and beliefs about outdoor learning and play. 100% of respondents reported they believed outdoor learning benefits children and outdoor learning and exploration is engaging to children and would take their classes outdoors for learning opportunities. About 88% of respondents believe outdoor learning improves behavior. 82% of respondents reported they would participate in PD with CREA to learn ways to incorporate outdoor learning with standards-based lessons and units. The survey asked teachers an open-ended question about accessibility and outdoor area improvements. When developing and planning for ongoing professional development, developing units with CREA, and planning for accessibility for all students, we considered teacher comments and concerns.

● A survey was sent to families to complete with their children to determine students' attitudes about being outdoors and their experience with science explorations. Many students reported they like to explore outside, enjoy playing outside, and being outside makes them happy. When it comes to scientific exploration, most students reported this was not something they did in science class.

● SRSS data is collected three times a year by the HBS social worker and RTI-B Interventionist. Some data was collected in the 2022-2023 school year and will be used to inform the HBS innovation when students have regularly conducted lessons outside. Because the greenhouse was not available for instructional use, we focused on development of NGSS aligned science units that were student centered inquiry instructional methods that would be leveraged in the greenhouse, garden beds, and outdoor learning spaces. In the 2023-2024 school year, with the implementation of the science units, we will be using SRSS data to inform and

shape our programming moving forward because all students will be fully involved in lessons utilizing the greenhouse and newly developed and aligned science curriculum.

● Student and teacher surveys were also not conducted, but with the implementation of the units in the 2023-2024 school year, students and teachers will be surveyed at the beginning and end of units for baseline and summative data. However, we have strong anecdotal evidence of teacher buy-in and enthusiasm for the innovation. Teachers are working together after school on designing the nature spaces and outdoor classrooms.

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

The MDOE has made a recent change from the NWEA assessment to the MTYA. While we will still have access to the growth scores in our various subgroups, we will also have further information about academic achievement levels.

We would also like to begin use of the PEAR assessment which involves a holistic student assessment and can help us not only establish a baseline but also to determine changes in student social emotional health as they experience the learning opportunities developed for them. The PEAR Holistic Student Assessment (HSA) is a universal social-emotional assessment tool (student survey) that can help you better understand each student's unique strengths and needs.

Student and teacher exit tickets to assess learning and engagement will be used with outdoor learning lessons in the 2023-2024 school year.

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

A. Describe the goals 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

Because of the urban setting at HBS Elementary, the outdoor areas do not support outside learning. Teachers do not have adequate space or resources to support enriching outdoor learning opportunities. Taking students off campus frequently is costly and cuts into other learning time during the day. By providing students and teachers with dedicated, accessible outdoor learning structures, environment, ecosystems, and aligned lessons and units, teachers can remain on campus for lessons, ensuring all students have access. Having accessible structures at HBS will provide teachers and students frequent opportunities to take learning outside. Without necessary changes at HBS, students and teachers will have limited time for outside, exploratory learning. Current play structures and surrounding play areas are not accessible for all students, particularly students with limited mobility, and they lack spaces for imaginative play. The proposed plan for HBS is to add to the play area to provide all students with access regardless of ability. In addition, the area is designed to incorporate outdoor learning by extending plantings and creating ecosystems that will be used in NGSS aligned science inquiry units. Without addressing these problems at HBS, students will continue to have

barriers to enriching, outdoor learning opportunities and creative, imaginative play. With the creation of outdoor learning areas and lessons, students will be more active and will have increased opportunities to interact with the natural world through inquiry and exploration.

Our initial grant proposal consisted of three major goals. As we move toward maintaining these goals they are here to review and expand upon what was met and where HBS still needs to go in our innovation.

- **Goal 1:** 100% of students will participate in at least one or more extended outdoor learning experiences in 2022/2023, or in the school year in which construction of the outdoor learning areas are complete. These experiences will be on-site at identified outdoor learning spaces. Students will have opportunities to utilize a variety of tools and materials to enhance and extend their learning. Outdoor experiences are directly connected to learning standards and curriculum. Students will be active and engaged participants in these experiences with anecdotal data collected and self-reported on engagement and enjoyment levels with at least 75% of the student population indicating engagement and enjoyment. In addition, student achievement, attendance, and behavior data will be used for measures of success with the goal of a 20% reduction in behavior infractions and a 10% increase in student attendance rates.

This goal remains incomplete as construction of our greenhouse was not complete until after the 22/23 school year. Due to this delay, we were not able to survey students about their experiences and engagement. We are working with CREA this summer to have the greenhouse operational for our learners in September of 2023.

- **Goal 2:** 100% of staff will participate in professional development. Integrating content area standards and the guiding principles, as staff plans with CREA, will result in the best possible learning outcomes for students moving our instruction from “good” to “great”. In addition, staff will participate in ongoing PD and coaching from CREA throughout the year. This ongoing support includes staff from CREA working directly with students in delivering instruction outdoors. We believe this model provides the expertise, support, and confidence our staff needs to make outdoor learning a common part of our curriculum and instruction. Teachers will also collect student data using a student observation survey. Again, we have an incomplete goal. Though the teachers who created the units with CREA received more time, most of the staff has only had one session on inquiry methods. It is the hope of HBS that we will work, in connection with district administration, to develop a PD schedule with allotted time for science PD to be delivered through our community connection with CREA.

- **Goal 3:** 100% of students will have access to nature-based play areas on our playground. This experience will allow children to explore creatively in areas that are not playground structure based but made from all found and natural materials. We aim to have 75% student enjoyment of these areas as well as aiming to increase student experience, exposure, and schema around nature in Maine. Anecdotal evidence will be kept using student interviews. This last goal is the one in which we have made the least progress. Again, due to delays in greenhouse construction as well as due to inflation we had stalled in this area. Now that the greenhouse is done, we are ready to look at the earth work and labor/materials necessary to create a nature-based play/discovery space. We have qualitative data about student preferences for outdoor play and discovery that indicate this is still a vital piece of our innovation.

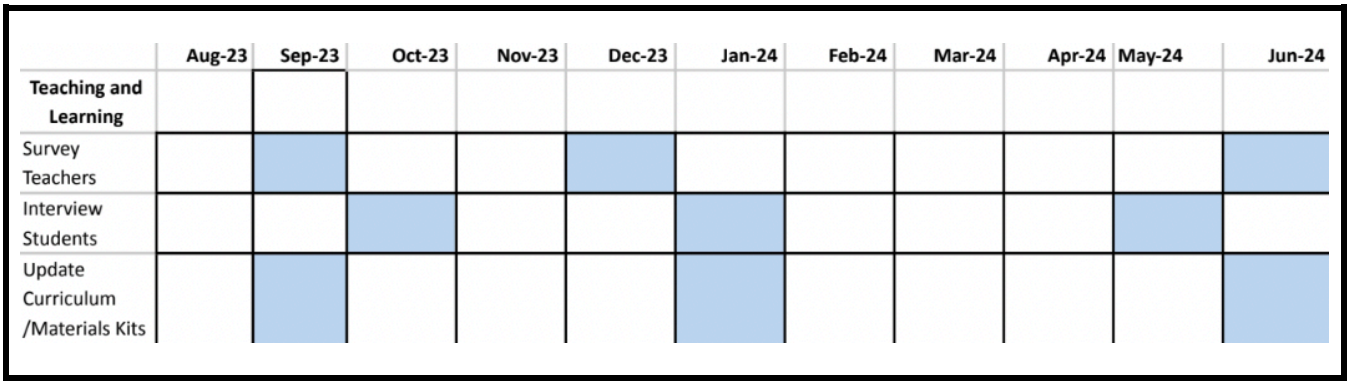
3 – 5 Year Plan

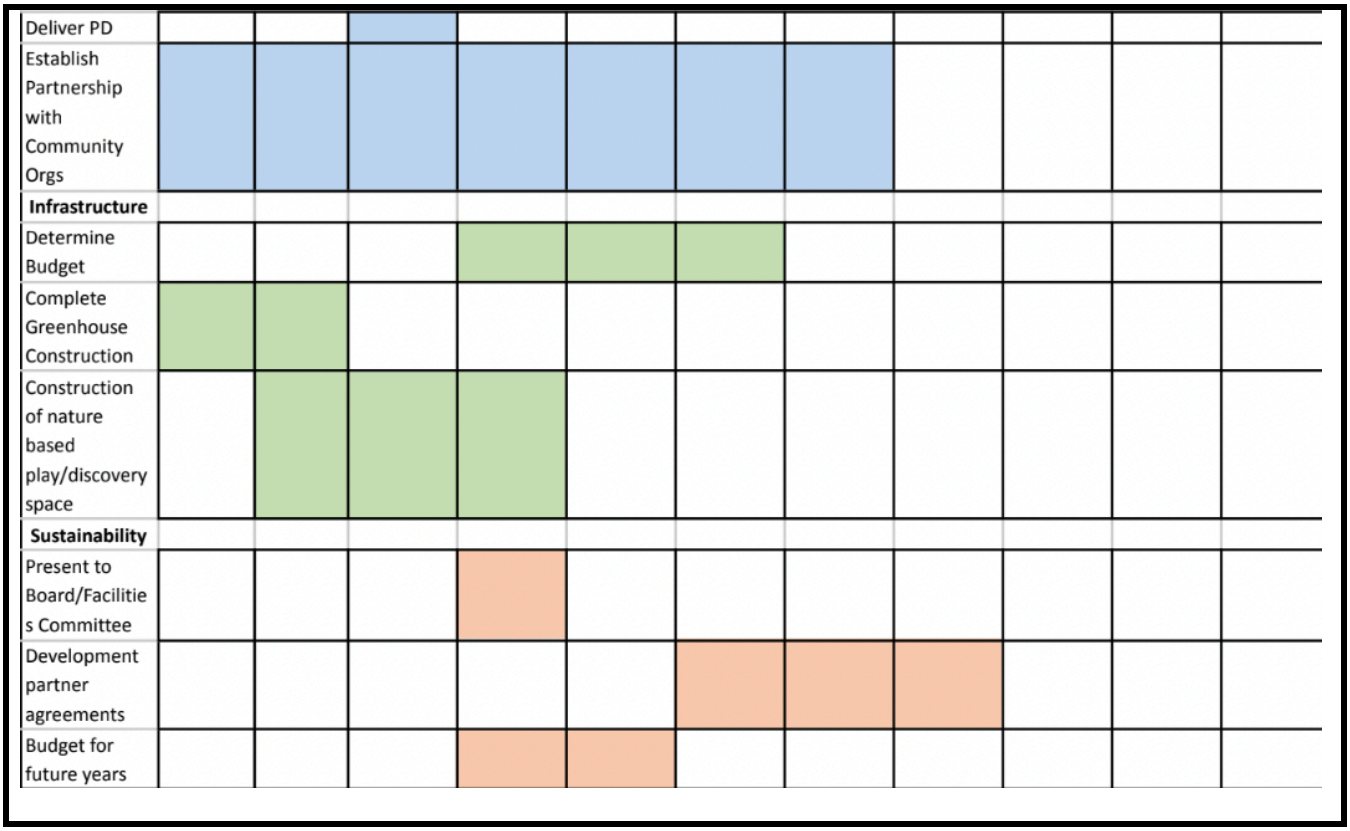
Moving into school years beyond the 2023-2024 calendar HBS hopes to continue our community partnerships with CREA and the Brunswick Land Trust. We also hope to connect with the high school garden program as a means to increase extended learning opportunities for BHS students as well as to allow HBS students to see gardening and nature as interests that can be nurtured throughout their experience in the BSD. In addition, we also plan to create both a garden manager stipend and a science content leader stipend to ensure a

system approach to not only maintenance and upkeep of facilities but also in regard to professional development in the areas of teaching and learning.

● Greenhouse care and upkeep will be coordinated through BSD facilities and maintenance and HBS. Expenditures beyond the facilities budget and scope of work will be included in HBS budget beginning in the 2024-2025 school year.
● The teacher stipend for the greenhouse will be included in the HBS budget beginning in the2024-2025 school year.
● Curricular and instructional supplies, specifically consumables to maintain ongoing lessons, will be included in the HBS budget beginning in the 2024-2025 school year.
● PD needs for new staff as well as continued PD in inquiry method (2023 and beyond) will be coordinated with and budgeted for in collaboration with the BSD Central Office.
● Curriculum reviews every 5 years to ensure alignment and practical application. This will be facilitated by the BSD Central Office.
● Community connections to include a link with BHS garden club of ELO possibilities and various non-profit groups and community members. We anticipate no additional cost and minimal expenditures can be included in the HBS budget.

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:

- PEAR Holistic Student Assessment- $4,000 (assessment and coaching/data analysis training)
- Groundwork and site preparation for outdoor learning and play areas. $60,000
- Equipment for outdoor learning and play areas. The equipment is fixed and will not need to be replaced. $10,000
- Additional plantings/landscaping to provide outdoor learning activities. $15,000
- Pergola or other staged structure. $10,000

Necessary Resources:

- Greenhouse
- Garden Beds
- Inquiry Science Units created with support from CREA professional development
- CREA partnership
- Brunswick Land Trust Partnership
- Continued community support
- Continued teacher and administrative support for the outdoor learning program
- Continued collaboration with BSD facilities director
- Continued collaboration with HBS building head custodian

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:

● PD needs for new staff as well as continued PD in inquiry method (2023 and beyond) will be coordinated with and budgeted for in collaboration with the BSD Central Office. $5,000
● Curricular and instructional supplies, specifically consumables to maintain ongoing lessons $4,000

Necessary Resources:

● Greenhouse
● Garden Beds
● Inquiry Science Units created with support from CREA professional development
● CREA partnership
● Brunswick Land Trust Partnership
●Pergola Structure and Outdoor Learning/Play Areas
●Planting and Landscaping to support outdoor learning and exploration (Including care and maintenance)
● Greenhouse care and upkeep will be coordinated through BSD facilities and maintenance and HBS. Expenditures beyond the facilities budget and scope of work will be included in HBS budget beginning in the 2024-2025 school year.
● The teacher coordinator stipend for the greenhouse will be included in the HBS budget beginning in the 2024-2025 school year.
● Curriculum reviews every 5 years to ensure alignment and practical application. This will be facilitated by the BSD Central Office.
● High School Garden Club Partnership
● Community connections through ELO possibilities and various non-profit groups and community members.
●Continued community support and connections
●Continued teacher and administrative support for the outdoor learning program
● Continued collaboration with BSD facilities director
● Continued collaboration with HBS building head custodian