



RREV's Innovative Pilot Template

As part of the **Innovative Mindset and Pilot Development** courses being offered through several of Maine's institutions of higher education, the RREV project uses a consistent template for the creation of all future pilots. Because every pilot created and tested with RREV funds WILL BE published in EnGiNE, we want all of Maine's educators to have the assurance of consistency.

This template provides an outline of the components required of an Innovative Pilot. The information in this template will serve as the basis for requests for school/district level project funding.

Section 1: Define the Need

A. Describe your innovation.

Consider what evidence supports the need for an innovation, and the evidence that suggests your innovation will improve the current situation.

The newly proposed outdoor learning spaces at Harriet Beecher Stowe Elementary School provides place-based hands-on learning resources for children and teachers, nature-based play areas, eliminates barriers to accessibility, and will strengthen local ecological systems. Today's indoor children are less physically fit, less able to concentrate and are less able to relate to peers and adults than any previous generation of children. And, they are less able to be effective in the classroom. (Coyle, 2010) According to the Children & Nature Network (2016), "Spending time in nature enhances educational outcomes by improving children's academic performance, focus, behavior, and love of learning." Learning in natural environments can improve performance in all academic areas and creativity, critical thinking, and problem solving. Exploration and discovery through outdoor experiences can promote motivation to learn through increased enthusiasm and greater engagement with learning. Finally, nature-based learning is associated with reduced aggression and fewer discipline problems including more impulsive control and less disruptive behavior. (C&NN, 2016)

Our innovative ideas include not only creating greenhouses for year round access to historical and pollinator gardens, but also an outdoor amphitheater learning space, and more nature based play areas in our playground. The goals for the Harriet Beecher Stowe Elementary School's use of these innovations include creating a child-centered outdoor environment that supports accessible play and hands-on-learning resources and experiences for all students. Students will have spaces for outdoor exploration, imaginative play, and adventure. Teachers will be able to bring the learning outdoors with hands-on learning resources to engage all students regardless of learning abilities or mobility. Professional Development opportunities and work with CREA (Cathance River Education Alliance Education Center) will allow teachers to strengthen thematic units.

We anticipate that the addition of opportunities for outdoor learning will have great social, emotional and academic impacts on children. In 1998, a breakthrough study was published by the State Education and Environment Roundtable (SEER) with the support of the Pew Charitable Trusts and twelve state Departments of Education. It found that these schools consistently used the theme of the natural environment as a lens through which to look at all of the subjects being taught. Using the environment as a way to integrate, otherwise unconnected subjects made a real difference to the students and permitted educators to engage in

more team-based teaching (Coyle, 2010, p.13). Being more physically connected and active within the learning space gives students and teachers a greater sense of ownership and connection to the learning process. In addition, a study by Oksana Bartosh in 2003 examined standardized test scores in students who had access to environmental education vs those who did not. It was found that in 73 of the 77 pairs of schools studied, those schools using environmental education had significantly higher test scores than those without (Coyle, 2010). We see the benefits of this project impacting both student mental health and academic achievement.

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. Teachers have also expressed their interest in bringing their students outdoors for rich learning opportunities including wanting to learn how a school garden can be used to support teaching science and other interdisciplinary thematic units.

B. Identify which students would be impacted, targeted, or supported by the innovation.

Review the evidence – quantitative and qualitative data and research – that indicates this group of students is considered the most vulnerable and would benefit from the described innovation.

Data you can use to inform your innovation, rationale, and targeted student population 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.

HBS Elementary is a suburban school with a current enrollment of five hundred twenty two students in grades three through five. While the majority of students come from middle class homes, we do have about thirty percent of children who access our free and reduced lunch program. We also have approximately twenty five percent of our students with identified special education needs and an additional twenty five percent of children who receive intervention services for either academic or behavioral reasons. It is the hope that through this project we can give our diverse population of students access to settings that many of them may not yet have had chances to discover. Our vision is that the newly proposed outdoor learning spaces will provide all students, regardless of ability, with accessible, rich nature-based learning opportunities which will lead to increased engagement, enthusiasm towards learning, and improved social emotional health.

The current structure and arrangement at HBS Elementary regarding outdoor learning and play are not only inadequate- they are prohibitive. As an urban setting bordered by busy roads, it is important for safety that children and staff are able to stay within the boundaries of the property. The current playground equipment is not accessible to all students and there are no nature-based play areas other than an open grassy area. The outdoor play area lacks spaces for imaginative play and interaction with nature. Students with barriers to physical access are very limited in their play and ability to utilize appropriate play structures and areas. Additionally, the HBS garden area is dilapidated and was not designed for students to interact with in a meaningful and educationally-based way. Because of the urban location, teachers have no spaces to bring children for outdoor learning and environmental inquiry in nature. Ultimately it is our hope that this project impacts every learner who passes through Harriet Beecher Stowe Elementary School.

Section 2: Describe the Innovation

A. Describe the goals of your innovation.

Consider how your innovation will meet the needs of the identified target student population(s) and how you plan to achieve your goals. Additionally, consider any changes in policy, practice or structures you expect as a result of the 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.

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.

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.

B. Describe activities included in your plan for each stage – preparation (P) or implementation (I) – of your innovation.

- **Preparation** includes building stakeholder awareness, establishing routines and processes, and coordination of logistics.
- **Implementation** includes planned implementation activities, as well as professional development for the educators participating in the innovation.

| | Activity | Purpose | Stage (P or I) | Date of Completion | Person Responsible |
|----|-----------------|---|-----------------------|---------------------------|---------------------------|
| 1. | Survey Staff | Interest and willingness to participate in PD | P | 04/2022 | Heather and Tracy |

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|-----|---|---|-----|---|--------------------------------------|
| 2. | Secure Funding | Will need funds to implement all components of the grant | P | Summer 2022 | Grant Submission - Heather and Tracy |
| 3. | Create Outdoor Learning Committee | Facilitate planning and implementation of outdoor learning spaces and nature-based play areas. | I | Spring 2022 | Administration |
| 4. | Collaborate with CREA for developing and planning staff PD. | Dedicated time and focus on integration of learning standards with outdoor experiences. | P/I | 08/2022 some work will be ongoing into the academic calendar year of 2022/2023 | Administration and staff committee |
| 5. | Work with outdoor architect designer(s) for identifying areas and plans on grounds. | Design and plan for outdoor learning areas and nature-based play areas. | P | 08/2022 | Administration and staff committee |
| 6. | Secure Landscape Company | To secure the necessary company to complete the work as outlined in the design. | P | 08/2022 | Central Office |
| 7. | Develop Timeline | To identify clear outcomes and deadlines for all parties involved. | P | 04/2022 | Heather and Tracy |
| 8. | Identify and purchase outdoor materials | Materials prepped and ready to go for staff and learners. | I | Identify 04/2022 Purchase 08/2022 | Heather, Tracy, and Staff |
| 9. | Identify and purchase materials for lessons | Materials available for teachers and learners on content-specific standards to support classrooms | I | Identify 04/2022 Purchase 08/2022 | Heather, Tracy, and Staff |
| 10. | Identify experts and partners | To secure outside community organizations willing to commit to partnering with HBS | I | 08/2022 | Heather, Tracy, and Staff |
| 11. | Staff Training | To provide learning opportunities for staff in creating alignment to curriculum outcomes and nature-based learning opportunities. | I | Fall 2022 Ongoing throughout the school year 2022/2023 | Administration, CREA |

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|-----|-----------------------|--|---|-------------------------|------------------------------------|
| 12. | Create Outdoor Spaces | Outdoor spaces are created and ready for access by staff and students. All outdoor spaces will be ADA compliant. | I | Fall 2022 - Spring 2023 | Administration and staff committee |
|-----|-----------------------|--|---|-------------------------|------------------------------------|

Section 3: Define Innovation Outcomes & Measure to Assess Outcomes

- A. Identify the outcomes (*i.e., student outcomes, changes in instructional practices, changes in student practice*) that you expect to see as a result of your innovation.

Consider both short-term and long-term outcomes, at different points in the time (e.g., at 6 months, 12 months, 2 years and 3+ years).

Outdoor learning experiences and opportunities will be supported by partners who are experts in the areas of both staff training and outdoor experiential learning. We will use a coaching model to support teachers in their integration of new techniques. Using this concept in a residency format teachers and students will benefit from the best possible learning opportunities. We believe that we will see an increase in student engagement that will result in a decline in negative behaviors.

June-Sept Goal: Construction of greenhouses, outdoor amphitheater, and nature based play area. Staff mentorship plan with coach/coordinator with residency timeline. NGSS based science lessons around historical and pollinator gardens established.

Sept-Nov Goal: At least 75% of students and staff will have had at minimum one outdoor experiential learning opportunity. We will use SRSS data as a baseline for both internalizing and externalizing behaviors. Our goal is to see a decrease of 20% in students who are at the at risk range in these areas. NWEA baseline data will also be used in the achievement areas of language arts and math.

Dec-Feb Goal: At least 50% of staff and students will get outside for learning opportunities during the winter months. Achievement data will be collected in February to examine growth patterns. Our goal is that 80% of children will be meeting their growth goals based upon this assessment. We will also examine SRSS to look for decreases in at risk student categorization.

March-June Goal: 100% of staff and students will have at least one extended outdoor learning opportunity. In addition, 70% of staff will also have included an outdoor lesson in the new learning environments outside of the guidance of the established coaches/residency. Data collection will again include both social-emotional and achievement data. We will also do both staff and student surveys of their experiences over this first year.

Summer end of year one: School subgroup will review data and determine if goals were met and make revisions to the project based on data including staff and student surveys. Summer PD will be offered, especially for new hires, but also continued for ongoing support.

School Year 2022-2023: Ongoing continuation of collaboration between staff and community experts to continue positive outcomes for students.

- B. Describe your plan for collecting and reviewing data to assess your innovation outcomes.

Potential data to collect includes qualitative and quantitative data (e.g., surveys, interviews, focus groups, observations, exit tickets, and on-demand assessment(s) that can be considered.

| | Data Type | Baseline (B) Interim (I) Summative (S) | Frequency of Data Collection | Person(s) Responsible for Collection and Data Quality |
|----|---|--|------------------------------|---|
| 1. | SRSS | B/I | 3x/year | Rtl- B Interventionist & Social worker |
| 2. | NWEA | B/I | 3x/year | Classroom teachers |
| 3. | Teacher Surveys- Anecdotal to identify PD needs, impacts of coaching model, teacher perception of student engagement, etc | B/I | Before and after residency | Administration |
| 4. | Student Survey- Anecdotal to determine student engagement, understanding of NGSS standards, and enjoyment of outdoor learning facilities. | I/S | End of year one | Classroom teachers |
| 5. | Teacher Exit Tickets | I | after each coach led lesson | Administration |
| 6. | Student Exit Tickets | I | after each outdoor lesson | Classroom Teachers/Administration |

- C. Describe how you will **scale and sustain** your innovation, including necessary policy changes, changes in mindsets, capacity-building activities, and **long-term financial sustainability**.

Consider the systems changes that this innovation will require and promote.

Our goal is that this project will create a system at HBS to make this how we do school. This will be ongoing in that we will ensure new hires get trained and have mentors to assist them in utilizing these opportunities. We will also maintain relationships with community organizations such as CREA and MEEA as experts/mentors in the field of outdoor experiential learning. Additionally, we will use our budget process to maintain not only our outdoor facilities but also our staff training and PD.

In the first year and subsequent years, we aim to establish community partnerships that will continue to provide support and resources for our students and teachers. We have begun work with MEEA to identify free resources to support our outdoor learning residencies, and we anticipate that we will be able to access no cost community partnerships and volunteers. Working with MEEA and CREA will provide us with connections to organizations and other educators to help sustain outdoor experiential learning for our students.

Financially, we believe we are creating a sustainable project. Team teachers and administrators will support new hires in our outdoor learning philosophy and student learning opportunities. Local funds and team budgets will provide for student consumables going forward. Teaching teams will be encouraged to seek grants for innovative projects they would like to create as part of the outdoor learning spaces. Gardens and

outdoor learning spaces will be designed and created to be sustainable. It is our plan that students, staff, and grounds maintenance will provide the necessary seasonal maintenance. We do not foresee considerable expense in maintaining outdoor structures, and will reach out to our community partnerships, parent group volunteers, and local budget funds for upkeep. We do not anticipate great capital outlay in additional years as sites and groundwork would only be necessary for our initial year.

- D. Describe the feasibility review you engaged in during the development of your innovative pilot plan, including which aspects of the plan for the pilot were reviewed, which stakeholders were engaged, feedback received and revisions made to the plan as a result of the feedback.

In our planning for this project we met with a focus group of students to discuss what they see as problems with our existing outdoor spaces. We asked teachers for their input regarding which students might be interested and willing to help with this work and were able to create a group of eight students to serve as our sounding board throughout this process. Some of the identified problems included: not enough weather protection, outdoor learning spaces that don't feel stable and permanent, lack of trees and greenery, and we also identified issues with the drainage in general that may need to be addressed as well. Ideas that percolated from the kids for improvements included a natural slide and nature based play area on our playground as currently we only have either playground structures in the traditional sense or we have flat fields.

The biggest piece of input in this area was that they want more nature on the playground but they don't want it to get in the way of playing. We discussed our existing garden boxes and how we can make those more accessible not only for all students but also year round. One student brought up seeds that had been collected locally that could be used in our greenhouse which led to a discussion about historical and pollinator gardens and how they could be tied into our social studies and science curriculum. One idea that was also brought up was that we could grow edible plants that could be used in our own cafeteria. A common thread through the entire discussion was that the kids are looking for more time outside.

The conversation with the students helped us affirm that we are moving in the right direction with our ideas and gave us insight into what the students might think is actually useful to enhance their learning connected to the outdoors.

In addition to our student focus group, we surveyed the staff at HBS. 100% of the staff that responded believe that outdoor learning benefits children and well designed outdoor learning and exploration is engaging for children. 88% believe outdoor learning improves student behavior.

Given support and resources, 100% of staff responding said they would take their classes outside for learning opportunities. 82% of the staff said they would participate in PD with CREA. Based on the written responses, those that indicated they would not participate in PD with CREA are not classroom teachers and do not see where this would benefit their instruction; however, they did indicate they would take students outside for learning opportunities and indicated what activities they would do.

As part of the survey staff were asked for additional comments pertaining to outdoor learning, play areas, and accessibility. The staff provided many suggestions and ideas to improve outdoor learning environments, creative and natural play areas, and accessibility to both learning areas and play areas and how they saw that these improvements could provide engaging, standards-based, interdisciplinary learning for all students.

These results lead us to believe there is strong staff and student support to begin the process of prepping for outdoor learning models to be implemented in the 2022-2023 school year.

A last group who we have sought input and involvement from are parents. We have had multiple parents, particularly since the COVID-19 pandemic interested and encouraged us to use outdoor learning. In fact, prior to this process two parents reached out to meet with school administration to help discuss ways to incorporate more outdoor learning in our science programming. Thus far we have reached out to three different parents to be a part of the process in our planning and implementation. They are all in great support of us increasing student access to outdoor learning.

Finally, we presented the idea to the administration and school board who are 100% in support of the project. We will collaborate with administration regarding the calendar for professional development. Administration also approved the areas that we can improve and make changes to.

Moving forward we will have to work closely with grounds maintenance and administration to address drainage issues and implementation of the design. The staff survey also indicates that while staff would like to take their students outside for learning opportunities, not all staff see the value of PD with CREA. We will have to determine the PD specific needs of these teachers and provide PD options that will support their programs and students. Teachers also indicated that it will be important for us to have dedicated classroom areas and an easily accessible classroom sign-out for the learning areas.

Section 4: Identify Key Expenses

- A. Identify the key expenses associated with the preparation, implementation, and ongoing refinement of your pilot.

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.

We envision partnerships for each grade-level team that will be two-fold. The planning and preparation component and then the delivery of the experiences. All outdoor learning programs will be located within the district's school grounds and will support all learners with the most meaningful experience.

Partnerships with local experts to provide outdoor learning residencies and professional development will run around \$1000/partnership per classroom. With 26 classrooms grades 3 - 5, partnerships will be \$26,000, and 3 residency experiences per year will cost \$78,000.

Learning kits housing necessary tools and materials will be available for grade levels to grab and go for outdoor learning opportunities. Supplies and materials for grade level programs, \$30,000.

Stipend for coordinator \$1,200.

Project manager \$4,200.

Outdoor site planning, preparation, and development of outdoor learning sites, \$135,000 (this includes design and construction).