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.

Machias schools have been tracking an increase in office referrals for behavior over the past 3 years. More and more students are in need of counseling services than ever before, so much in fact, that additional mental health professionals have been hired to fill this need. Our school administrators have seen an increase of almost 25% in office referrals (students being sent to the office for behavior issues). We are fearful that this trend will continue if something is not changed. Adolescents are becoming more and more "plugged in" to screens. The CDC reports that school aged children spend between six and nine hours a day in front of a screen. In a brief survey, Machias students have reported being on screens (on school days) right on par with the national average, between three and eight hours a day. With screen times this high, students are not getting enough physical activity, are not engaging with peers, and are not participating in activities that will promote mental well being. The average time our PK- 3 students spend outside at recess is 30 minutes. Grades 4-8 students are averaging slightly less time, with around 20 minutes on average. Machias area high school students may not be outside at all throughout a seven-hour school day. We believe that this lack of outside time is contributing to the increase in behavior problems and lack of engagement that is so prevalent. More and more students are exhibiting behaviors that are sometimes perceived as ADHD, but in actuality may be the result of not having enough opportunity to move throughout the day.

Our students need direct access to engaging lessons centered on the environment. Machias students have shown an increase in adverse behaviors over the past three years. More students are having difficulty staying focused in the classroom, and are acting out in response to their problems. According to the American Psychological Association (APA), spending time in nature can lower stress, improve moods, attention, empathy, and cooperation, and can reduce the risk of psychiatric disorders. In a pre-project survey, 60 % of students noted that they were able to focus better in class after having been outside. 70% of the surveyed students also stated that they felt more likely to participate in outdoor learning experiences, instead of traditional classroom learning. Our teachers have observed that more students seem engaged, focused, and relaxed after returning from outdoor learning experiences.

Everyone must recognize the need to support the overall wellbeing of children. We feel that spending time outdoors learning in an integrated manner supports this need. Our project will do just that- it will drastically increase the time students are spending outdoors, which will improve their mental health, lower stress, decrease negative behaviors and give them more opportunities to be engaged in authentic learning experiences with their peers.

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.

Machias has a high rate of poverty, where 28% of the population is living below the national poverty level. 48% of students in the elementary school qualify for free/reduced lunch, higher than the 40% Maine state average. These low socio-economic students do not have adequate access to outdoor activities and engaging environmental lessons. This group of students is considered the most vulnerable and would benefit from our innovation. Low SES in childhood is related to poor cognitive development, language, memory, socioemotional processing, and consequently poor income and health in adulthood. The school systems in low-SES communities are often under-resourced, negatively affecting students' academic progress and outcomes (Aikens & Barbarin, 2008). We have been observing an increase in students requiring counseling services from our guidance counselor. Currently, 23 % of the school population receives weekly counseling sessions with mental health professionals at school. While all students will have access to this project, it will greatly benefit those students who have less access to outdoor learning spaces, activities, experiences, and wouldn't have these opportunities if it were not for this project.

Our student population is inclusive of all learning abilities, where close to 25% of the students enrolled receive special education services. Students with disabilities will benefit by learning with authentic materials and hands-on lessons that bridge from the classroom to their everyday life skills. In a recent pre-project survey, 0% of the students surveyed in grades K-5 had any experience with outdoor education. This showed us that younger students need more opportunities to learn outside. 60 % of students in grades 6-8 stated that they felt calmer, more focused, and more engaged after learning outdoors. This data highlighted that our students respond positively to outdoor learning, and that it should be used more for all grades. Teachers of all grades will participate in professional development for conducting engaging outdoor lessons, and will have easy access to the materials.

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.

Our plan is to increase the amount of time students are participating in engaging outdoor learning experiences. These experiences will help students who are struggling to focus, stay engaged, and participate in the "traditional classroom." These experiences will begin the transformation from "traditional learning" to learning in outdoor settings. As mentioned above, we have noticed an increase in behavioral referrals to the office, and an increase in students needing support with the guidance counselor. We want to see if getting these students outside more will impact those behaviors and will lead to less office referrals and guidance visits.

Lessons and activities will be kept in kits for educators to bring to their outdoor learning space. These kits will include all materials necessary for all students to participate. Working with DCC (Downeast Coastal Conservancy), our team will purchase materials to create the kits and will include easy-to-follow lesson plans for

educators to use. All kits and materials will be housed in a storage shed that school staff will have access to. This shed will be purchased through this project, including any additional materials or supplies to go along with the activities. Staff members will be given a tour of the shed and outdoor learning spaces once completed. This will get them excited about using the kits, and show them that there are so many possibilities in using the lessons and activities. Our hope is that they will use them often because the planning is already done for them, and all of the necessary materials are already included. Speakers and educators from local science education groups, such as Downeast Coastal Conservancy, Maine Math Science Alliance, and Maine Outdoor School will come visit our staff for brief and engaging trainings on how to properly, safely, and effectively use outdoor education for all ages. Teachers will feel more empowered and confident with teaching outdoors, because the kits will give them the resources they have never had before.

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.	Build Stakeholder awareness and buy-in; Teacher orientation of supplies and kits	Building stakeholder knowledge of the research supporting outdoor learning and the benefits of developing children's social-emotional, physical, and cognitive growth (whole-child approach)	P,I	Ongoing	Kelly, Sue
2.	Build relationships and connections with local environmental education groups- DCC, DEI, DLLT, MCHT	These connections will show teachers that there is local support and resources for creating, building, and continuing outdoor education lesson	P	Ongoing	Kelly, Sue, Caitlyn
3.	Gather, assemble, and store materials and lesson plans for a variety of age-appropriate lessons	These lessons will be engaging and connected to learning that is already happening in the classroom. The teacher will not need any additional materials.	I	Ongoing	Kelly, Sue, Caitlyn, Janis, Cathy, Jen, Kate D, Mike
4.	Student Orientation	Students will use the program effectively and appropriately; all students will follow SOPs.	P,I	October 2022	All staff (after staff orientation)
5.	Develop school-wide SOPs (standard operating procedures) for outdoor learning	Students and staff will all use the materials appropriately and safely; everyone will "be on the same page" for the purpose of the materials	P,I	October 2022	Kelly, Janis, Jen, Caitlyn
6.	Bring in outside training	Teachers will learn how to	I	November	Kelly, Cathy, Sue, MMSA,

	for winter season outdoor education	safely and effectively engage their students with seasonal specific outdoor education lessons.		2022	Jen, Janis
7.	Implement kits and outdoor learning activities	Teachers will simply grab the kits that they need and go outside with their students	I	November 2022- Ongoing	Kelly, Caitlyn, Cathy, Sue, Kate D, Janis, Jen
8.	Media Coverage	Spread awareness of our project, involve community, and celebrate successes of the program.	I	January 2023	Sue, Kelly
9.	Bring in outside training for spring/summer season outdoor education	Teachers will learn how to safely and effectively engage their students with seasonal specific outdoor education lessons.	I	May 2023	Kelly, Cathy, Sue, MMSA, Jen, Janis
10.	Post Survey- Students, Parents, and Teachers	Show affect of program on student behavior, from several different points of view.	I	June 2023	Kate D, Mike, Caitlyn

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).

We will see immediate results, showing an increase in focus, positive peer interactions, increased engagement, and overall improved moods in students. Our staff will be observing changes in student behavior, and comparing them to previous years of increased office referrals, counseling appointments, and redirections from teachers. Another outcome that we are hoping to see is an increase of in teacher usage of these kits/outdoor learning. At the end of the school year, students and staff will be given exit surveys in order to show how the project has impacted students' behavior. Expected outcomes will include increased respect for the outdoor environment and surrounding ecosystems, positive changes in students' mental wellbeing, and an increase in teamwork and interpersonal skills. Surveys will be given at the beginning and end of each school year, in order to monitor continued growth and student perceptions of the program.

By 6 months we will:

- establish baseline data for student focus, positive peer interaction, and engagement with short survey
- see 10 % reduction in office referrals and guidance needs
- 50 % of teachers using the kits and outdoor learning experiences
- establish baseline for student/teacher respect for outdoor environment and surrounding ecosystems with short survey

By 12 months we will see:

- see 25 % reduction in office referrals and guidance needs
- increased positive student interactions, focus…etc
- increase in student/teacher respect for outdoor environment and surrounding ecosystems…
- 75 % of teachers using the kits and outdoor learning experiences

By 2+ years:

- expand programming to HS
- 90+% of teachers using the kits and outdoor learning experiences

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.	Student behavior survey –pre/post	B,S	2x/year	Kelly, Sue, Caitlyn
2.	Teacher needs survey-pre/post	B,S	2x/year	Kelly, Sue, Janis
3.	Student observations- behavioral and emotional	B,I,S	Ongoing	Guidance counselors, teachers
4.	Document kit usage	I, S	3x/ year	Kelly, Janis
5.	Environment Respect Survey	B, S	2x/year	Kelly, Cathy
6.	Parent Survey	S	1x/year	Jen, Janis
7.	Office referral/guidance referral	B, I, S	2x/year	Mike, Sue
8.	Attendance	B, I , S	Ongoing	Sue, Kate D

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 hope is that this project will begin to transform the way students' needs are met at school. This project is designed to be sustainable and is designed to last for many years to come. It is important to note that many of the supplies are not ones that need to be updated often, and will still function as technologies advance. The kits will already be created and will not require maintenance. Funds used for this project will include the ability to create more kits each year.

Machias school administrators have been very supportive of this project and plan on encouraging teachers to use the kits often. Teachers and staff will have professional development for conducting effective outdoor lessons during our monthly early release days. Sustainability with this project really lies within the community of teachers. This project will continue to "live on" through our passion for bringing engaging and authentic outdoor learning experiences to our students. Ongoing professional development will give teachers more confidence to use these activities throughout the years.

We already have an established relationship with the Downeast Coastal Conservancy, and we will continue to partner with this group for as long as they have community outreach programs. These programs do not cost our school anything because they are conducted through the conservancy's community programs. If any financial needs should arise with continuing professional development or effective programs, we will look for additional funds through our school board.

The hiking trails are already created and maintained by local volunteers, so there would be no expense in maintaining those areas. We are very fortunate to share a campus with the local high school. Machias Memorial High School has an

established industrial arts program that has already done work and maintenance to the trail. This collaboration will benefit both students in PK-8, and the high school students who are getting school credit for real experiences with building.

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.

We surveyed stakeholders during the planning stage of this pilot. Staff members were asked to choose a major issue/need for students in Machias schools. Many noted their concern for students' social-emotional needs, and the overall decrease of students spending time outside in nature. As a whole, overall classroom behavior was listed as a major concern for teachers. Other concerns were surrounding how COVID-19 has created a disjointed learning experience, with periods of remote instruction, hybrid, and in-person learning, leaving gaps in students' abilities to work with peers, manage stress, and overcome obstacles. Machias staff members have all noticed an increase in negative behaviors and an overall lack of engagement in the classroom. Additional challenges that were shared included access to quality outdoor gear for students, physical challenges of teachers, and teachers not having the materials they need to engage in outdoor learning. The stakeholders were classroom teachers, educational technicians, and parents. Of the 25 surveys that were returned, 68% responded that they would "use the kits as often as possible." 100% of the respondents were on-board with the innovation, and many have noted that they would be willing to help complete the project.

In the process of preparing for RREV, we surveyed grades K-8 students; 60% of the grades 6-8 students indicated that they "feel more focused and engaged after spending time learning outdoors." Students in K-5 have had no experience in outdoor learning experiences thus far. Seeing that students below grade 5 had no experience with outdoor education, our secondary goal focused on giving teachers the proper resources and training to use these activities effectively. Because of these surveys, we decided to focus on increasing student behavior and engagement through the use of outdoor learning experiences.

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.

The majority of the cost of this project will come from materials and staff time to prepare the kits and lessons. Students will directly benefit from this because they will be using the materials held in the kits. Our plan is to meet as a team to create, organize, and build the kits, including step by step lessons to keep with the kits. Team members will be compensated for the time required to build the kits. An additional expense for the storage shed of the kits will also be large portion of the cost.

- Storage Shed (including groundwork): $15,000
- Kits/totes with carrying handles (various sizes): $3,000 for ~100 totes (We will be continually adding lessons and activities throughout the years)

- Miscellaneous materials for the lessons: $50,000
- Books (training, lessons, activities): $1,000
- Charging stations with solar panels: $1,000
- Outdoor equipment with proper safety accessories (helmets, skis, snowshoes, etc): $13,000
- Cold/Wet weather gear for students and adults: $3,000
- Staff compensation for kit building: $8,000
- Professional Development: Outside Agency- Outdoor Ed training/Speaker: $5,000
- Plants/Seedlings: $1,000