RREV's Innovative Pilot for Gorham High School

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.

Origin Story

Last year, Gorham HIgh School employed a cohort model for our first post-pandemic year. We had alternating groups of A/B students so classes would be small. Fridays were remote days, where teachers and students had optional office hours and check-ins. Homework was reduced, coursework was reduced. Many sports were suspended and clubs were canceled. Most teachers and students managed to get through an unprecedented time fairly smoothly due to lower expectations and an incredible acceptance of the struggle we were all facing. We had small classes of 8-10, plenty of distance, and masking to keep us safe. Upon returning this year to full-time school, sports, clubs, activities, homework, and more, students, staff, and administrators felt overwhelmed, disengaged, and discouraged so often that our school culture seems to have shifted for the worse. In short, it was a year of struggle.

So, when Jason Tanguay first heard about the RREV Award, he brought it to our Superintendent, Heather Perry, as a possible solution to our sagging culture. Ms. Perry loved the idea of rethinking and reinvigorating school, and she had significant feedback from parents who loved that COVID mask breaks had led to more time outdoors. Therefore, she encouraged Jason to bring the idea of outdoor learning to our principal, Brian Jandreau, and fellow teachers Catherine Paul and John Haley to form a team and get going on developing an idea.

After the hardest year we've ever had as teachers, the idea of this award and of doing something for students who are struggling to do "business as usual" was so encouraging and became a ray of light. We see this as an opportunity to rethink, reinvigorate, and recharge our school culture and our school norms and traditions. We want to reinvigorate students' love of learning, their connections to nature, while rebuilding community relationships we've lost through the pandemic. These goals will ultimately meet the social emotional needs in our students and also allow them to access a more rigorous and relevant curriculum.

We don't want to return to business as usual, but we do want to see students return to being excited to come to school again. We want teachers and students to feel the positivity of working together to accomplish amazing things that help make the world a better place. We want students to be engaged in learning that feels authentic to them and what matters to them. We want their learning to help them feel better in a world where so many of our kids seem to feel badly about current events.

In addition, studies (Nagata 2021) show that young people between the ages of 8-17 are spending more than 7 hours and 40 minutes on screens a day, thereby reducing the time of physical, social, and in-person experiences which promote SEL, physical, and mental wellness, and help students connect to the environment outdoors. We conducted a staff and student survey and found evidence that the majority of our respondents wish they could spend more time outside. They see that nature could help us re-engage with the learning process, but they also expressed that they need help making it happen. Our RREV Pilot aims to satisfy this desire and to use the great outdoors more intentionally as a tool to meet our students' social-emotional well-being needs.

New Cohort "Academy"

When transitioning to high school from middle school, students can often feel "swallowed up" by the larger school experience after the comfort of the smaller teams in middle school. As we reflected on the need to build relationships between students and teachers, we wanted to re-establish something our school has had in the past called "Academies." Because academies would allow a set of 4 interdisciplinary teachers to work with a smaller (roughly 60-70) group of students, relationships could be stronger and better attention could be paid to the rising level of mental health crisis we are seeing in our students.

Because of the amazing support from our superintendent and principal, we were able to establish this academy model right away. We arranged our freshmen teams to best meet the needs of incoming freshmen. In addition, we have one cohort of teachers who will incorporate project-based, experiential, service learning into the curriculum to help invigorate curiosity and passion for learning among students. This cohort will consist of Catherine Paul (English), John Haley (Science), Meg Cushing (Math), and Ian Ryan (History). This team is ready to hit the ground running in September 2022 with their first experiential project.

Over the summer of 2022, the team already met to plan the first expedition related to climate change and weather for the 9th grade academy we serve. This project will increase collaboration with University of Southern Maine, St. Joseph's College, Portland Water District, and Gorham Recreation Department. Additionally, we aim to provide engaging real-life applications in mathematics and science through a solar-powered greenhouse with a weather station, which the team would use but also would be open to other groups in our school and community. The relevancy of these community connections and these real-world experiences are aimed at helping students see relevancy in their school work. As we see apathy rise, we want to meet that need with authentic issues that will reinvigorate student's love for learning.

This initial "academy" would serve as a pilot and lead the rest of our district by example. We hope the climate project led by this cohort of teachers would be a spark to ignite other teams and individual teachers to embark on similar project-based approaches. We plan to develop a process with our RREV Coach's guidance to allow for teachers to apply for funds that they feel connect the principals of outdoor learning to their work with students. A portion of our project would also provide professional development for our staff who would like to learn more about project-based learning and outdoor learning in particular, but who would feel more confident diving in if they had more training in those areas. The pollination of these ideas through our district would benefit student learning by spreading new and engaging approaches into many classrooms therefore reinvigorating students' love of learning.

- Nagata, Jason; Screen Time Use Among US Adolescents During the COVID-19 Pandemic; Jama Network; November 1, 2021

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, students who are homeless) with regard to academic achievement, graduation rates, social emotional and mental wellness, economic data, and/or workforce participation.

In 2021-2022, Gorham High School's total enrollment was 834 and we had 110 faculty and staff. The class of 2022 includes 237 students. We have a rapidly increasing town and school population. New home construction is on the rise in our town, bringing new families. Also, because the cost of living in Greater Portland continues to rise and Gorham is seen as a safe, nearby alternative, we have new families moving to our town steadily.

The first group of students we most want to impact is also the largest group. We have an alarming increase in students with social-emotional needs. In the past two years, our counselor referrals have more than doubled at GHS. Here is a chart to illustrate the trend:

School Counselor Referrals

Years	Academic Support	Career & Post-Secondary	Social / Emotional	Total
2017 – 2018	2,648 (58%)	1,179 (26%)	717 (16%)	4544 (100%)
2018 – 2019	3,584 (43%)	2,946 (36%)	1,758 (21%)	8372 (100%)
2019 – 2020	COVID	COVID	COVID	COVID
2020 – 2021	4,002 (35%)	4,176 (37%)	3,129 (28%)	11,307 (100%)
2021 – 2022	4,157 (36%)	4,016 (35%)	3,404 (29%)	11,577 (100%)

Almost 30% of students who visited guidance in the most recent school year did so for social-emotional needs. This is up from 21% pre-COVID. These are not students with prior emotional turmoil, but rather mainstream students who are experiencing stress and crisis due to the pandemic and the toxic culture they are experiencing. Students are leaving our classes regularly due to anxiety, toxic stress, and an inability to sit and learn due to distracting emotional triggers. We believe our innovation will encourage this group of vulnerable students to re-engage with school in a healthy and new way. Changing the way we deliver information and increasing curiosity will build new pathways with students rather than trying to get them to go back to the "old way," which is so stressful for them.

The second group we are specifically targeting is students with behavior concerns, which have been on the rise in the past two years. Here is a table to illustrate the rise:

of Suspension Days by Grade

Years	Grade 9	Grade 10	Grade 11	Grade 12	Totals
2016 – 2017	94	83	39	79	295
2017 – 2018	126	61	83	32	302
2018 – 2019	111	88	38	39	276
2019 – 2020	28.5	30.5	34.5	30.5	124
2020 – 2021	6	7	4	6	23
2021 – 2022	89	45	62	48	244

In addition, we have 236 students with various challenges that impact their ability to engage in their education, including 103 special education and 130 within the RTI process or identified as Alternative Learners. We have more than 4% of students with chronic absenteeism, which is about 30 students in our building. While projects will be incorporated into mainstream courses these enriching experiences will support our ELL, SPED, and free and reduced lunch populations most by providing additional context and engaging real-world applications to the content taught in their courses.

We also chose to survey our student body to learn more about their interest and comfort level in working and learning outside. A preponderance of the responses showed a great zeal for moving learning outdoors. Some students even included their own data to support this type of learning. We thought it would be best to include their voices for you to hear from them directly:

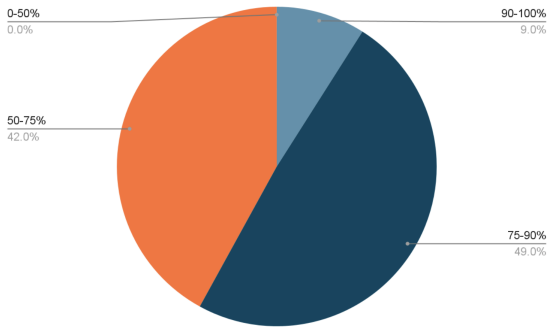
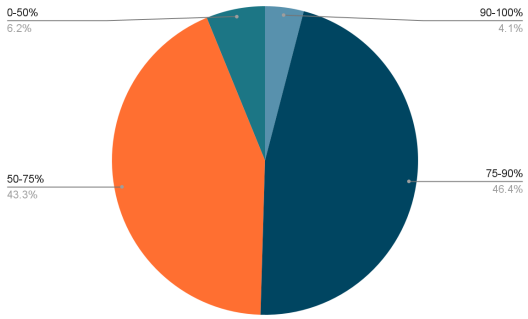
“Learning outdoors would 100 percent keep me more engaged in class and help teachers avoid lecture learning styles, which have been proven to be less effective for students to retain information. Going outside releases serotonin, which will ultimately help everybody regardless of the situation.”

“Being in school all day makes it harder to focus on work and makes me feel more tired. Working outside can help keep me attentive through the school day and have the work feel less intensive. I think it also helps with reducing stress.”

“Because it's refreshing, especially when it's warm, to be surrounded by nature and not be stuck inside of a building with no AC. I feel like I'm at work and in a cubicle.”

“Because it is a larger space and I will be able to move around while I work.”

Additionally, the achievement gap that has resulted from unfinished learning due to the COVID-19 pandemic is apparent in all students in Gorham. We are still catching up on lost time.

Gorham High School 1st Semester	Gorham High School 2nd Semester
	

In reviewing the Curriculum Pacing data, one can see that the majority of our teachers were able to cover 75% of the curriculum this past year despite students only being in school two days per week for the majority of the year. However, this still leaves a space where we are hoping to compensate for the pandemic through this innovation.

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.

The biggest impact of the pandemic we see in our school and across our district is a lack of engagement on the part of students as well as staff. We aim to re-energize our teaching and learning culture at GHS. In response to rising behavior concerns, we are choosing to change what is causing the behavior: connectedness as a school community and lack of satisfying and authentic learning. Our innovation will engage all students, but especially the most difficult-to-engage learners.

In response to this, we have five goals for our innovation:

- **Goal 1:** To reinvigorate students' love of learning and engagement with nature and improve social emotional well-being.
- **Goal 2:** To build meaningful relationships between students & adults in the community to deepen authentic learning and rigor of instruction.
- **Goal 3:** To expand our outdoor learning space to include a large greenhouse on campus that would include bench seating, run on solar power, and also have an attached weather station.

- **Goal 4:** To deepen student's educational relevance & rigor with more resources, transportation, and equipment providing hands-on learning activities on a new 9th grade cohort academy.

- **Goal 5:** To provide professional development and resources to all staff to incorporate outdoor-oriented, project-based units into their curriculum. This would include professional development on project-based unit planning, systems thinking, place-based learning, and service learning.

The innovation goals are also closely aligned with two of our district goals:

Goal #1: Improve Instruction & Assessment Practice

Continue to collaborate to improve our student-centered, standards-based instruction and further the development and utilization of effective learning targets, scoring criteria, and formative and summative assessments aligned to our curriculum.

We also encourage the collaboration and development of experiential-based, authentic learning opportunities to offer differentiated and alternative programming experiences for our students.

Goal #2: Address Executive Functioning & Social/Emotional Needs of Students

Increase our knowledge of the social/emotional needs of students and executive functioning skills in order to enhance our practices in supporting students so they can better access their learning (this includes decreasing chronic absenteeism).

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.	Student Survey	Gathering stakeholder voice	P	6/1/22	Catherine, Jason & John
2.	Staff Survey	Gathering stakeholder voice	P	6/1/22	Catherine, Jason & John
3.	Expert Outreach	Coordination of logistics	P		Catherine, Jason & John

4.	Expedition Planning - Create plan for the year's activities	Establishing routines	P	8/10/22	Newly formed 9th grade Cohort/Academy team
5.	Professional Development	Develop and deliver an introductory professional development session for the teachers and staff	I	9/22	Seal Rosignol - Outdoor Education Consultant
6.	Bi-Weekly field trips	Walking or busing to areas that support expeditionary work.	I	ongoing all school year	Academy team & variety of collaborating groups USM - Aquaculture Oyster farm, Solar farm, EcoMaine
7.	Weekly weather station data collection	To inform student's work. Hands on, student led	I	ongoing all school year	Academy team
8.	Purchase Greenhouse & Weather station and solar unit	To use as an outdoor learning space and data collection station.	I	8	John Haley & Gorham Rec. & Academy team
9.	Purchase video equipment	To create a documentary of the project to teach other teams how to accomplish in future.	I	8/30/22	Adam Parvanta & special projects "tech team" of students.
10.	Canoe/Kayak Trip on Sebago Lake with St. Joe's College	Water samples, milfoil observation, climate change stations	I	10/1/22	Jim Paruk at St. Joseph's College and Environmental Science Dept.
11.	Culminating Events	2X students will host culminating events for their experiential learning and showcase their final products to community audiences	I	December and June	Academy Team

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).

The ultimate, long-term goal of our innovation is to transform our district's public education model by expanding the number of students engaged in outdoor and hands-on learning every year.

Short-term, we expect to see beginning steps toward transformative teaching practices that utilize and encourage outdoor learning as an invaluable education supplement.

More specifically:

- 3 months - Students perceive themselves as part of the local community and the community perceives students as contributing members of our community.
- 3 months - Deeper awareness of the interconnectedness of local ecosystem
- 6 months - Greater interpersonal bond between students and between students and teachers (SEL Benefit)
- 6 months - Decreased behavior intervention and decreased office referrals
- 6 months - Improved attendance
- 12 months - Analysis of cohort and non-cohort same grade-level students and see a difference in disciplinary infractions and also access to social workers and guidance counselors. Social emotional data tracking that we already do can be used to compare the newly formed project-based academy with the other more traditional academies.
- 12 months - Higher achievement scores on standardized tests 2 years / 3years +
- 5-10 years - Outdoor and experiential learning systematically embedded into the vision and pedagogy of Gorham Public Schools

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.	Whole staff survey	B,I,S	3 x year	Brian Jandreau and Brian Porter
2.	Administrator walk-throughs - using a snapshot model	B,I,S	monthly	Brian Jandreau and Brian Porter

3.	Exit tickets for cohort meetings and retreats	B,I,S	monthly	Catherine
4.	Parent & student survey for project-based academy team students	B, I, S	3 X per year	Academy and Brian Jandreau
5.	Analytics for school attendance	S	end of year	Guidance
6.	Analytics for student success in SCRE and cohort model	S	end of year	Guidance
7.	Documentary of project	S	ongoing while on expedition	Adam Parvanta and GO CAM

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 system changes that this innovation will require and promote.

Change in Mindset and Capacity Building:
A large part of our innovation is culture and capacity building through direct student and teacher contact and curriculum development.

Because teachers are disconnected from nature, working directly with a Cohort Leader, a team, and their students allows all parties to gain confidence in the learning and teaching process. Direct modeling with experiential education will increase the integration of this new pedagogy. Along with this modeling, the Cohort Leader/Outdoor and Experiential Learning Consultant and teachers will team up to create a standards-aligned curriculum, that is inquiry-based and student-centered. This modeling and integrative approach will make a good base. We envision that this core group of cohort teachers creates confidence among colleagues, encouraging the transformation of one pedagogy for the new ways of another. Gorham has historically followed a pretty traditional teaching and learning model, so this first step of creating an initial team will be instrumental in changing mindsets.

As teachers begin to integrate different elements of the embedded Outdoor and Experiential Learning Model, they can share the fruits of their efforts and learning, improving their teaching while increasing a sense of collegial collective knowledge. Ultimately, the goal is to have all teachers embed outdoor and experiential learning practices into their school days, thus increasing environmental literacy for all students, themselves, and the greater school community. This community and capacity building, in turn, enriches the school's growth as it cultivates new mindsets and promotes growth for all stakeholders.

Gorham is a bedroom community of Greater Portland. This is a rural town with an agricultural history that still exists. Currently, there are more than 18,000 residents with about 2,750 students in K-12. There are many groups connected to the outdoors who have a foothold in Gorham. While it’s an advantage to be close to Portland, we are also in competition for some resources with some nearby and much larger districts.

When our team started thinking “How Might We…?” after our first session with RREV, we took a thoughtful analysis of our immediate area. We wanted to make long-lasting connections with people in our closest area, who are right in our community and would have a vested interest in our schools. As a result, we have already started to develop relationships with several groups. We have a fall meeting planned with the Environmental Sciences department at USM, which is walkable from our campus. We also have started the plans with St. Joseph’s College to do a canoe tour of Sebago Lake with the Biology department, which is studying effects of climate change. We have also had discussion meetings with Portland Water District and we plan to make contact with a local farm for help with our greenhouse and also the recently developed solar farm that has been installed in Gorham. We have reached out to Gorham Rec about our plans as well. We are thrilled to develop and maintain these community connections.

Student Video Team:

A further way our team will build capacity in our staff and help change mindsets is through the documentation of the first cohort's work. We’ve included video equipment in our proposal so that a team of students can work with our technology teacher, Adam Parvanta, to document the steps of our first learning experience on climate change. The video itself will be instrumental to igniting passion for project based ideas, but more importantly it will be a student-run project that will build capacity for student leadership, engagement and foster relationships throughout the building.

The actual filming of video will be done by a tech team of students. The students will be a mix of kids chosen by teachers and also some who have volunteered. This will ensure we have a diverse group of learners who may not always be the type to step up. We will include 2-3 upperclassmen with video experience to allow freshmen to build relationships with students in other grades, that wouldn’t normally be much of an opportunity outside of sports.

The students will be trained in how to use equipment, how to storyboard, narrate and then how to edit the footage to create a composed documentary of the first project. With guidance from Mr. Parvanta, who has a magic of his own in working with students in a professional manner, this will be a largely student-based production. Students will come away with hands-on, real-world skills and we hope to connect with them with our community television GoCat station as well. The power of students choosing their own content to capture in the video is immense. In addition, they will be able to celebrate the final product at the culminating event in front of an audience. The level of engagement in such a real-world student-driven project should be spectacular. Student’s pride will be palpable.

Long Term Financial Sustainability:

Most of the requests within this grant are one-time only expenses to design and create the framework for the learning and teaching structures in an environment where this has not been the approach. Additionally, other line items are single purchases that will last for a duration of time with maintenance. Regarding the expenses for supplies or transportation, we believe that our pilot years of fieldwork and the essential supplies will provide the necessary evidence to secure funding within our local budget.

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.

Through surveys, interviews, conversations, and professional development, it is clear that we have a groundswell of support for this initiative, and the feedback highlighted the distinct need for modeling and capacity building for teachers and students.

The process this year shows the need to go beyond simply "going outside for health and safety" and propels us toward a larger and more coherent model with a shared instructional vision that builds relationships while making relevant and rigorous connections.

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.

Bucket #1 - Expansion of outdoor resources for all students

Greenhouse and supplies for inside; weather station; solar array = $50,000
Classroom equipment = $4,000
Outdoor education seating = $5,300
Outdoor learning classroom supplies = $1,800

Bucket #2 - Professional Development

Professional Development = Cost: $5,000
Consultant Seal Rossignol
https://www.ecologybasedeconomy.org/people
Seal holds a Master's Degree in Education and a Certificate in Outdoor Leadership. She is committed to connecting with members of her community to problem-solve issues stemming from climate change and reduced oil access so that her community can become more resilient in the face of resource depletion. She brings a wealth of experience with curriculum design and is tackling grant writing to help fund the CEBE mission. Seal is an avid nature lover and adventurer.

Outdoor and experiential learning district wide lending library of teaching = $1,000

Bucket #3 - Project-based learning Cohort
Stipends:
Cohort Leader = $3,000 includes summer too
Cohort Teachers = $2,000 x 3 teachers
Project based learning project (picnic tables) = $1,000
Greenhouse Coordinator = $2,000
Total: $12,000

Bucket #4 - Other expenses

Field trip expenses = $8,400
Outdoor learning technology supplies = $10,000
Student books = $1,500 ("Boy Who Harnessed the Wind" for all Freshmen)
Consumables = $1,000 ($250 per cohort teacher)

TOTAL: $100,000