RREV's Innovative Pilot Submission for Falmouth Public Schools

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 innovation and the evidence that suggests your innovation will improve the current situation.

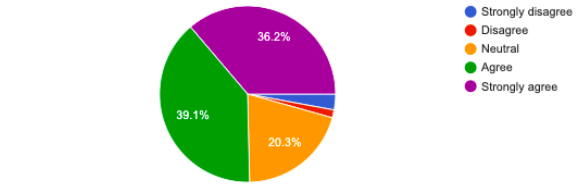
Our educational system is currently at a crossroads. COVID has exacerbated the need to take a hard look at traditional educational systems and discover new ways to meet the needs of all of our learners so that they can grow in ways that nurture not only their academics, but also allows them to practice 21st-century learning skills, build community, and engage in experiences that nurture the whole child.

Today's students can be connected to anyone, anywhere in the world in a fraction of a second. Paradoxically, they are becoming more and more disconnected from their community and natural surroundings. This phenomenon is exemplified in Falmouth where students living next to the most diverse city in Maine often only interact or know other students just like them. As Richard Louv, author of *The Nature Principle: Human Restoration and the End of Nature-Deficit Disorder* points out, based on a British study, children ages 4-11 know more names of Pokemons than they do the plants and animals in their backyard. The disconnect we are seeing among our students, communities, and surroundings is creating "silos'' where students are only interacting with and relating to an ever-shrinking world of people who are just like them. Research shows that one way to help people create empathy for others is for them to have authentic experiences with another person, location, or animals. Amongst this disconnection, division and tribalism are growing issues throughout the country. This is exacerbated in Falmouth where the student population is 86.9% white, 8.5% Asian or Asian/Pacific Islander, 2.5% Black, and 2.2% Hispanic. Eight percent of Falmouth students receive free or reduced lunch, showing an overall lack of diversity amongst the student body. All of these issues are compounding to negatively impact how our students think, act, feel, and grow as individuals.

The proposed Navigators Program will provide opportunities for Falmouth students to build connections; to connect students to nature, their community, the indigenous history of our state, and their own sense of self. This program is centered around the common theme of our local waterways, an integral part of Falmouth's identity, and also focuses on the Wabanaki. It will provide opportunities for Falmouth students to engage in authentic, interdisciplinary learning opportunities allowing students to experience place-based learning, and gain a larger understanding of the importance of water in their community and globally, while also building connections within the school community and across communities connected by the river. Through these various hands-on learning approaches, students have opportunities to practice 21st-century thinking skills and authentically engage in our ever-evolving world. To show the need for this type of work, we surveyed 5th and 6th graders in Falmouth in February 2022 about this type of learning opportunity and found the following results:

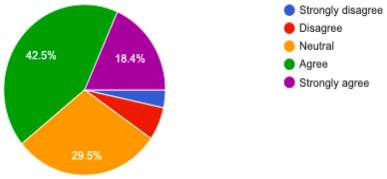
I enjoy learning about school topics when we go outside in nature.

207 responses



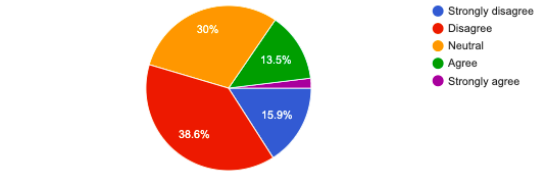
I enjoy when what I'm learning in different subjects (math, ELA, science, and social studies) is connected.

207 responses



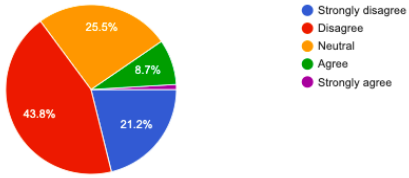
I know a lot about Casco Bay's species and health.

207 responses



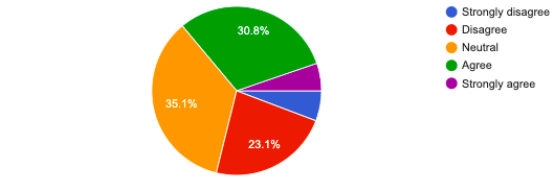
I know a lot about the Presumpscot River's species and health.

208 responses



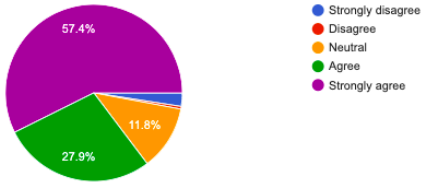
I know a lot about the history, culture, and significance of Maine's indigenous people.

208 responses



I enjoy learning by doing hands-on activities.

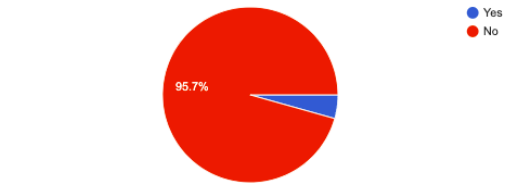
204 responses



Another aspect of the Navigators Program is to build connections across the elementary and middle schools. One of the systems that we are looking at is the connections of students and staff across grade levels. Only 4.3% of students in grades 5 and 6 know who the eight core teachers are in the grade level above them. Data collected show 73.6% said they agree or strongly agree that they would feel more confident and comfortable going into the next grade level if they met those teachers.

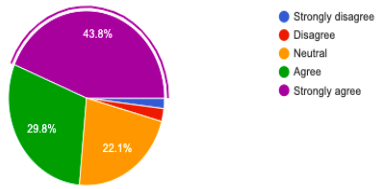
I know who all of the teachers are in the grade level above me.

207 responses



I would feel more confident and comfortable going into next year if I met the teachers in the grade above me before that school year began.

208 responses



We are also focusing on connecting teachers who span buildings by working together on this integrated unit. With different administrators, daily schedules, class structure (self-contained vs. one subject), our curriculum and communication often feel fragmented across schools. We are on one campus, but in many ways, the schools and grade levels feel like they work in isolation. We believe the impact from this grant proposal will increase connection, collaboration, and consistency with teachers in Falmouth schools.

References

Balmford, A., Clegg, L, Coulson, T., Taylor, J, (2002). Why conservationists should heed Pokémon. Science, 295, 2367.
ESSA Dashboard. (n.d.). Retrieved from https://www.maine.gov/doe/dashboard
Louv, R. (2011). *The nature principle: Human restoration and the end of nature-deficit disorder*. Algonquin Books of Chapel Hill.
Maine Native Studies Resources. (n.d.). Retrieved from https://www.maine.gov/doe/learning/content/socialstudies/resources/mainenativestudies/resources
Public, M. (2019, February 07). A 2001 law says Maine schools must teach Native American history, but many still don't. Retrieved from https://bangordailynews.com/2019/02/07/news/a-2001-law-says-maine-schools-must-teach-native-american-history-but-many-still-dont/#:~:text=Nearly two decades ago, Maine,high schools across the state.

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.

We have already researched and communicated with local organizations, surveyed staff, and engaged with individuals/stakeholders we would need to have input. Implementation would first roll out to grades five and six. This would include approximately 360 students. The project then extends to 3rd-8th grades (with space for high school mentorships). Approximately 1,100 students will be impacted.

In Falmouth Elementary School grades 3-5, 18% of students are identified as needing tier 2 or 3 intervention (RTI) services in the areas of reading, math, and/or behavior. Additionally, these students' NWEA scores are consistently below the district mean in reading and math (see below). This percentage of the population in addition to our students identified as requiring special education services represents a significant portion of our students who would benefit from alternative pathways of learning. Engaging them in hands-on, experiential activities has been proven to help them gain, "a better understanding of the material, a broader view of the world and an appreciation of community, insight into their own skills, interests, passions, and values, opportunities to collaborate with diverse organizations and people, positive professional practices and skill sets, and self-confidence and leadership skills."

References

ESSA Dashboard. (n.d.). Retrieved from https://www.maine.gov/doe/dashboard

What is Experiential Learning and Why Is It Important? (n.d.). Retrieved from https://www.kent.edu/community/what-experiential-learning-and-why-it-important

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 goals of the Navigators Program are to engage students in place-based interdisciplinary learning experiences centered around the history of the Wabanaki and the waterways that make up the heart of our community. We believe that getting our students into nature and engaging them in authentic, hands-on learning projects is imperative to fostering an authentic love of learning, increasing student engagement, and positively impacting their social-emotional wellness.

<u>School Culture Goals of this innovation include:</u>

- Building metaphorical Navigators for students/staff:
  - Connects between Falmouth Elementary School, Falmouth Middle School, and Falmouth High School
  - Connections between students and the natural world; specifically local waterways
  - Connects to the significance of indigenous people in Maine
  - Connections within (internally)

<u>Academic Goals of this innovation include:</u>

- Integration across social studies, reading and writing, science, math, and unified arts
  - Students will observe the river and connect to the land over the seasons through place-based sit spots and by recording observations and reflections in their nature journals.
  - Students will engage in recreational activities on the waterways including canoeing and fishing.
  - To study, monitor, and collect data on the health and ecology of the Presumpscot River.
  - To educate students about the culture and history of the indigenous people who have lived in Maine for over 12,000 years.

Goals of this innovation include:

- Staff will participate in a 2-day outdoor education and interdisciplinary planning session to create interdisciplinary learning experiences for their grade levels aligned to standards and curriculum. During this 2-day session, outdoor education experts will collaborate with educators to ensure high-quality engaging outdoor education experiences for our students.
- By June of 2023 - 100% of students grades 3 - 8 will engage in an outdoor interdisciplinary experiential learning project connected to our waterways. Students will have opportunities to work with a variety of tools to explore the water and make connections to it in alignment with grade-level learning standards and curriculum, while also learning and reflecting on the importance of our waterways from the past to today.
- Grade levels will partner with community experts that connect to the area of focus of their experiential learning plan.
- Grade levels will partner with other grade levels and/or students from other grade levels to begin to form collaborative working relationships across classes, teams, and grades. Collaboration may be in the form of working partnerships, mentorship, coaching, and co-teaching and learning opportunities.

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.	Collaborative Project Development	2-day planning session to create interdisciplinary, place-based, projects	P	Fall 2022	Allison, Nathan, Joyce, Katie, Sara. This is for all 5th and 6th grade teachers to attend.
2.	Purchase universal tools for the program	Purchase items from grant	I	Pending grant approval	Allison, Nathan, Joyce, Katie, Sara and working with Dan O'Shea- Falmouth Schools director of finance and operations.
3.	Deliver high-quality engaging outdoor education experiences for 5th and 6th graders	To build connections between the grades and instill a sense of place	I	2022-2023 school year	Allison, Nathan, Joyce, Katie, Sara and all 5th and 6th graders and teachers.
4.	Extend to grades 3-8	To build connections between the grades and instill a sense of place	I	end of 2022-2023 school year	Allison, Nathan, Joyce, Katie, Sara and all 6th and 7th grader and teachers.

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).

Through the Navigators Program, approximately 1,100 students will have had the opportunity to engage in experiential, place-based, interdisciplinary projects around our local waterways.

- In the fall of 2022, school year staff in grades 5 & 6 will collaborate and plan a student-centered outdoor education and interdisciplinary learning experiences for their grade levels aligned to standards and curriculum. There will be a range of outdoor-based experiences for students that reflect different learning styles, ranging from canoeing and fishing to an underwater robot for waterway exploration to video and sound equipment for observations. All of these experiences will connect back to learning about local waterways and Maine's indigenous people.
- Students will increase their comfort and connection to teachers in the following grade level through these interdisciplinary activities that span grade levels.
- By the end of 2023, the program's goals will extend to grades 3-8.

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.	Survey for teachers/students to: -assess their perceptions of student engagement and learning -assess of the program's successes and challenges	I, S	Before, during, and after implementation	Teachers
2.	Host small, in-person focus groups with students to elicit feedback on the Navigators Program experiences, with the hope that discussion will help stimulate a productive feedback session.	I, S	Throughout the program	Teachers and Outdoor Educator
3.	Survey community partners to assess: -their perceptions of student engagement and learning -the program's successes and challenges -changes to consider to improve student learning and empowerment	S	End of program	Outdoor Educator
4.	Student demonstration of learning (presentation, demonstration, on demand assessment, socratic seminar, etc.) with rubric to assess depth of understanding of	I, S	Middle and end of program	Teachers

	local waterways/impact of Indigenous people.			
5.	Collect anecdotal evidence, and feedback from school counselors and social workers about the impact from increased outdoor and integrated experiences on student wellness and anxiety.	B, I, S	Establish a more formal Baseline and then throughout the program	Teachers and Student Services Team

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.

The Navigators Program includes a number of items that will happen to move the project forward in terms of scaling and sustainability. The project will begin within the 5th and 6th grades as a pilot and then branch out to the 3rd through 8th grades. Actions will include engaging district administration and 5th and 6th-grade teachers. Throughout the 2022-2023 school year, there will be a growing awareness within the district to provide students with similar experiences in order to ensure the delivery of high-quality and consistent work. This growing awareness will help to provide leverage for getting more teachers on board.

This is part of a bigger systematic effort to build connections across schools to help increase student comfort and confidence. We will advocate for professional development time with the grade levels on either side of us to develop this unit; this type of dedication to time for cross-school communication is currently not in place. This is a systematic shift to looking at our district and the teachers and students as a whole, rather than as three learning environments; the elementary, middle, and high school.

Upon implementation of the program we will see a shift within our students and staff where, through common authentic experiences in nature with people outside of their immediate community, students will start to develop a deeper sense of place and empathy. And staff will have the opportunity to move beyond the walls of the classroom to engage students in a meaningful way which helps the students to develop as critical thinkers.

After the first year of the program's implementation (2022-2023), this type of systematic shift will require a dedicated person to run the program. After the grant's initial funding by RREV, the school district will need to commit to the work and start to "institutionalize" it within the system as a whole. This highlights the importance of continual communication with district administration, presentations, and updates for the school board. Without a full commitment from the district, the program will struggle to scale and could easily end when passionate staff leave.

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.

The Navigators team consulted with the district's Director of Finance & Operations, Dan O'Shea, to ask about liability issues surrounding the outdoor component of the program. We also met with building administrators and the Superintendent, to outline our plans and ask for feedback. Our most valued voice and stakeholder for

this grant are the needs of students. We completed a survey of 5th and 6th graders to rate their previous knowledge of key concepts in the Navigators Program. These concepts included knowledge of indigenous peoples' history and culture and the health of Casco Bay and its species. The survey also asks students to indicate their affinity for hands-on, outdoor, interdisciplinary lessons and working with an interdisciplinary curriculum. Seventy-five percent of 5th and 6th grade students agree or strongly agreed that they enjoy learning about school topics when they go outside in nature. Eighty-five percent agree or strongly agreed that they enjoy learning when they do hands-on activities.

Through surveys and meetings with staff, teachers responded to their affinity for an interdisciplinary, hands-on, nature-based program and teachers' willingness to participate in professional development and planning related to the program. The survey also left room for questions and suggestions for people in the community who might help out with the planning and carrying out of the program. Feedback from the survey will guide how we support teachers and how to reply to any misinformation and/or objections to our pilot plan.

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.

Student-Centered Experiences. Providing students with numerous and various outdoor experiences will connect them to each other and the world around them. A key aspect of the Navigators project is connecting students with the world around them. This will mean getting students off of the campus and along the local waterways.

12 Canoes with gear (paddles, PFD, storage)	$40,000
Canoe trailer	$5,000
Small motor boat with trailer	$30,000
Fishing equipment & Water Testing Kits	$1,000
Videography/Documentarian Equipment	$10,000
Classroom set of iPads w/ cases & Apple Pens	$20,000
Books/Media Resources for integration	$3,000
Robot STEM to-build kits	$10,000
Underwater Robots	$12,000
Grade-level funds for student-centered outdoor learning activities ($2,000 for each grade 3-8)	$12,000

Guest Speakers/Co-educators/Outdoor Co-Consultant Teachers (Maine Audubon, Portland Water District, Ripple Effect, Friends of Casco Bay, Friends of Presumpscot River, Wabanaki tribes)	$20,000
Student-Center Outdoor Educator Teacher (1 year)	$87,000
Total	**$250,000**

100% funds support *Regular Instruction*