



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 be assured of consistency.

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

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.

At this stage in education research, business, policy, and education leaders agree the design of new learning environments that connect learners with resources and experiences, students' interests with the needs of their community and the world. Decades of research and national media discussion have clarified that the traditional factory-based model of secondary education no longer serves or engages our youth in their learning (Mehta & Fine, 2019; Sizer, 1990). Nor does the nineteenth-century model prepare our students for success in future careers, post-secondary education, or prosperity in the global knowledge economy. The advancements in the workforce and the global economy necessitate restructuring the American high school experience to prepare students for a world of complexity and uncertainty. By leveraging the potential of future technologies and people, learners in newly designed systems will create paths to connect their present learning to their desired future (Gaulden & Gottlieb, 2017).

A response to this call to action can be seen in innovative new school designs that break tradition in the American high school. Recent high school models have been launched around the country, intertwining project and community-based learning with design thinking methods to engage students in authentic experiential learning. These collaborative learning environments put students to work with professionals who serve as mentors and experts who facilitate profound learning experiences in their communities (Shoemaker, Roberts, & Boltz, 2016). Through these pedagogies, students are reported to feel more motivated and able to see more relevance in their learning and a pathway to their future (Mehta & Fine, 2019).

The national dialogue on the future of work and the need for high school transformation is playing itself out in Kittery. Traip Academy sits on the shore across from the Portsmouth Naval Shipyard. This United States Navy nuclear submarine repair facility has been the employer of choice for our community since the 1800s. Kittery has a proud heritage as the home of the Shipyard and as a port for generations of fisherman and lobstermen who make their living from the sea. However, the advancement of shipbuilding and repair at the Shipyard now requires the workforce to have advanced STEM degrees. In addition, climate change and the warming of the Atlantic Ocean now threaten the fishing and lobster industries with the rapid decline and potential collapse of the entire fishery. As a seacoast town and gateway to the state of Maine, our local economy has retail tourism and retail and restaurant jobs are plentiful.

This proposal aims to create a research-based framework that increases the efficacy and impact of the Expanded Learning Opportunities (ELO) program at Traip Academy. The ELO program has offered independent studies to individual students in its original design. On average, 3-4 students would participate in an ELO. While the program has had some success, crafting individual ELOs is time-consuming and often leads to unrealized or incomplete learning experiences. Furthermore, because of the cumbersome process, the capacity of the ELO coordinator limits the number of students that can participate in the program. An additional challenge of the current design is that students have limited opportunities to earn competencies that meet graduation requirements. Obtaining an RREV grant allows Traip Academy to redesign the ELO program for a more significant impact on students and the Kittery community.

A redesigned ELO program is conceived to be an innovative learning environment where groups of students (10-12) and faculty collaborate with industry professionals to generate ideas and potential solutions to environmental, social, economic, and historical challenges facing Kittery, the Seacoast, and the world. Because of its exclusive location on the Piscataqua River, docks, and boat launch, the possibilities to design learning related to our maritime heritage are endless. With the Portsmouth

Naval Shipyard as our next-door neighbor, the opportunities to collaborate with engineers and highly skilled tradesmen and women to learn creative problem solving are numerous. Traip Academy's proximity to downtown Kittery and Portsmouth allows students to work with businesses and non-profit organizations, exploring career pathways in our community. The ELO program at Traip Academy is ideally situated to utilize our region's people, places, and resources, to create a program that empowers more students to study complex challenges facing their generation. By situating student learning in the broader community, we can expose our students to the heritage and innovation prevalent in our region. With a redesigned ELO program, we believe we can empower more students to design more solutions and pathways to a sustainable future for themselves and our community.

Below is a list of ELO ideas intended to illustrate the caliber and vision of innovative programming for which we are seeking funding. Many of these ideas correlate to discussions taking place throughout the state of Maine regarding workforce development and the preservation of Maine's natural resources. We hope to build the next generation of Maine's leaders by developing an ELO curriculum that focuses on design thinking, innovation, entrepreneurialism, and sustainability.

- Work with an aquaculturist to learn about new sea farming strategies and businesses,
- Work with local lobstermen and women to study the warming temperatures of local fishing grounds,
- Work with Portsmouth Naval Shipyard engineers (coordinated with PNS STEM contact) to use ROV technology to do underwater mapping of the mooring field, kelp, and eelgrass in the river next to Traip Academy,
- Work with a sewist to explore sustainable fashion design by upcycling and retrofitting used clothing
- Work with the park ranger at Fort McClary in Kittery Point to manage the influx of visitors since the pandemic,
- Work with students, faculty, and community members to imagine and design multiple new opportunities yet to be conceived!

RREV funding will enable us to explore and build some of these ideas and for students and faculty to imagine and design new opportunities that have yet to be conceived. Funding will also allow us to increase the ELO position to a full-time employee position and that of another part-time teacher. Expanding ELO staffing will increase the numbers of students participating in ELOs and more significantly impact our community.

A redesigned ELO program will:

- increase the number of ELOs offered and the numbers of students participating in ELOs
- increase the number of community partners collaborating with students and faculty to expand learning beyond the walls of the school building,
- increase student understanding and engagement in solving complex social and environmental challenges facing our community,
- gain student understanding of design thinking, innovation, entrepreneurialism, and sustainability
- design ways for students to meet competencies in multiple content areas.
- Increase students' understanding of career pathways and how to create their own.

ELOs at Traip Academy will utilize a model in which students learn to use the design thinking process from inception to completion by collaborating with experts and industry leaders, prototyping, seeking feedback, testing, and launching their ideas for viable and sustainable solutions. The ELO program is conceived to be a successful prototype of several innovative educational programs found around the United States where this type of programming is offered: High Tech High School, CA., Jupiter Island High School Environmental Studies Program, FL., Teton Science School, WY, St. Vrain Valley Innovation Center, CO., The Centennial X Program, PA. and NuVu in Cambridge, MA.

This type of educational programming is not available in Kittery or the Seacoast region. Knowledge generated from this program is intended for the improvement of the effectiveness and impact of the ELO program at Traip Academy and to be shared as a model in the Rethinking Remote Education Ventures program.

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

Review the evidence – quantitative and qualitative data and research – indicating 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 EIs, 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.

Demographics of the high school include: an average student population rate of 275, class sizes average of 12:1, and the annual free and reduced lunch rate hovers around 25%. Our diversity comes from the active-duty families in the U. S. Navy, Coast Guard, and others who have migrated from the greater Boston area. Unfortunately, many of these families are stationed in Kittery for less than 24 months. As a result, Traip Academy's 4-year cohort graduation rate is only 84%, while neighboring schools of 1000 or more students claim a 98% graduation rate.

During the last two years at Traip Academy, there have been 12 students who have dropped out of school during Covid. Students drop out for various reasons, such as not being able to graduate in five years because of poor performance in the first two years, needing to work full time to support the family, and lack of interest in obtaining a diploma. More recently, mental health issues such as severe anxiety are getting in the way of student success. Some students are out of school for months and cannot recoup the loss in learning or time. About one-half of them go to Adult Education for their HiSET exam or the Adult Basic Education Program. ELO Programs, in particular, have the potential to connect with individual student passions that can help them identify goals for the future and inspire them to move forward in their learning.

Over the past four years, Traip Academy students have participated in the Gallup Student Poll that measures students' engagement, hope, and entrepreneurial aspirations nationwide. In 2017, 2018, and 2019, our Gallup Student Poll results told us that 42% of our students reported feeling not engaged, and 26% reported feeling actively disengaged in their education. 31% of our students said that they feel hopeful and see themselves as able to make a difference in the world, while 42% reported feeling stuck and 27% reported feeling discouraged about their future and making a difference (Gallup, 2019). This local data, the national discussion on the end of learning, and the shifting global economy present an opportunity for a study of successful learning environments that can be shared with stakeholders in our community.

The intended outcome of redesigning ELO programming at Traip Academy is to improve student measures of engagement, hope, and entrepreneurial aspirations. In addition, students should report relevance in their learning and a career pathway towards the desired future.

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 due to the innovation.

The redesign of ELO programming at Traip Academy is intended to:

1. Create a rigorous community and problem-based learning system that integrates creativity, innovation, career exploration, and entrepreneurship with Humanities and STEM
 - a. Emphasize critical academic and career skills such as creativity, critical thinking, collaboration, communication, research, and analysis
 - b. Student interest will influence the selection of projects that are undertaken while collaborating with community, non-profit, for-profit, industry partners
 - c. Curriculum and assessments to be developed that allow students to meet core competencies.
2. To empower students in their study of complex challenges facing their generation and to create and propose potential solutions to those challenges
 - a. Students and faculty will understand and utilize the design thinking process to generate ideas, prototype, and test solutions
 - b. Students and faculty will utilize professional-grade equipment and supplies to fabricate during the design, prototyping, and testing phases
 - c. Students and faculty will understand how to effectively develop and pitch ideas using media and the arts to enhance their proposals
 - d. Students and faculty collaborate with industry professionals to do field research.
3. To increase the number of group ELOs offered.
4. To increase the number of students participating in each ELO.

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 coordinating of logistics.
- **Implementation** includes planned implementation activities and professional development for the educators participating in the innovation.

	Activity	Purpose	Stage (P or I)	Date of Completion	Person Responsible

1. Plan Schedule	Work with the counseling office to discuss scheduling limitations and opportunities to open up student and faculty schedules	P	June 2022	RREV Team, Administration, Guidance
2. Site Visits to schools and organizations with similar programs	Travel to and meet with other programs in the area to develop an implementation plan	P	October 2022	RREV Team Administration
3. Secure Community Partners	Solidify community partnerships	P	December 2022	ELO Coord RREV Team
4. ELO Development	Develop scope of work with education and community/industry experts.	P	December 2022	RREV Team, ELO Coord, Guidance
5. Advertise & Recruit students	Promote group pilot ELOs	P	December 2022	RREV Team, Admin, Guidance
6. Pilot Flexible School Schedule	Pilot schedule to allow for max student involvement in ELOs	I	Spring Semester 2023	Guidance, Admin, ELO coord
7. Procure gear and equipment needed for pilot ELOs	All necessary gear, equipment, and transportation purchases organized	I	Spring semester 2023	ELO Coord Admin

8. Launch pilot ELOs	Convene students and community partners in pilot ELO	I	Spring semester 2023	ELO Coord RREV Team
9. Student presentations of pilot ELOs	Culminating demonstrations of student learning and community partnerships	I	May / June 2023	Students Community ELO Coord RREV 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).

This proposal is presented as a 2-year pilot project with significant outcomes indicated in the table below. However, the work described in this proposal is presented as a pilot that will continue to go through an interative design process as we learn and assess each benchmark and make necessary modifications. Therefore, outcomes proposed for the first two years are short-term benchmarks, while year three outcomes are long-term benchmarks.

Summer 2022	Fall 2022	Winter 2023	Spring 2023
Framework for expanded ELO program, including schedule and community partnerships established Summer ELO program ten students	Logistics, curriculum, & assessments for 2 ELOs organized and piloted Three additional partnerships in development 30 students	5 is fully developed, including logistics, curriculum, assessments, and community presentations publicized 50 students	Up to 6 high-quality ELOs developed and sustained with community partners 60 students per year complete ELO

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.

1.	Data Type	Baseline Interim Summative	Frequency of Data Collection	Person(s) Responsible for Data Collection
2.	Enrollment	B	Annual	Admin, ELO Coord
3.	ELO Placement Rate	I	Annual	ELO Coord
3.	Student Reflections and Surveys	I	Semester	RREV Team
4.	Community Partner Reflections and Surveys	I	Semester	RREV Team
5.	Credits Earned	S	Annual	Admin
6.	Post -Secondary Placement/Success Rate	S	Annual	Admin ELO Coord

7	Improved Gallup student data on engagement and hope for the future?	S	Year 2 and 3	Admin ELO Coord
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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.

The Kittery School District is in the process of adopting a new district- wide vision. The work proposed in this application aligns directly to the vision's core beliefs 2, 3 and core belief 5. This vision is expected to drive systems change in the Kittery Schools. The ELO program will be a pilot for the high school's implementation of these core beliefs. Formal adoption of the vision and these core beliefs will take place in May 2022.

Core Belief 2: Relationships and Community

We believe in the importance of building strong, positive relationships within our school, our community, our country, and our world. Using local and global resources, we aim to provide students with engaging and connected learning opportunities.

Core Belief 3: Curriculum and Instruction

We believe in a curriculum that is personally relevant to students and reflects diverse perspectives and experiences. Through innovation and adaptability, we strive to empower students to develop a sense of identity, empathy, and thoughtful local and global citizenship.

Core Belief 5: Transferable Skills

We believe in structuring an educational environment that reflects the growth mindset and prepares students for success beyond K-12. We emphasize agency by involving students in the development and direction of their own education.

After the two-year pilot phase, the ELO program will be scaled and sustained by increasing enrollment, deepening school-community partnerships for educational as well as funding purposes. Strategically we will create demand for the program by increasing enrollment, community funding, thereby encouraging the school committee to commit to a long -term increase of local dollars dedicated in the school budget for the ELO program. Stipended positions will be increased and will become a part of the school budget. Currently, the ELO coordinator is a certified teacher yet not paid on the teacher pay scale and paid at an education technician rate. Students who have completed ELOs will acquire desired training to pursue future education and career goals. Alumni of the ELO program will not only recruit students but will also potentially hire ELO students in their future endeavors.

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.

1. A RREV grant team at Traip Academy including 5 students, 4 teachers, 1 principal, and the ELO Coordinator have met 6 times using the materials provided in the University of New England Innovative Mindset Professional Development course. These materials enabled the ELO Coordinator to use the design thinking process with the Traip Academy RREV team. Specifically, the RREV team used an empathy exercise to understand the success and challenges of the students that have participated in the current ELO program. The Team used an exercise to define the challenges and understand the perspective of the ELO coordinator with the currently designed ELO program. The RREV team then used brainstorming and an ideation exercise to describe aspects of a newly designed ELO program at Traip Academy.

2. In addition, Gallup Student Poll data results were examined. The Gallup Student Poll was recently taken by Traip Academy students in February, 2022 we are anxious to receive these results in the last week of March 2022 as additional indicators of the following:

- Engagement: Students' involvement in and enthusiasm for school and the classes they take
- Hope: Students' ideas and energy they have for the future
- Belonging: Students' feelings about acceptance and inclusion in the school

This survey data will be examined in conjunction with earlier GSP results to inform ELO program development by the RREV team.

3. The ELO Coordinator has organized several school visits to schools around New England which the principal and teachers on the RREV have participated in. The purpose of the school visits was to learn about experiential learning programming implementation, success and challenges to inform our design.

4. With funding, formal evaluation services would be secured to conduct student, parent, and community interviews as part of feasibility study to inform the scaling and sustainability of the redesigned ELO program.

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.

Budget Summary

After developing a complete project proposal, a complete budget narrative with itemized expenditures will be created. Below is a general budget summary for discussion purposes with the RREV grant team during the design process. Since the program described in the RREV model application is similar to the ELO program envisioned for Traip Academy, budget estimates below are similar to the model budget.

Budget Summary	Year 1	Year 2	Total
Salary – 2 positions	45,000	45,000	90,000
Staff and Student stipends	5,000	5,000	10,000
Travel <ul style="list-style-type: none"> • Transportation for student travel (busing costs) • Site visits 	4,000	4,000	8,000
Equipment <ul style="list-style-type: none"> • Clothing • Life Jackets • Remotely Operated underwater vehicle 	25,000	25,000	50,000
Supplies	30,000	30,000	60,000
Purchased Professional Services <ul style="list-style-type: none"> • Stipends for community partners • Boat charters 	10,000	10,000	20,000
Evaluation Services	6,000	6,000	12,000
Total	125,000	125,000	250,000