Triangle Associates Peer Leadership Training Final Report

PROJECT DESCRIPTION

For over 20 years, Triangle Associates has created and delivered highly-rated, innovative education programs for schools on topics including household hazardous waste, waste reduction and recycling, resource conservation, and stewardship. Our educational services, from assemblies to classroom presentations to teacher trainings, cover a wide variety of environmental topics but always come back to the same key point—we all make choices and those choices have an impact on the world around us. By engaging with the public in a variety of ways and settings, we allow more people to understand their role in the health of our environment.

Triangle's work for the King County Schools and City of Everett Schools Programs offered a foundation for both subject matter and peer leadership training that translated well to Seattle Public Utility's Environmental Justice Network in Action grant program. Triangle's extensive experience in diverse classrooms throughout Seattle and King County, our subject expertise in a range of natural resource conservation topics, and the King County Green Team program's focus on



empowering students through action projects, provided a solid foundation for engaging youth through the EJNA grant. Our program, based on the above qualifications, provided an in-depth training and outreach program for the schools, teachers, and students involved.

Triangle Associates partnered with two schools, Maple Elementary in Seattle and Kent-Meridian High School in Kent, to teach students about waste reduction, recycling, and water conservation (Maple) and household hazardous waste (Kent-Meridian), and to provide students with the skills, planning opportunity and ideas for teaching others in their community about their given topics. At both schools, students developed a variety of tools, including posters, skits, PowerPoint presentations, newsletters, games, brochures, and books that were used to educate their peers, younger students, and the parent community. Upper elementary students outreached to younger students, their families, and their neighborhood communities. High school students outreached to middle school students, their peers, and families.

TRAINING

Methods and Strategies for Peer Leadership Training

A total of 275 students (180 at Maple Elementary and 95 at Kent-Meridian High School) were trained to conduct outreach to others. Students at Maple Elementary were trained to teach others about water conservation, waste reduction, and recycling and to recognize the importance and reasoning behind conservation of natural resources. Kent-Meridian High School students were trained to teach others about the principal hazards of toxic cleaning products, how to read labels and choose safer alternatives. At both schools, students learned to identify target audiences and utilize strategies and methods that would successfully reach the intended audiences with their key messages. Students were encouraged to consider ways in which their peers, families, and community members can change behaviors in order to waste less and to reflect on their own behaviors associated with the conservation topics.

To set the students up for successful outreach programs, students received foundational workshops in their given topics. Students at Maple Elementary received two days of classroom workshops. The first day focused on water conservation using a lesson adapted from the City of Everett Schools program called *Water You Know*. The lesson included a hands-on puzzle activity to teach students about the path water takes to reach their homes, a water footprint calculation activity and a dice game where students practiced making choices to conserve water at home and at school. The second day focused on waste reduction and recycling using two lessons adapted from King County programs. Fourth grade students received a lesson adapted from King County's *Garbology* workshop and fifth grade students received a different King County-adapted workshop called *Habitat Stewardship*. *Garbology* included an interactive activity exploring decomposition and then provided students an opportunity to practice sorting

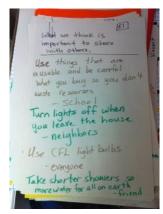
waste products into categories, including reuse/donate, recycle, compost, and landfill. *Habitat Stewardship* focused on connecting students' conservation choices to animals and their habitats and included a game exploring the habitat elements for animals' survival as well as an exploration of how actions at home and at school can impact animals in their habitats. All workshops focused on the recognition that small, daily choices add up to a large environmental impact.



At Kent-Meridian High School students received a workshop on household hazardous products. The workshop included background information and definitions of hazardous products, precautionary statements and signal words. Using visuals and hands-on activities, the workshop emphasized how and why to read product labels and avoid products labeled 'danger' or 'poison.' Students explored the effectiveness of safer substitutes by cleaning lipstick off a white board with various products. They also played a toxic-free bingo game that allowed them to quickly learn about multiple safer substitutes to toxic products. Once they had foundational knowledge, students at both schools were trained to teach others about their given topic. Specific methods and strategies used to train them are listed below.

At Maple Elementary, Triangle Associates provided the following services:

- Role modeled teaching techniques and outreach methods including games, images, role playing, manipulatives, and demonstrations to engage students in connecting their use of materials to the natural resources these materials are made from
- Distributed shower timers
- Sought student experiences for building a personal context through reflective writing, small group discussions, and questioning strategies
- Considered community groups connected to students and how their use of natural resources impact the environment
- Provided leadership training
 - Brainstormed messages student felt important to convey
 - Gave students choices about the target audience, details of the topic, and method for engaging audience
 - Presented an action plan outline to help them plan the project, which included asking students to think about a timeline, their own roles and responsibilities, cultural inclusiveness for the audiences, materials, and what to teach



At Kent-Meridian High School, Triangle Associates provided the following services:

- Role modeled teaching techniques and outreach methods including the use of teachable moments, explicitly identifying techniques used to engage diverse teen audiences, and using manipulatives to emphasize a key concept
- Shared ideas for reaching diverse audiences including the use of visuals, hands-on activities, translated materials and games
- Provided leadership training as described for Maple Elementary above

Training successes and challenges

Providing foundational workshops followed by leadership training allowed the students to take newly-gained knowledge and internalize it as they developed their outreach programs. Students truly felt empowered by the experience, as evidenced by their own descriptions of personal behavior change. In an informal survey of the Maple Elementary students, the majority reported making at least one change in their daily life as a result of this project.

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Changes included taking shorter showers, helping their families to conserve water and energy, recycling and composting at home, and getting involved with family gardens.

Peer leaders were very engaged in the topics and methods, and their excitement about doing the outreach are a testament to our success. Since students were given the freedom to develop their own outreach, the method and product were audience appropriate (in terms of age and background). For example, the elementary students made games and a library book for the younger children, and high school students made PowerPoint presentations, display boards, posters, and wrist bands as incentives for pledging to complete a conservation activity.



Since the student groups developing these methods were culturally diverse, their products naturally spoke to their backgrounds and were culturally appropriate.

Workshops were aligned with Washington State Essential Learnings (EALRs), which allowed the teachers to more easily fit the planning and outreach into their curriculum. Additionally, the two partner schools and teachers were well-chosen. Both schools are culturally and economically diverse, representing a cross-section of the Puget Sound population. At the same time these schools have a culture of conservation that pervades the school, with a focus on waste reduction, recycling, climate change education and energy conservation. Our messages were thus familiar and easily accepted. Teachers at both schools had freedom within their curriculum to take on an additional project, and the fall curriculum was well-matched to the project. At Maple Elementary, Elyse Litvack (Science Pull-Out Specialist and Triangle partner) had planned a service learning unit for this fall which fit seamlessly with the SPU grant, and at Kent-Meridian High School Dianne Thompson (Environmental Science teacher and Triangle partner) had planned a fall green consumer unit. Working with schools and teachers that were ready for this type of project was critical to its success.

The biggest challenge to completing these projects was the time constraint implicit in the nature of a classroom setting. Completing and executing projects within an eight-week time frame with less than an hour per day to work on the project challenged the teachers, and they could have used more support. For future projects, regular visits from a support staff (such as a Triangle staff person) would give teachers time to reflect and provide more depth to the project and would provide additional guidance and expertise to the students throughout the outreach development and implementation.

Another challenge to the trainings was to keep students focused while also empowering them to make their own decisions about how and what to do. Especially at Maple Elementary, students had such a wide range of ideas that projects became very diverse, making it hard for the teacher and Triangle staff to provide adequate support. Future projects should be more focused, allowing students freedom to choose a topic and audience with the knowledge that

they would work on the project as a large group. Having four to six student groups engaging in different activities in each class was challenging.

PRODUCT DEVELOPMENT, OUTREACH & EDUCATION

Triangle Product Development

Triangle modified King County and Everett classroom lessons (*Habitat Stewardship, Garbology,* and *Water You Know*) to make them Seattle-specific. We created new water materials for the *Water You Know* presentation, including a puzzle and a water footprint activity (with dice and a game board). Triangle modified a King County *Hazards on the Homefront* lesson to teach key messages on household hazardous products, principal hazards, signal words and safer substitutes. Triangle also modified the King County Green Team action project model to account for engaging multiple classes within a school and to set up a long-term relationship with the teacher to support her through the project. These materials were chosen to meet SPU's outreach goals.

Student Product Development

Kent-Meridian High School students created:

- Tri-fold posters
- PowerPoint presentations
- Brochures
- Games
- Wrist bands
- Pledge cards

Posters, PowerPoint presentations, brochures, and games were used for all three audiences (middle school students, high school students, and parents). The wrist bands were created specifically for the high school students, and the pledge cards were used with both high school students and parents. The games included a toxic-free bingo game and a label sorting activity. Games were chosen for the middle school students because they wanted to tap into the



competitive nature of students that age; posters and presentations were made to be bright and draw students in with the visuals.

Maple Elementary students created:

- Large, colorful posters with conservation messages they felt important to convey in various public locations
- Conservation-themed board games for students and family members
- Conservation-themed flyers for families
- Skits on waste reduction, recycling and water conservation
- Doorknob hangers for neighborhood front doors
- A book for the school library

The posters are being hung in a variety of different public locations including public libraries, neighborhood businesses, school hallways, and parks. Board games are available for future Maple students to check-out and play with family members at home. Flyers were included in a conservation newsletter that will go home with all students at the school. Skits will be performed to the lower grades at the school, and doorknob hangers will be placed on the front doors of homes in the school's neighborhood. The book is available for check-out at the school library.

At both schools, students chose the products to be age-appropriate, fun, and engaging for their diverse audiences.

Process for Product Development

At Maple Elementary, students worked in small groups to brainstorm concepts and ideas that they learned during the workshops. Ideas were shared and recorded on the white board, and students were asked to select one or two that were important to them. The teacher asked students to think about whether or not a conservation idea or action was taking place in their homes, neighborhoods, and community groups. She asked if there was someone, or a group of people, that needed to hear about WRR or water conservation. Questions asked included, *do students' relatives always save water?*, *do neighborhood businesses and parks have places to recycle?*, and *could church groups do a better job at reusing?*

With these prompts, students journaled about a chosen conservation topic, why it was important, and who they thought needed to hear about it (see samples in Appendix A). These writing samples provide insight into the degree of impact the previous workshops and Ms. Litvack's science curriculum had on the students. Student responses were recorded on a chart and became the pool of candidate projects. Table groups discussed the merits and deficiencies of the ideas, considered the plausibility of building a project from the idea and which audiences should be targeted. Students cast individual votes for their top choice, and the topic that received the most votes became the one that the entire group focused on during their outreach project. Over the course of several weeks, student groups of 4 or 5 devised methods and strategies for delivering their class's chosen message to targeted audiences.

At Kent-Meridian High School, students worked in small groups to develop messages and materials. Each group started with its target audience and decided on key messages and needed materials. The class that outreached to the middle school students developed a lesson plan that was handed in to the middle school teacher in whose class they presented. The lesson plan included the standards being addressed as well as the teaching tools used. Students who worked on outreach to their peers focused on "cool" giveaways such as wrist bands that students received when they visited their table and signed a pledge. Their top goal was getting students to their table. Both groups of students



said that they thought about how they like to learn as they developed their outreach materials and methods.



Adult outreach was the biggest challenge. Students had a lot of ideas for reaching adults in various settings ranging from the Kent Station shopping mall to local apartment complexes. Students' ideas for targeted adult audiences were also varied ranging from Kent-Meridian parents to teen moms at school. The final audience was ultimately determined based on timing, weather, and convenience. Since students knew their messages, they developed materials in several languages, including Spanish, Russian and Ukrainian, to reach the parent community. They had several tables at the parent teacher conferences held on December 9. Parents who signed a pledge received a green cleaning kit.

Outreach Tool Development Successes and Challenges

King County's Green Team action project model was used to good effect for the outreach tool development. Creating an action plan, visioning a successful end product, and outlining required steps to reach that product offered the students at both schools a road map to easily follow as they developed their outreach methods and products. Ms. Thompson said that the best part of the entire experience was giving her students "open opportunities" to figure out what they wanted to do and how they would do it, and then watching them work together to create a product. This was an empowering experience for the students because they not only had to learn the material, they also had to figure out how to teach it. Giving students freedom to design the pledge cards, boards, and PowerPoints was a fun, engaging experience for them as well.

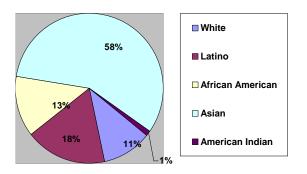
Giving the students more contextual knowledge in the form of field trips (to the landfill, to a local waterway, through their neighborhoods to look at local environmental issues) would have provided a greater depth of experience and perhaps a greater internalization of the key messages. Kent-Meridian students could have explored the ways in which their own community uses toxic cleaners and then used that knowledge to target their messages and outreach. Time and budget constraints did not allow for these experiences, but a future project could include them with potentially powerful effects. At Maple Elementary, students journaled about their experiences with garbage, recycling and water use, but future projects could stretch the content by challenging students to continue to reflect on their own experiences through a long-term reflective writing exercise.

OUTREACH & EDUCATION

This project educated approximately 1500 students and approximately 485 families. At Maple Elementary, the project reached the 470 students at the school, 160 families of participating students, and 300 families of non-participating students through a conservation newsletter. At Kent-Meridian High School, the project reached approximately 1,000 students through lunchroom outreach (about half the school), 180 students in six classes at Mill Creek Middle School, and approximately 25 families who visited the tables during the parent teacher conferences.

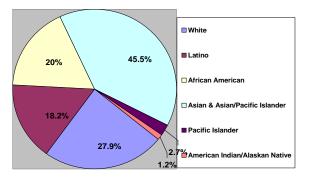


The audiences for education and outreach activities reflect school make-ups. The following pie charts represent school demographics as of 2010. (Note that at Kent-Meridian High School the percentages do not add up to 100 percent due to state counting requirements.) In addition to diverse ethnic backgrounds, both schools have a high percentage of free and reduced lunch fares, indicating lower socioeconomic status (68.9 percent of Kent-Meridian students and 59 percent of Maple students).



Maple Demographics 2009-2010*

Kent-Meridian Demographics 2010-2011*



http://www.seattleschools.org/area/siso/test/anrep/anrep_2009/252.pdf http://www.kent.k12.wa.us/23222092311529967/lib/23222092311529967/2010_KM_Data_analysis_report.pdf

	Triangle	Maple	Kent-Meridian		
Type of Activities	 Classroom workshop Peer Leadership/Action Project training 	 Skits Home share with families Posters and doorknob hangers in neighborhood Conservation newsletter 	 Skits Presentations Lunchtime table for high school students Table at parent teacher conferences 		
Topics Covered	 Water Conservation Waste Reduction and Recycling (WRR) Household Hazardous Waste 	 Water conservation Waste Reduction and Recycling (WRR) 	 Household Hazardous Waste 		
Number of People Educated	• 400	 470 elementary students 160 families of participating students 300 families of non- participating students 	 180 middle school students 1000 high school students (approximate) 25 families 		
Location of Activity	 Maple Elementary Kent-Meridian High School 	Maple ElementaryHomeSchool neighborhood	 Kent-Meridian High School Mill Creek Middle School 		
Method of Recruiting Audience	 Recruited two teachers with established conservation credentials and curriculum freedom 	 Lead teacher recruited other teachers for foundational classes Worked with librarian to get book used in library Recruited first and second grade teachers for skit performance Students took materials home to parental use 	 Lead teacher sent invitation to teachers at Mill Creek Tables at lunch/parent conferences in public place with giveaways to engage students/ parents to visit booth. Bright, engaging display boards and materials to share information 		
Description of Staff Responsibilities	 Activities led by Triangle staff Lead teachers provided active support 	 Lead teacher supported outreach project development in classroom curriculum and coordination of outreach 	 Lead teacher supported outreach project development in classroom curriculum and coordination of outreach 		

Outreach Activities

Outreach Method

After being trained by Triangle Associates on the foundational information, student leaders representing their community presented the information to their peers and adult community members. This method was chosen because studies have shown that messages are more impactful when they come from a trusted source, such as a local community member. This method was also chosen because students listen to their peers and look up to slightly older students, thus making the messages more impactful.

Outreach Methods Successes and Challenges

Students outreached to a wide audience in their respective communities. Key messages were shared with peers, younger students and the parent community at both schools. According to one Mill Creek Middle School teacher, her students were "captivated" with the presentation given by the high school students.

The students are more aware of the messages and behaviors we advocate when they are asked to teach the material to others. To better assess



the successes and challenges of the outreach, future projects should consider a longitudinal study that collects pre- and post-activity data both in the classroom and beyond it. Future projects could collaborate with an arts or media teacher to more fully embrace multimedia-focused projects. Possibly because projects were developed within the confines of a science class, students tended to use more traditional outreach tools and methods such as in-person presentations and posters. Finally, including electronic media such as video recordings was prohibitive in these schools due to lack of equipment and the liability associated with borrowing materials.

Outreach Lessons Learned

In outreach development, more time with a smaller number of students would likely have benefited the final products. It was also a challenge to find the right balance between being directive with students, getting the product we envisioned, and allowing students the freedom to develop their own format, materials, and plans.

This project was designed so that students themselves would create an outreach method and tool that would be culturally inclusive because it came from within them; however, the school context to some extent has the tendency to normalize cultural differences. We faced the same challenges that schools do when addressing cultural diversity. Dominant societal themes, including standardized curriculum requirements, found in school systems tend to override differences and result in assimilation. We do not see a clear solution for how this can be avoided in the future with school-based projects, but this challenge should be considered further.

BUDGET

The following table outlines the total time and money spent on the project.

Type of Expense	Description of Expenses	Total Number of Hours	Total Dollar Value
Paid Labor:	Foundational knowledge; trainings; communication and coordination with teachers and providing support/ideas as they worked through the project; data gathering; reporting	177 Hrs	\$11,571.23
Volunteer Time (valued at \$20/hr):		Hrs	\$
Non-Labor Expenses:		N/A	\$1,428.77
TOTAL		Hrs	\$13,000.00

Additional funding for data gathering, reporting, and copying materials for student and SPU use would greatly enhance this type of project. Funding was sufficient for tool development and outreach but low for proper data gathering and reporting.

COMMUNITY PARTICIPATION & BENEFIT

Project Partners

- Names: Elyse Litvack, Maple Elementary; Dianne Thompson, Kent-Meridian High School
- **Partner roles and responsibilities:** Teachers for classes that developed and completed the outreach
- **Total number of hours contributed** Dianne Thompson and Elyse Litvack each contributed approximately 20 hours of class time and a few hours of personal time.

Community Benefits

- Increased awareness of SPU's priority areas in both communities, including waste reduction, recycling, water conservation, and household hazardous waste
- Students directly engaged with outreach know the material extremely well; students and families that were indirectly reached have foundational knowledge
- Youth leadership development, especially for students normally disengaged from this type of activity (e.g. English Language Learners, special education)
- Service learning experience for students

LESSONS LEARNED

Project Successes and Community Impact

This project has definitely been successful for both its conservation education value and its youth empowerment aspect. Both schools plan to continue the lessons and use the materials in future years. As stated above, materials created at Maple will be available for check out, including games and the library book. Posters created will be used again as well. Kent-Meridian High School plans to continue using both lessons and materials every fall during Dianne Thompson's 'green consumer' unit. Students at Maple have changed their individual behaviors and those of their families. Many students reported taking shorter showers because of the shower timers, helping their families conserve water and energy, and initiating recycling, waste reduction, and composting efforts. The majority of students feel like they have made a change in their lives.



Students at Kent-Meridian High School stated they had a great time with this project. When asked whether they do would a similar project in the future, 100% of the students responded affirmatively in the two classes interviewed. Several students shared that they now view teaching differently and recognize how hard and rewarding it can be. Students also stated that they are more willing to consider using baking soda and vinegar for cleaning instead of more toxic substances.

According to Dianne Thompson, the greatest success of the project was empowering youth who are not normally considered leaders. Many of her students are learning English, have failed other classes, or are in special education programs. These students rarely get the opportunity to stand up and be a leader at their school or in their community. They were very nervous before their presentations but correspondingly proud once they were complete. The middle school teachers who participated in the program also commented on the value of seeing "average" students perform in front of a class.

Essential Strategies for Success

One vital component of this project was giving youth the space and respect needed to develop their own ideas. We used outreach training strategies that have been tried and tested within school settings to provide students with enough background knowledge to create their own methods of outreach. Empowering youth with knowledge was crucial for success. To make sure that these strategies would be effectively carried out, we carefully chose schools and teachers that meshed well with SPU's project goals.

Providing funds for students to purchase giveaways and materials, and make copies of materials was a critical component in determining project effectiveness.

Project Challenges and Methods for Addressing

Teacher schedules made this a challenging project. This project needed to fit in with other school work in short time frames. This challenge was addressed by having the students do what they wanted *within the time allotted*. We may have seen more creativity and more 'finished' products with more time.

Contacting teachers and working with them was also challenging. As teachers got busy, communication became spotty. In the future, we recommend offering teachers a stipend to participate in a similar program. They both worked above and beyond the call of duty, giving many hours of their and their students' time. A stipend would provide incentive for continued communication.

As the project facilitators, we could have gone to the schools every other week to help shepherd these projects through. This would have made the teachers feel more supported, and we would have been able to help them get the resources and knowledge they needed to be successful. We addressed this challenge through regular calls and emails, but we recommend more hands-on support for this type of project in the future.

Elyse Litvack at Maple Elementary said that she would restructure the guidelines she gave to students about the project and would have them do more research prior to creating their outreach materials. She also thinks more time was needed to get projects started, with greater support from project facilitators.

Project Success Stories and Anecdotes

Hearing directly from teachers and students speaks to the impact the projects had on teachers, students, and families.

- "The best part of the process was seeing students get excited to share what they learned about conservation." Elyse Litvack
- "Seeing the students take the messages to heart and into their daily practices was very gratifying." Elyse Litvack
- "My students were fascinated watching high school students present the information." Julia Vasiliauskas, Mill Creek Middle School
- *"It was so fun!"* Dianne Thompson
- "My family started composting food at home." Maple Elementary 5th grade student
- "We are now recycling at home, which we didn't do before this project." Maple Elementary 5th grade student
- *"I am helping with my family's garden now."* Maple Elementary 4th grade student
- "I was nervous at first but once you get up there [to present] the adrenaline gets going, and that's how you teach!" –Kent-Meridian student
- "It went wonderful. It was so fun." Kent-Meridian student
- "Kids have really short attention spans! Don't run out of material before you run out of time." –Kent-Meridian student reflecting on teaching the middle school students
- *"After the middle school teaching day, students wanted to go to every school in Kent and be there teaching all day."* –Dianne Thompson

• "We knew how to get students' attention with our boards and PowerPoints. But it was the energy that the presenters brought to it that made it a success." – Kent-Meridian student

In addition to the positive feedback from teachers and students, 385 students signed pledge cards during the lunchtime presentations. The presentations were held on November 22, the day of the blizzard that closed school immediately after lunch. Even with the cold and chaos of the day, every single student stayed at their table area during their assigned time, which speaks to the students' dedication to their projects.



Advice for Future Projects

Using the local school systems as a vehicle for community outreach has both great potential and real challenges. On one hand, you have a captive audience that is ready to learn, excited by leadership opportunities and eager to mobilize and take on a project. On the other hand, you have to compete with the myriad of other expectations set upon the public education system. Future school-based projects should consider asking less of the teachers and more of the project facilitators. Teachers need and want to be part of project planning and implementation, but they would welcome greater support in guiding students through the action plan process. Additionally, future projects should consider working with a smaller group of students as leaders, for example one class instead of three. The smaller group could focus and go more in-depth into the project while still reaching a wide audience through the outreach process. Partnering with an arts or visual media teacher would enhance the range of products developed.