OUTREACH INCENTIVE GRANT FUNDING: END-OF-YEAR PROJECT REPORT

Title of Proposal: **__A Clean Water Public Health Education & Training Program for Rural Appalachia**

Your Name: __Lisa Davenport_____ Project Date: Jan – June, 2015

Additional project support received from other university or external sources:

Source	Amount	Title

Please use this sheet to answer each of the following questions about your project (1-2 pp total)

1. **ASSESSMENT:** How did this project document or assess its engagement with the community?

The WASH education & training program provided materials and education to a total of 116 students over two days in grades 5-12 at Red Bird Mission Christian School. Students participated in three separate stations. During the first station students participated in discussion about the benefits of water to the body. Students were also educated on the concept of a water kiosk and the need to ensure drinking water is coming from a reliable source. Students were then transported to the newly built water kiosk on Red Bird Mission (RBM) campus and taught about the structure and the interdisciplinary approach over the past year to the development of the structure. Students also received a handout and water bottle for their utilization. During the second station students were able to participate in a glow-germ activity to highlight the importance of proper hand hygiene. Students were able to see the germs that still remained after washing their hands and were educated on proper steps to maintain hygiene. The last station highlighted the importance of proper sanitation. Topics included ensuring appropriate disposal of waste, the negative effects of straight piping, the effects to one's health from dirty water, and an interactive activity to see the difference between clean and dirty water under a microscope. Students were also educated on the importance of understanding that the cleanliness of water cannot be determined by simply looking at it.

2. **PARTNERSHIP/RECIPROCITY:** How did the university and community work together?

Ms. Wilder, guidance counselor at RBM School, served as the key contact for the WASH Education days. Her guidance and input was imperative to the success of the days and coordination with classes, teachers, and the UT team. Dr. Polly McArthur, Clinical Assistant Professor for the College of Nursing, partnered with us to incorporate two undergraduate BSN community health nursing clinical groups (N=12 students) that assisted in collection of baseline data during the week of March 9, 2015 and community education that took place on April 8 and 10, 2015. Two graduate Global Disaster nursing students helped mentor the undergraduate students as the educational materials were developed and delivered.

3. **BENEFITS:** What were the benefits (University/community) of this partnership?

The relationships between RBM School and UT Community Health and Disaster Readiness Project flourished throughout collaboration with a variety of different disciplines, such as nursing, engineering and architecture to provide effective education for students. Dr. John Schwartz, PhD Engineering and Moriah McArthur, MSc. Global Health, provided background education for nursing students, such as results of local stream water testing and the potential health impact. Both undergraduate and graduate nursing students were then able to better understand and appreciate the ethics and value of educating the community on WASH related principles. Through this partnership, students at RBM school received essential evidence-based education and training about water and sanitation that they can now, in turn, convey to their extended families, which will hopefully have greater impact on efforts to improve their environment over time.

4. **SHARED DECISION-MAKING:** Did the community have a "voice" or role for input into this project?

Through focus group dialogue, the university team was able to glean perspectives from the community about water quality, accessibility of clean water and strategies to further educate students at the school and the larger community. Recommendations conveyed during the focus group were incorporated into the educational design. The university team shared the educational plan and materials with the community partner liaison and we received feedback to help make documents and activities more culturally relevant.

5. **SCHOLARSHIP:** Are there any examples of faculty scholarship that will be informed by this project?

Prior to the WASH education, all participants completed a Water Knowledge Survey. This survey was also completed and served as a post-test one week after the education occurred. Results of the pre-test revealed 60% of students reported accurate knowledge of recommended water intake for their age on a typical day and the percentage improved on post-test survey to 75%. An alarming 24% of students drink energy drinks with 20 students drinking 1-2 energy drinks per day, 4 students drinking 2-4 energy drinks per day and 1 student drank energy drinks more than 4 times a day. Also, 57% of students only drank 1-2 glasses of water a day at school. Ninety-six percent of students indicated limited accessibility, pollutants and unsafe water as future problems to consider if local watersheds are not protected. Results of the pre-posttest reveal areas where further intervention can be directed, such as greater accessibility of water at school, education about health effects of energy drinks and further reinforcement to drink recommended amounts of water for age on a typical day.

Focus group interview also revealed that other age populations, such as older adults, may have limited knowledge of recommended water intake for their age on a typical day. Adults age 60 and above who participated in the focus group reported drinking only 1-2 glasses of water per day and felt that was enough. They expressed concern that their water "tasted bad", "tasted like chlorine" and stated, "I prefer to drink bottled water". These findings provide evidence to support the need for further education and intervention for populations across the lifespan in this rural Appalachia community.

Hands-on activities, such as viewing water samples using a microscope and Glo-germ hand hygiene interactive sessions (use of topical gel to simulate germs that could be illuminated with a black light) were effective teaching strategies for the 5^{th} -12^{th} grade student population.

6. **CONCLUSIONS:** What conclusions and best practices can be drawn from the partnership?

It is vitally important to integrate community input with design and development of community education. Our original survey did not include energy drinks and our community liaison suggested adding energy drinks as an option for students to report their behavior of using alternative drinking beverages. This revealed a significant finding that can now direct further education and intervention.

Life happens and even the best of plans can be deterred. The school is situated in a rural, remote area that is not easily accessible in the winter months. School was out of session several days due to weather.

Additionally, the community experienced the loss of a very prominent figure, Dr. Taylor C. Collins on January 28, 2015. Dr. Collins, Executive Director, for Red Bird Mission was influential in advocating for the school and gaining support for an international boarding program. His death was a tremendous impact on the community that deserved respect and consideration when making plans for this project.

An assumption was made that diversity would be minimal for the student population; however, the international boarding program allowed our team to interact with students from Democratic Republic of Congo (N=9), South Korea (N=2), Nigeria (N=1), Mexico (N=1) and others. These students were able to share with us and others their own experiences of water accessibility problems in their respective countries.

7. **FUTURE PLANS:** What are the future plans for this partnership? We wish to continue further education on WASH principles in the community and also take a greater focus on sanitation issues contributing to the root of the water contamination problem.