

Promoting Peace Through STEM Education and Confidence Building for Refugee Children

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Project Location and Dates: Illinois, USA, May 15, 2019 – August 30, 2019

Partners: Passages Charter School, Diller Teen Tikkun Olam Awards, Jefferson Awards Foundation

Introduction and Background

The world is now witnessing an unprecedented crisis with 22.5 million refugees fleeing war, violence, and government persecution. Every two seconds, one person is displaced, and less than 1% of the world's refugees are resettled. Chicago, Illinois is home to one of the largest Myanmar refugee populations fleeing from the Rohingya genocide as well as refugees from Somalia, Iraq, and Eritrea (UN Refugee Agency). Over half of the world's refugees are children, and many of them are traumatized from witnessing the destruction of their own homes or killing of family members. Education is essential for protecting refugees from child labor and sexual exploitation. As Malala Yousafzai said, "We should not ask a child forced to flee her home to also give up her education and her dreams for the future. And we must recognize that among today's refugee children are tomorrow's leaders, on whom we will all depend for peace". Education is a basic human right but is not prioritized for refugees by the current administration. This problem has escalated in the past year with budget cuts affecting refugee organizations, which manage schools and after-school services. Refugees can be out of school for years, and when they arrive in a new country, they are not placed at an appropriate grade level. With little English, these children often fall behind their classmates and lack confidence in their ability to succeed. Drop out rates are 19% higher for ESL students, the majority of whom are refugees (National Center for Education Statistics).

As a daughter of a refugee, and as a first generation Ukrainian American with a passion for science, it is particularly important to me to increase access to STEM education among refugee children since many are not proficient in science. When my dad entered the U.S., he was welcomed by a Jewish organization that gave him money, provided English classes, and helped him look for a job. Leading STEM programs through STEM You Can!, an organization I founded, is about giving back to my community like the refugee organization that helped my parents. What I love most about our programs is that we bring children from all backgrounds and identities to learn together.

Project Objectives and Implementation Strategy

The primary objective of this project is to create an interactive and engaging new ESL science program for refugee children in Chicago, many of whom have received no formal education prior to their arrival in the United States. To achieve this objective, I will work with Passages Charter School, which is run by Asian Human Services, a refugee agency in Chicago. Refugees come to this school from all over the world and speak 30 different languages. Passages Charter School has no science curriculum and is run on donations to fund classroom supplies and activities. Currently, 62% of students in this school are not proficient in science, and the long-term objective of this project is to increase the student's performance (Illinois State Board of Education).

Phase I (May – June): I will travel to Passages Charter School to train teachers and to help implement the STEM program during the school day. Each teacher will receive STEM Kits with materials and a curriculum (1 kit provides all materials for 30 students and costs \$200 to assemble). Since September 2018, I have been working on developing a STEM curriculum for ESL students in the 3rd-5th grades. Each day of the program, we will cover different topics to explore areas ranging from engineering to neuroscience. Through working in teams on interactive activities such as building balloon rockets or lemon batteries, I aim to increase the students' confidence and collaboration as well. Many ESL students get frustrated easily after experiencing difficulties in school. Rather than struggling with verbal instruction, students will learn by active engagement. This will encourage ESL students who may be shy or embarrassed to speak when called on in an ordinary classroom to participate.

Phase II (June – July): I will establish a STEM library in Passages Charter School and implement a science-reading program where students will take books home over the summer and discuss readings upon returning to school in September. Books will be chosen based on the National Science Education Standards.

Phase III (July-August): Based on student and teacher feedback, I will create a modified curriculum so that the science program can be enhanced for the upcoming school year.

Overall, the science program will reach **500** students in 2019, and an additional 500 every year.

Project Timeline:

September - January	<ul style="list-style-type: none"> Establish partnerships with schools through DonorsChoose ✓ Create STEM curriculum for ESL students & recruit volunteers ✓
February - April	Create knowledge-based surveys for ESL students & teachers
April	Purchase supplies for science program
May - June (Phase I)	Teacher trainings & STEM programs implemented in classrooms
June - July (Phase II)	Create STEM Library and science-reading program
July - August (Phase III)	Modify curriculum based on feedback for the following school year

Partnerships for 2019

- In August 2017, I received the Diller Teen Tikkun Olam Award, a \$36,000 philanthropy award given to young entrepreneurs for exceptional leadership. This year, through the Diller Teen Awards network, I formed a collaboration with Global Minds Initiative, an organization focused on building social bonds between refugees and providing English learning support.
- As a Jefferson Awards GlobeChanger, I am mentored by Sam Beard, who co-founded the Jefferson Awards Foundation with Jacqueline Kennedy Onassis in 1972 and has chaired programs for the past 8 presidents of the United States.

Peacebuilding: One of the UN Sustainable Development Goals on the 2030 Agenda is to increase quality education for all and this includes refugees and immigrants. Education promotes peace, alleviates poverty, and promotes gender equality. Education would lift 420 million people worldwide out of poverty, and each year of education decreases the likelihood of an armed conflict by 20% (Global Partnership for Education).

Sustainability: Once the program is established and the teachers receive training, it will continue throughout the following years since most of the materials are reusable. A STEM library will allow children from all grades to enjoy science books to supplement their knowledge. I hope to someday bring the ESL science curriculum to other refugee students in the U.S.

Previous Experience and Qualifications: In 2014, I founded STEM You Can!, a 501(c)(3) non-profit organization that provides free STEM programs for kids to spark their interest in science. So far, we have hosted 80+ free programs in 15 states. Our volunteers have committed 18,000+ hours of service valued at \$450,000 of community impact. In August 2016, STEM You Can! was featured on Good Morning America to inspire other teens to make a difference in their communities. I designed a unique curriculum to show kids that science can be fun by performing hands-on experiments. While STEM You Can! has previously run summer camps, these camps were only reaching a limited number of students. I decided to partner with teachers to implement the STEM You Can! curriculum in schools. After speaking about STEM You Can! at DonorsChoose, a non-profit that allows teachers to request funding for classroom supplies, I was struck to see passionate teachers who simply lack the resources to provide science enrichment. With the 2018 Hassenfeld Foundation Grant, I launched a new fun STEM Kit initiative and reached 790 kids in high-poverty schools in Pennsylvania. Our previous programs were not targeted for ESL students, and I hope to use my previous experience working with schools and the Davis Project for Peace Funding to establish a STEM program for refugee students.