

Enhancing the Experience of Underrepresented Vermont High School Students in STEM

Skidmore College | Tawn Tomasi | July 2020 | Burlington, Vermont: Kampala, Uganda

Project Aims:

Through an international service learning opportunity, my project aims to encourage underrepresented high school students, first-generation students, and students that come from low-income families in Vermont to not only help further their education but to be able to explore the future science, technology, engineering, and mathematics (STEM)-based healthcare career paths. This will be accomplished by partnering with a non-profit organization called Imaging the World (ITW) and a federally funded U.S. Department of Education organization called Upward Bound. ITW has been working in rural Uganda for the past 10 years teaching nurses at clinics to perform prenatal ultrasound. This has had a dramatic impact on saving the lives of women and children, fortifying their families and communities where they live. Upward Bound has been a successful federal funded program for fifty-five years to help high school students pursue postsecondary education. ITW and Upward bound partnership will allow qualified students to travel outside of Vermont to explore several STEM related healthcare career paths, hands on experience, develop a competitive college application, and push their limits outside of a standard classroom. I uniquely chose to approach these two organizations because of their excellent reputation and years of experience. Working with two successful programs will bring insight for me to reach my project goals.

Background Information:

In 1965, the Education Opportunity Act was passed in the U.S. At the same time Congress and the U.S. Department of Education created Upward Bound. Upward Bound was created to help prepare high school students to attend college. Particularly students who come from low-income families, underrepresented, and first-generation college students. They hope to overcome the many barriers these students face that often segment their thoughts on postsecondary education. Specifically with regards to STEM education, the American Medical Association (AMA) actively reinforced or passively accepted racial inequalities and the exclusion of African-American physicians for more than 100 years. Ronald M. Davis, MD, pledged that the AMA would "do everything in our power to right the wrongs that were done by our organization to African-American physicians and their families and their patients." Being an underrepresented student in Vermont comes with challenges that the majority of the population might not realize. As of today, Vermont is the second whitest state in the country which makes it lack diversity and opportunity. Not only in this country but around the world there is a shortage of students who want to pursue a career in STEM related jobs. My proposal will help address this ongoing issue by allowing students to engage in a hands on experiential learning opportunity.

Expected Outcome:

Every March, all Upward Bound students from Vermont will have an equal and fair chance to apply for the ITW summer STEM experience in Uganda. All applications will be reviewed by the ITW team, Upward bound officials, and myself. We will accept two students per year. Over a period of two weeks, accepted students from the Upward Bound program will be immersed in the Ugandan culture and will be exposed to several future health career based projects, including observing and interviewing physicians, nurses, allied health providers, etc. Through pre-trip planning sessions prior to the trip, students will be required to have basic knowledge of the Ugandan culture, language, and geography, as well as the

healthcare system. I believe the future success of my project will have a positive change in the way students perceive STEM fields. My project will increase the number of students to pursue STEM related fields and also increase attendance of post secondary education. I am very excited to learn and see how my project will impact the future of the students in STEM.

Sustainability:

Sustainability will occur at several levels through the initial implementation process during the summer of 2020. A collaborative management infrastructure will be established for sustainable administration of the program. Best practices, enablers, and barriers will be reviewed for ongoing success. To financially support the student travel, we plan to approach community organizations and companies with charitable giving that aligns with this project such as: Rotary Club of Burlington, District 45 Lions Club, National Life Group, and Dealer.com. I plan to have continual follow up to ensure the sustainability of my project which will include subsequent visits to Uganda. With Upward bound and ITW, I will track each student both during and after their Uganda experience to measure outcomes. I will delegate my project to Upward Bound, Dr. Kristen DeStigter and the Imaging the World team during my absence. As of now, no such service learning program exists for Upward Bound students.

The Team:

Tawn Tomasi: I am a full-time student at Skidmore College, and I'm going to major in Biochemistry. I come from a very large family of twenty-seven, I have sixteen sisters and ten brothers. Being adopted at a young age from Ghana has motivated me to help serve and make an impact in my community knowing that there are many kids who deserve a chance at a better education and future. Growing up as an underrepresented kid in Vermont is challenging; especially not having role models that you can talk to that look like you. I have always been passionate about medicine, social justice, and cultural change. In high school, I presented a twenty minute Ted Talk about how medical professionals can impact the developing world. I am confident and excited to lead my project to its expected goals and positively impact the future of Vermont youth.

Dr. Kristen DeStigter: Kristen is the president and co-founder of Imaging the World and Professor and Chair of Radiology at the Larner College of Medicine at the University of Vermont, and the Radiology Health Care Service Chief for the University of Vermont Health Network. In 2016, Kristen received two honors for her work: the ACR Foundation Global Humanitarian Award and the RSNA Outstanding Educator Award. Over the past 10 years, Kristen has worked to bring sustainable, high quality, life-saving, and affordable ultrasound services to clinical facilities in rural Uganda.

Adam Hurwitz: Adam is the Program Director of the University of Vermont (UVM) TRIO Upward Bound (UB). Adam provides advisement, support, and extracurricular opportunities throughout high school, with the aim of preparing students to pursue higher education and meaningful careers. Adam has worked with Upward Bound program for 5 years, and has worked to increase opportunities for underserved youth his entire career. He is currently serving as President of the Vermont Educational Opportunity Programs Board and VT Representative for the New England Educational Opportunity Association.

Sources:

<https://www.ama-assn.org/about/ama-history/history-african-americans-and-organized-medicine>

<https://www.ed.gov/>

<https://www.census.gov/>