

Sustainable Numeracy, American School of Asuncion, Paraguay



Our team aimed to help accomplish these Global Goals here in Paraguay:

4.1 FREE PRIMARY AND SECONDARY EDUCATION

4.5 ELIMINATE ALL DISCRIMINATION IN EDUCATION

4.6 UNIVERSAL LITERACY AND NUMERACY

4.7 EDUCATION FOR SUSTAINABLE DEVELOPMENT AND GLOBAL CITIZENSHIP

5B PROMOTE EMPOWERMENT OF WOMEN THROUGH TECHNOLOGY

17.6 KNOWLEDGE SHARING AND COOPERATION FOR ACCESS TO SCIENCE, TECHNOLOGY AND INNOVATION

17.7 ENCOURAGE EFFECTIVE PARTNERSHIPS

At our school, the American School of Asuncion in Paraguay, we have over 20 students from the Talented and Gifted math program that came together to work toward specific Global Goals targets and one overarching goal. The Sustainable Numeracy team worked with many other students from the TAG math program at our school, as well as partnering with other teachers at our school to scale up our project to include teaching others about the Global Goals. Our big goal for our team is to promote inclusive and equitable access to numeracy and STEAM activities for students (including girls and native populations) in areas of Paraguay where schools are underfunded with limited resources. We wanted to use our strength in math to help others.

The Sustainable Numeracy team wants to provide numeracy, STEAM and global goals lessons in both Spanish and the native language of Guarani, which will be available online as well as in physical kits sent to schools. Currently, many Paraguayan children have little or no access to education, with a lot of schools open only three hours a day. Here in Paraguay, 6 out of 10 children are forced to drop out of school and don't finish high school. In order to expand Paraguayan youth's knowledge of numeracy, STEAM and the global goals, we researched, planned lessons and began the translation work. We want to improve the environment in which students are taught here in Paraguay, and expand the resources available to students in numeracy. There are many resources available to students online for math- but very few in the native language of Paraguay: Guarani. Students and teachers in Paraguayan schools with internet access will benefit from the availability of online materials in their native language to plan math and STEAM lessons.

Our website is still not completed, but we got permission from our IT department to use our school's website with a page dedicated to our project. We have done many hours of research, chosen our STEAM lessons, partnered with our school's Guarani teachers, prepared a list of readily available recyclable materials and manipulatives to share the lesson ideas and activities with schools where few opportunities exist. We want young girls and Paraguayan kids living in poverty to have access to some of the math that we have access to at our school. We want them to be able to experience numeracy tasks that relate to their life in their native language. There is a great inequity that we hope to begin to diminish. We have learned that we are a part of a very privileged community and we are looking forward to sharing some of our learning about math and STEAM with others. We have also found through research that there are many, many schools operating with very few resources- we have to do something to change that.

Some of our favorite moments during our project was setting up meetings with potential partners, including the Paraguayan Ministry of Education. They were very impressed with our ideas and wanted to help us scale up our project, as well as create and maintain partnerships with schools who need our ideas in action. We had plans to have our next student led presentation at the Ministry of Education offices, but that is on hold now while our entire country is in quarantine. We also reached out to local schools for partnerships- one of which is an eco-school, a non-profit in a neighboring town. This eco-school already has a wonderful structure of providing a free library, access to computers and art classes, but didn't yet offer any classes in math or STEAM. The founders of the school wanted to partner with us to provide resources and teach lesson sample STEAM workshops on Saturdays. That's all on hold during the quarantine in Paraguay.

We did not accomplish our goal yet, but if we can continue the website work and lesson tasks from our own homes during quarantine, and continue our community partnerships and fundraising, we will be able to help teachers and students in Paraguay gain access to learning math and STEAM activities with resources in their native language. Our Sustainable Numeracy team has been meeting as a team on Zoom, where we can all come together. Something that is different about our particular location, is that schools here closed for the entire rest of the year 2020. So- we are on hold while we figure out how to work on our goals in a different way.

This has been a great experience to work together as a team. We started off with so many different Global Social Leader contest ideas and we narrowed it down to a big goal that fits the strengths of our team with the needs of our community. In our bigger group, more than just the named members of this team, we had all of the students in the Talented and Gifted math community together from 3rd grade to 9th grade. It is amazing to see what happens when older students support younger students. And some of the younger students aren't afraid to voice their opinions and ideas. We have learned that we are a very privileged community and we are looking forward to sharing some of our learning about math and STEAM with others. We have also found through research that there are many, many schools operating with very few resources in our community. It has been a stressful time for many students on our team after we transitioned to virtual learning from home. We have learned that we never can be fully prepared for what's going to happen next. And that we must be flexible and adaptable. We have gained and improved many skills while working on this project: leadership skills, improved organization, increased interpersonal skills, teamwork, learning how to listen to the ideas of others and communicate our own, we learned how to reach out to speak with non-profits, businesses and large organizations. We learned how to share the Global Goals with teachers and students and inspire them to create their own chain reaction and solve a problem in the community.

As we said, our initial project is put on hold while Paraguay experiences a strict quarantine. Our in-person classes have been suspended indefinitely for the remainder of 2020. But we recently had another idea. Paraguay plans to provide lessons for families broadcasted on television. Our wheels are spinning with the idea of switching gears and making math and STEAM lessons for TV during the quarantine!

Impact:

Helped the ASA STEAM committee plan for a STEAM expo on campus (post-poned due to Corona)

Created a partnership with the Paraguayan Ministry of Education

Planned interdisciplinary project for middle school students based on the Global Goals (approximately 180 students).

Over 300 hours spent so far from our immediate team members, with more continuing weekly, as we work virtually in our homes during quarantine.

We have the potential to impact many schools, many teachers and many students- but at this time, it's all POTENTIAL IMPACT. With our partnership with the Ministry of Education, we hope to affect change at even more schools than we initially anticipated. We also anticipate having ASA students lead sample STEAM lessons in schools once schools resume and invite other schools to our STEAM Expo. We hope to offer some Saturday sessions for math and STEAM lessons at the bio escuela, but also provide resources so that other teachers can continue to share our sample lessons and continue to grow the project. We hope that over 100 schools all around Paraguay will get on to our website, which we can track with number of visits, views on our Youtube channel, and shared feedback from teachers teaching our lessons.

Now we are looking at the possibility of reaching out to find out the plausibility of STEAM lessons broadcasted on public television as a possible direct impact of students out of school for the rest of 2020. The Paraguayan government plans to help broadcast lessons to children over the tv because of limited resources to technology. We would rather adapt to our new reality than give up now!