

CLUB STEAM



2020



OBJECTIVE

Foster STEM/STEAM education through extracurricular classes aligned with the official curricula, public school teacher training and undertake the first STEM fair of Bolivia.



Participants are K-5 to K-8 students, reaching more than 500 participants with at least 16 hours of training each.

48 school teachers were trained in STEM methodology and tools

Because of the pandemic the workshops took place virtually. Videos, evaluations and other digital content was created to enable synchronic and asynchronic access. A learning platform and Zoom were used.


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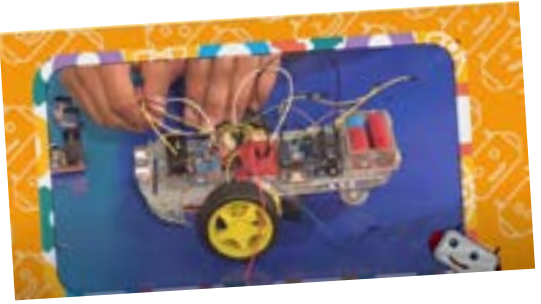
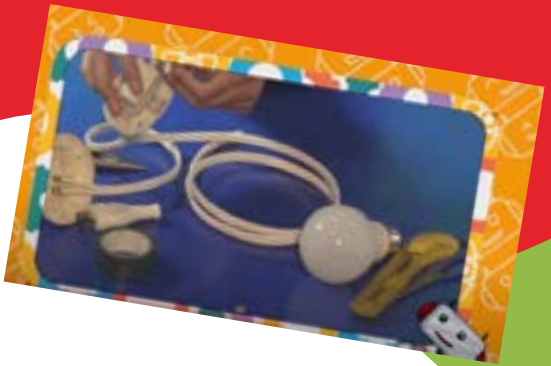
PROJECT EXECUTION

During the first months of 2020 (before the rigid quarantine), written agreements were signed with public schools in La Paz and El Alto cities:

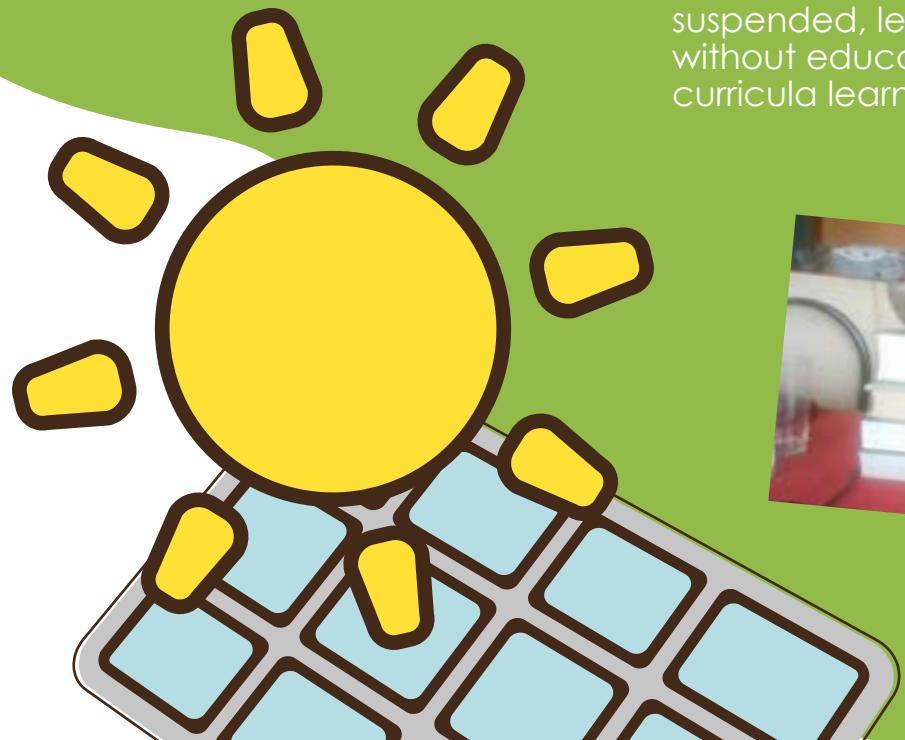
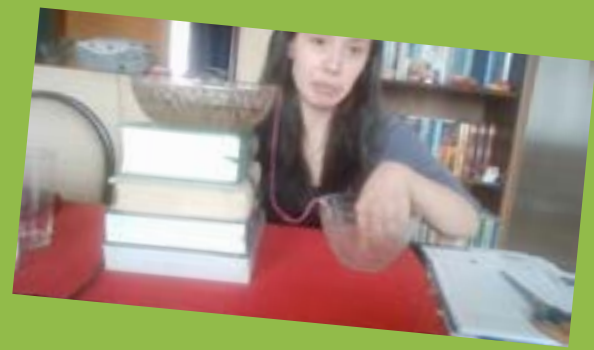


- Colegio Nazareno Basil Miller - El Alto, 25 participants
- Unidad Educativa Adrian Castillo Nava B - El Alto, 150 participants
- Unidad Educativa Uruguay - Sopocachi, La Paz, 75 participants
- Unidad Educativa Cristiano Vida Nueva - Villa Copacabana, La Paz, 50 participants
- Unidad Educativa Pablo Iturri Jurado B - Villa Fátima, La Paz, 70 participants
- Unidad Educativa Hugo Chavez Frías - Llojeta, La Paz, 40 participants
- Colegio Técnico Humanístico Mariscal Jose Ballivian - El Alto, 75 participants
- Unidad Educativa Antonio Diaz Villamil A - Riosíño, La Paz, 99 participants
- Unidad Educativa Virgen de Copacabana - Miraflores, La Paz, 61 participants

From April, workshops were rebuilt into virtual education versions. For this a Learning Management platform based on Open Source code was implemented, and classes with video, images, tests and other content were built, aligned with the STEM related topics of the Bolivia official curricula.



A school learning reinforcement was prioritized because from March to December 2020 all formal education activities in the country were suspended, leaving many students without educational support and curricula learning.



Competencies for multimedia content creation, video editing and educational video scripting were developed.



Kits with material for diverse STEM topics were acquired, such as robotics, human body, climatic change, microbiology, solar energy, physics, chemistry, and video experiments were filmed and broadcast.



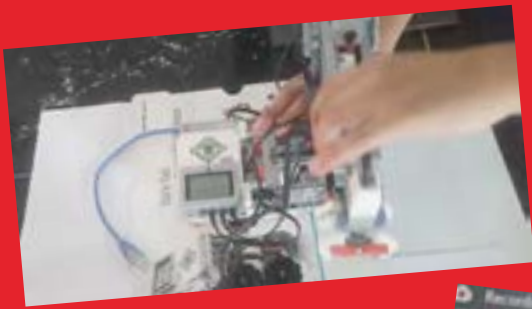
METODOLOGY

A flipped classroom methodology was adopted. Concepts, theory and examples were uploaded to the platform, and during the videoconferences it was time for questions, practice, motivation and interaction.



CREATIVE SCIENCE FAIR

From 23 to 28 of November, the 1st STEAM Fair in Bolivia took place, named "Creative Science". It took part virtually, with 3 simultaneous rooms, each aimed to a different age range. 72 live sessions full of experiments, workshops, rolemodel interviews and talks were executed during the fair.



During the final day of the fair, the closing ceremony of the project Club STEAM 2020 took place.



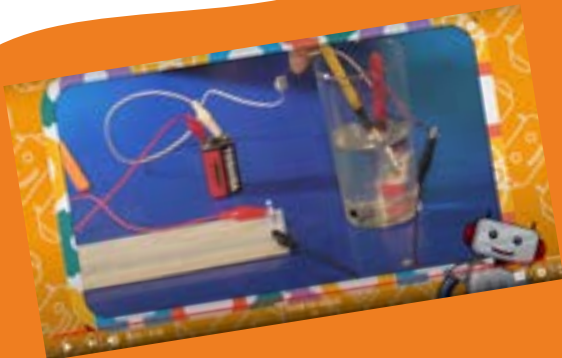
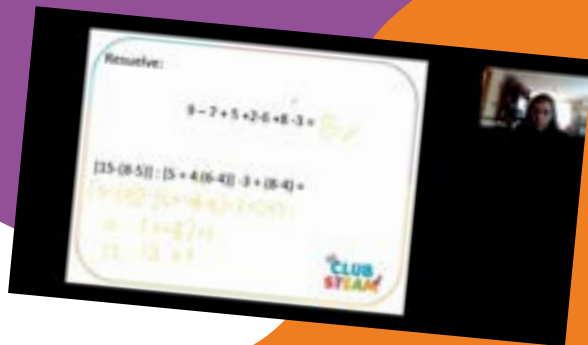
The fair had 1547 visitors, 790 preregistered participants (who secured a place to interact directly with the teachers). It also had the active engagement in Facebook, where participants posted their projects and challenge solutions.

RESULTS

Competencies were developed to administer the educational platform, as well as other tools such as gamification, virtual and digital boards for the sessions. A small study for video and other multimedia recording, editing and production was built.

More than 90 educative units were created, for K-5 to K-8 courses. Diverse topics of subjects like Math, Natural Sciences, Physics were developed into STEM lessons. Our focus was to integrate the multidisciplinary aspect of each topic and its real-life applications.

More than 120 hours of educational video were produced.



During 2020, more than 2680 persons registered in the platform and took the educational content.



The 1547 Creative Science Fair visitors showed interest in STEM subjects (Science, Technology, Engineering and Mathematics)



529 participants from all parts of the country passed the program, having passed all evaluations and content for its grade, obtaining their certificate.



TESTIMONIES

Natalia, participant
"I liked a lot each workshop, I learnt many things"

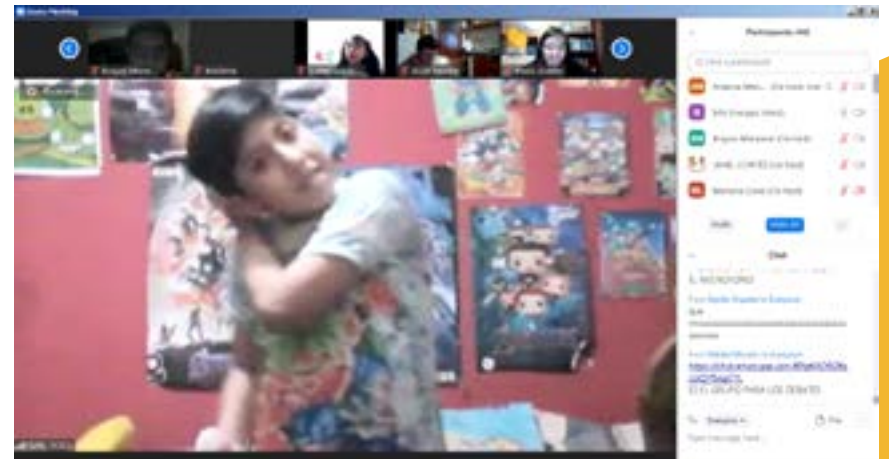


Jahel Cortez, mother, La Paz

(to Kids:) "Kids, Tecnonautas is a family. Parents who are there, it is an opportunity to learn and walk together. We don't know everything, we have to get support and support each other. Tecnonautas, you can count on me when you need it!"

Aylin, participant

"You have always taught us things and I like that very much because I want to learn. Thank you for teaching me."



Aiko, participant

"All this teachings will be useful for when we grow up, when we have a job. I thank you for everything and congratulations"

Rodrigo, participant

"Thank you teachers for teaching us, other teachers don't teach like this. Thanks to you we are better and we learn experiments that we will perform in school, even in college... ¡Viva Club STEAM and the teachers!"



Ana Carolina, participant

"We've had fun, we have played, you have taught us things that we never see in school and I thank a lot to all my teachers of Club STEAM"



Emily, participant

"Thank you for the compassion, the patience you have with us. If it wasn't for the technology we wouldn't have the chance to participate in this nice activity"





Adrian, participant

"All activities were a lot of fun and I want to learn more about all this."



Andy, participant

"I thank the knowledge you have transitted us through your words, videos, interessant experiments, you have been very creative and with materials we can find at home"



Jorge Luis, participant

"I want to say these words.. I love this, I am in Club STEAM in 5th grade, I loved the first virtual fair because it was a lot of fun and we also learned, unlike sometimes school teachers teach but the students don't understand... when I am grown up my dream is to become a teacher because a teacher has to be creative and didactic like you have been. Thanks to all the teachers!"

Gael, participant

"Thanks Tecnonautas for these nice activities, thanks for giving us confidence, we would have been bored at home. You have made us smile with all the experiments... blessings for Tecnonautas and I want to send you a strong Kame Hame Ha! for you to keep going forward and never stop bringing out the imagination we have inside us. Thanks!"



Rafael, participant

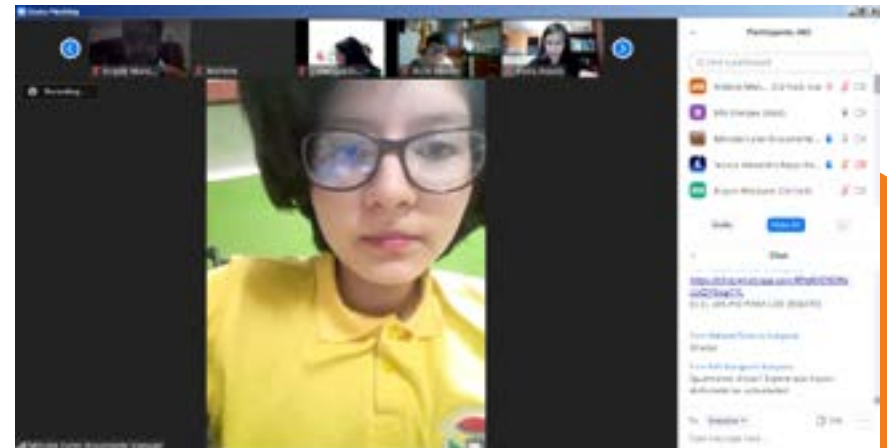
"Thanks to all the teachers for having taught us, I have learnt that everything is possible in life, there are no barriers"

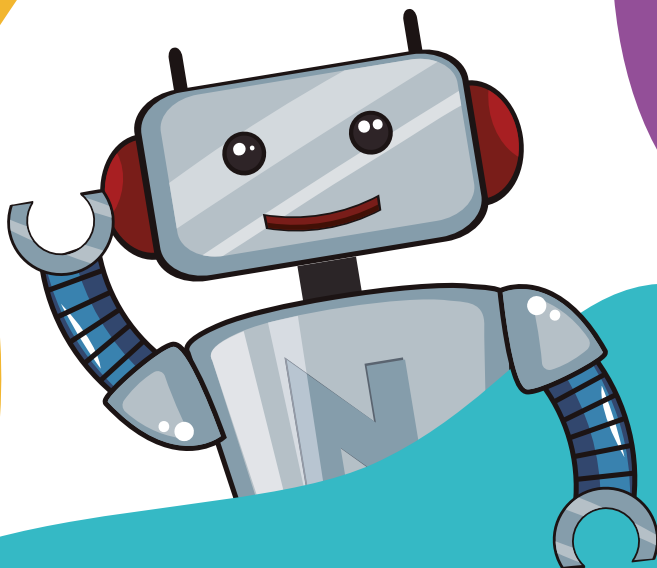


Mitsuko, participant

The course has been very educational, interessant and I have learnt a lot, send you blessings to all of you and congratulations!

Rodrigo "Que viva el Club STEAM!"





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