Bolivia

Digital skills and social entrepreneurship

Objective

Equip girls and adolescents with digital and STEM skills, especially related to robotics in urban and rural areas.

Duration:

2019 to date

Donor:

Chloe

Financing:

333,860.93 USD

Target audiences:

Girls between 7 and 18 years old.

Current scope:

More than 6,000 girls and adolescents have developed digital, robotics, and computer science skills, to motivate their inclusion in STEM careers.

Collaborators:

Ministry of the Presidency, Ministry of Education, Vice Ministry of Science and Technology, Governmental Agency for Information and Communication Technologies (AGETIC), the Bolivian Space Agency.

Reference focal point:

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Some challenges for girls and adolescents in Bolivia

19.30% of the population in Bolivia is between 10 and 18 years old, and 49% are girls and adolescents. Although the data indicate that more girls than boys finish school, this does not always translate into better opportunities for their future, since from an early age many of them are responsible for household chores, become pregnant, or are in charge of family care.

Regarding new technologies, although in recent years there has been an increase in the use of computers and the Internet in the educational field, gaps persist related to the quality of the Internet connection, especially in rural areas, also due to the lack of equipment, lack of skills in the use of ICT, gaps in socioeconomic levels and gender gaps. In Bolivia there is a large gender gap in the areas of STEM, specifically in sciences, engineering and technology, with only 30% of female students enrolled in these careers. This, combined with the lack of knowledge about scientific

professions, the erroneous perception of their difficulty for them, and the little social relevance given to science and technology in some contexts, especially in rural areas, makes girls and adolescents feel a lack of motivation and incentives to be part of STEM activities at the early levels and at all stages of their education.

Our actions to provide solutions

UNICEF Bolivia is working to improve the quality of life of girls and adolescents by strengthening opportunities for skills-development (transferable or digital) to boost their employability and socio-economic insertion, based firstly on arousing their interest in studying university careers in science and technology, or meaningfully using technology in their lives. These women are considered the cornerstone of Bolivia's development.

Since 2019, and for this to be a reality, UNICEF Bolivia has been carrying out multi-level interventions to narrow the gender gap in STEM-related areas, ensuring that girls and adolescents can develop the skills they need for the future world. To achieve this objective, it has established three strategies: i) giving rise to opportunities for developing girls' and adolescents' skills, ii) conducting advocacy activities to do away with stereotypes and provide visibility to successful experiences, and iii) generating evidence in educational and social settings to facilitate decision-making.

Thanks to the financing of private donors, such as the French firm Chloé, in the last few years, the initiatives aligned with UNICEF Bolivia's strategies are as follows:

1. Developing girls' and adolescents' skills through innovative initiatives:

a. Technovation, a technological entrepreneurship contest to solve social problems in the communities in which the girls live, by developing a mobile application or a digital project.
b. Waskiris Girls Bootcamp, a training programme to promote scientific and technological skills-development
c. RoboTICas (play on words using the Spanish acronym for ICT), a programme that selects the best projects designed by girls so that they have the opportunity to build their robot prototype with a view to caring for the environment and the family.
d. Science camps, to publicize the country's scientific centres and develop science-related capacities.
e. "A puertas abiertas" (Open doors), a vocational guidance project for adolescents with the participation of strategic companies.
f. Partnerships with the Ministry of Education to narrow the gender-based digital divide providing specific training to girls, and implementing a project to provide connectivity to schools.

2. Advocacy activities to do away with stereotypes and provide visibility to the successful experiences of girls and adolescents in this field:

- Launch of the gender gap reduction programme with women from the national authority during the year to fight against gender-based violence in Bolivia.
- Events on key dates (International Day of Women and Girls in Science) and national Conferences with presentations made by girls and adolescents to generate dialogue and commitment to narrow the gender gap in STEM, with guests such as private tech companies, international donors, embassies and authorities.
- Series of talks entitled "Science and technology are for girls", which included webinars led by girls, and animated life stories. Communication campaigns on social media that provide visibility to and promote the role of girls and adolescents in STEM-related fields.
- Launch of the series of scientific promotion videos "Explorando ando. El Mundo de la Ciencia" (Am exploring the World of Science) with the participation of 20 professional women from strategic scientific and technological companies in Bolivia. Broadcast on two television channels.

3. Generación de evidencia

- Partnerships with public institutions, such as the Ministry of Education, to advocate for their policies, design learning methodologies adapted to girls and adolescents to ensure the scalability and sustainability of educational programmes.
- Ongoing research to determine the causes and size of the gender gap in access to technology.
- Development of a methodology to measure the digital divide with a gender perspective within the Bolivian educational system.
- Connectivity census among all the Educational Units in Bolivia.

These strategies have been implemented with the commitment of and in coordination with the Ministry of Education and the Electronic Government Agency for Information and Communication Technologies (AGETIC), that have contributed to including the development of STEM-related skills in the formal education system, enabling the sustainability and scaling up of the programme to accelerate progress in the education of girls and adolescents.

The programme's three main outcomes to date are as follows:

1. Over 6,000 girls and adolescents from families earning an amount equal to or under the national minimum wage (USD 358) have developed skills in robotics, digital and computer science to promote their university studies in STEM-related careers.
2. Partner institutions have improved their programmatic and service offerings to benefit girls and adolescent women nationwide by generating new skills.
3. Digital projects with a gender approach were promoted in the formal and non-formal educational system to do away with stereotypes and the masculinization of STEM.

The voices of girls

Miranda is 7 years old, lives in the Villa San Antonio Bajo area in the city of La Paz with her mother and grandmother. Although she is very young, she already knows a lot about engines, cables, Arduino, LED lights. In the midst of the COVID-19 pandemic, Miranda began the RoboTICas online course supported by the Electronic Government Agency for Information and Communication Technologies (AGETIC) and UNICEF. Now she already implements her own projects and won a thematic contest. She dreams of helping the Bolivian people with her inventions.

MIRANDA

7 years.

"I would like to tell other girls around the world that they are very strong and could do much greater things than people think. They must never give up"

In 2022, the RoboTICas programme trained 100 girls in the development of robot prototypes.