

# REPORT ON THE ONG TECNOLOGÍA CON NOMBRE DE MUJER PROJECT MOTOROLA SOLUTIONS FOUNDATION 2023 TECHNOVATION GIRLS CHILE



Carrying out this project with our work team, Fourth Voltage, was undoubtedly a long learning path as we grew as a work team and as friends. We presented the project at a science fair at our school, and it was highlighted a lot. We received a lot of attention from users who came to talk to us. We have learned many skills and techniques, such as analysis, planning, organization, teamwork, programming, editing, etc. Our team has grown as workers and as people, since not only our project has grown but also the bond between the team members. We work together at all times, since we always help each other with any problem that arises. The project is collective, so communication and teamwork were essential.

**Learning Journey from Technovation Team from Chile**

The program provides young women, ages 13–17, with an accessible coding experience and entrepreneurship training, backed by peer and mentor support. Through the program, girls are tasked with developing a technology project (a mobile app) to solve a problem in their own community. Girls learn to plan, develop, and execute a business model, a user adoption (UX) plan, and a technology product using artificial intelligence fundamentals. Their learning goes beyond computer skills they learn how to apply this knowledge in real-world situations.

This project was carried out in 6 high schools in different regions of Chile during the 2023 school year, impacting 628 girls. The program was specifically applied in ninth and tenth grade courses.



# ADJUSTMENT IN PROGRAM OUTCOMES

We had some challenges in developing the program. Although there were a little fewer school dropouts than the previous year, there was more student turnover in high schools. There were between 5% and 10% of girls who entered and left the establishments throughout the year, due to changing high schools or simply dropping out. Which directly affected the formation of teams and their work. The issue of mental health continued to be a fundamental issue in all high schools, particularly in girls, where between 5% and 7% requested an early end of the year due to psychiatric medical licenses.

## METRICS

During the year, we could observe how the girls were developing 21st century skills, such as teamwork, critical thinking, analytical thinking, empathy, and problem-solving, among others. We have been able to observe that girls have a general increase in skills that will help them in their future professional development. This is clear in the visits, teachers' testimonies, and projects delivered by the girls' teams. Particularly, 10th grade students have to apply for places in professional alternation certifications, and those who went through the program tend to have better scores in the

evaluations carried out by companies. When the girls develop a technological project related to their communities based on the SDGs, they increase their involvement with their environment and community. To carry it out, the girls visited community centers and others near their high schools, where they could get initial information and then interview people who could use their applications and do user testing. These types of actions brought the girls closer to their communities and helped them better understand their environments and the real problems that affect them. During the qualitative interviews for the test, an increase in the girls' confidence in STEM concepts and interest in STEM concepts was clear. The increase in the enrollment of girls in careers with a STEM specialty also supported this. The election took place between September and October of the year. During the conversations held with the focus groups of girls, it was observed that the girls had a good grasp of concepts in the STEM area. When reviewing the projects of the different high schools, it was possible to verify an increase in the vocabulary related to technology and how they referred to their projects using these technological concepts. Finally, in the preliminary report of the test, an increasing trend was also observed in the understanding of STEM concepts.



## DESCRIPTION OF METRICS AND RESULTS

During this year, 2023, we return to a much more normalized classroom with greater willingness, especially by the teachers. They received 40-hour training at the beginning of the year, and later, between the months of May and July, a series of individual reinforcement workshops were held, lasting 2 pedagogical hours, where each teacher was reinforced mainly in the prototyping and programming areas.

Although there are certain gaps that persist, such as the lack of computer equipment in some establishments, this year we once again had the support of WOM in connectivity.

The results that we see in the preliminary reports of the study show us that this year we have had better results. One change made in taking the test was to add, in the middle of the year, a qualitative measurement; this allowed us to have a clearer and deeper picture of the impact of the program on the girls, making visible some issues that we had not seen before, such as, for example, the complexity of the projects, the time-lapse in the program before the programming section, and the ability to find potential users for testing.

This year, we could also have visits from expert volunteers at various high schools. These took classes on topics such as marketing, programming, UX, pitch, and prototyping. These types of actions deeply encouraged the girls to believe that their projects were good.



## SUCCESS STORIES

- We are always excited to read/listen to the testimonies of the teachers, as well as the students who have gone
- through the program. This year, we see that the testimonies have a greater focus on the installation process,
- deeply valuing the support provided to them, as well as the empowerment of teachers.

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*For more than a year, I have been working with the “Tecnología con Nombre de Mujer” team and its Technovation Girls Chile program, with ninth and tenth grade students in the development of applications, with the theme of SDG (sustainable development objective); where kids look for different solutions to problems that exist today in society.*

*I consider these programs are very important, since they develop another area in the students and help them better understand and understand the problems that they experience socially. And that they can also contribute from their experience as students and what they also see in their families. So I consider this program is a significant contribution to students, and it has been an excellent experience since we have been in this project.*

Angel Pinto Quezada  
Technology subject teacher

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*I really liked putting together a project with my classmates, being able to make it ours and being able to present it in contests is very exciting. Plus, learning to program is something I've wanted for a long time.*

10th grade student

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*I have never done something so complete, it is always the entire course and doing it with a few classmates, and something as complex as programming is very new for me. I liked what we were able to create with our app and I hope people like it also.*

10th grade student

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*This is my second year teaching the Technovation Girls Chile program to 9th grade students in Technology subject and only for volunteer students. I find the program taught very relevant to current needs, promoting entrepreneurship through an idea that helps or contributes to the Sustainable Development Goals, and what better than through a technological tool such as the development of a Mobile Application, and can become extremely scalable in the short term. The reception of the students is good, since they work on a problem that they propose, going from the approach to the creation of an application (application that is not always finished), therefore they are aware of these stages; which are extremely important when wanting to become independent through entrepreneurship or the creation of a company, without leaving aside technical knowledge that will be very helpful if the student wants to focus on higher studies.*

Jorge Abejares  
Technology and Electricity subject teacher



