

Technology and Robotics Seedbed: Train-Transform-Innovate

ESCUELA SUPERIOR POLITECNICA DEL LITORAL
Ecuador Section

Presentation



Figure 1. Electronic students.

The "Seedbed of Technology and Robotics" is a project carried out by WIE-ESPOL volunteers together with the

Municipality of Manabí, which began from September 29, 2018 to the current date.

Currently, the education provided in Pajan schools is deficient in the scientific-technological area. Due to this, the initiative of a program for Pajan children and teenagers to learn about programming, electronics and basic electricity dictated by the volunteers of WIE ESPOL arises.

The main objectives of this project are:

- *Increase the development of thinking in solving problems and creativity in the children of Pajan.*
- *Encourage children to choose a technical or engineering career in the future.*
- *Contribute to the education of Pajan.*

Methodology

To help improve the education provided in Paján, a group of volunteers was formed willing to transmit their knowledge to Paján children. The areas were divided into:

- Programming in Scratch for children between 7 to 10 years.
- Electronics with Arduino for children between 11 and 14 years old
- Basic electricity for teenagers between 15 to 18 years old.

Thanks to the help of the Municipality of Pajan, there were laboratories with computers, electronic kits

and materials needed for the Electronics and Electricity classes.

Within the classes, practices were carried out focused on the needs of the canton, so that later they themselves contribute to the development of Pajan. One of them was the implementation of a home automation made by the students of the electronics class.

Electricity students developed technical practices about residential electrical residential instalations.



Figure 3. Programming and electronic practices.

RESULTS

- The Project had 196 registered children and teenagers from Pajan.
- Linking the Pajan community to improve the educations of children and the development of electronic and electrical projects.
- There was a rapid response among children and teenagers to learn more about the world of technology.
- It was possible to apply the projects carried out in classes to solve problems in Pajan. As the implementation of irrigation systems and security alarms.
- Guided teenagers about the technical careers they can take at the University.

- The learning and experiences acquired by the WIE volunteers was invaluable. Allowing to develop leadership skills and group work.

Future Plans

After evaluating the results obtained, it is considered necessary to continue with the project to improve education in Pajan. Also, add many more IEEE volunteers to the project.

For the replication of this project it is advisable to seek collaboration with work materials by organizations or entities.

Information

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