



Case Study  
Mexico  
Intel® Learn Program

# Inspired by the Intel® Learn Program, Mexican Youth Undertake Important Reforestation Project

**“It was incredible to see children provide proposals to improve their community, but even more incredible to see their concern for rescuing the environment.”**

Consuelo Tafoya Guerrero, director,  
Pro Mazahua Region Council

When Mexican youth got involved in the Intel® Learn Program, they not only learned important 21st century skills such as digital literacy, critical thinking, problem solving, and collaboration, they also found the motivation to tackle an environmental problem in their community. Deforestation in the area had led to the loss of habitat for a number of creatures, but perhaps most noticeably, the monarch butterflies which once filled the skies. The students’ solution: rebuild a forest tree by tree.

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## Challenges

- In order to participate in the global knowledge economy, Mexican youth must gain 21st century skills while using technology to facilitate research, critical thinking, problem solving, communication, and collaboration.
- There is a lack of access and opportunity for students in underserved communities across the country to gain these skills.

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## Approach

- Collaborate with governments and non-governmental organizations (NGOs) to provide training for personnel in community-based technology centers to effectively utilize technology and facilitate project-based instruction.
- Employ a curriculum that engages youth in meaningful learning experiences that incorporate 21st century skills. Incorporate projects that address real-world issues where students use technology to collect and analyze data, think about existing problems, propose solutions, and take action.

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## Benefits

- Mexican youth in underserved communities like Mazahua acquire skills necessary for success in the 21st century, with a focus on technology literacy, critical thinking, and collaboration.
- Mexican youth examine real-world issues such as environmental impact, collaborate on problem solving, and take action to improve their world.



## Intel Learn Program: A Case Study

There was a time not so long ago, say Mazahua elders, when flutters of orange and black filled the sky each November. It was the annual migration of the *Danaus plexippus*, more commonly known as the monarch butterfly, heading south for the winter and roosting in nearby forests until spring. And it was a spectacular sight.

But that has changed in recent years as human impact has taken its toll. Population centers have grown and encroached on wildlife habitat. Increasing amounts of land have been claimed for agricultural use. And, perhaps most damaging of all, sawmills have deforested much of the surrounding countryside, resulting in a devastating loss of flora and fauna, including the monarch.

These days, seeing a flock of migrating butterflies in the Mazahua region in Michoacán and Mexico State, Mexico, is a rare occurrence.

So when youth in the Intel Learn Program at La Soledad Technological Platform Community Center were looking for a community issue to address, the environment—in particular, the loss of the Monarchs—seemed like the perfect cause to embrace.

If loss of habitat was the issue, they reasoned, why not rebuild the habitat, tree by tree and plant by plant? Why not stem the damage and reforest the area? Not only might the monarchs and other animals return, but the community would benefit in other ways as well. Trees and plants could provide shade, medicine, and food for the local community. And in the process of rebuilding a forest, the entire planet would benefit, since trees, which consume carbon dioxide and produce oxygen, could be part of the solution to global warming.

The opportunity for this type of collaborative problem solving on the part of these youngsters would have been very unlikely before their involvement in the Intel Learn Program. This area of the San Felipe del Progreso district is economically disadvantaged. More than half of the indigenous population who reside here lack basic amenities such as indoor plumbing and electricity. Many live in overcrowded conditions and in structures with dirt floors.<sup>1</sup> About a quarter of the adult population is illiterate.<sup>2</sup> While the majority of youth attend school, access to computers and the Internet is virtually non-existent outside of the community center.

La Soledad Technological Platform Community Center was established in 2004 to provide the community with access to 21st century technology and offer community members, particularly youth, the opportunity to learn skills necessary to gain employment. The center—initially directed by Maria de Jesus Fuentes Jalapa, then by Jose Luis Olivares Cruz since January 2006—is equipped with computers and software, as well as Internet access.

The Intel Learn Program was introduced to the community center in 2004. The program is designed to give underserved youth, ages 8 to 16 years, the opportunity to acquire skills such as digital literacy, critical thinking, problem solving, and collaboration through an engaging, project-based curriculum. Delivered as an after-school activity, the program employs student-centered, project-based approaches where students collaborate with each other and with staff as they investigate the use of technology in the workplace and in their community.

**“In the future, those trained in the program will have the ability to look for innovative solutions to the problems they face.”**

Jose Luis Olivares Cruz, director and Intel Learn teacher, La Soledad Technological Platform Community Center



Through various hands-on activities, the students learn how to use word processing programs and how to create spreadsheets, graphics, and multimedia presentations. They learn to conduct Internet searches and engage in other research techniques, to think critically about community issues, and to collaborate on solutions. Finally, they weave all their newfound skills together as they engage in a final project. Encouraged by their teacher to participate in the program, four youngsters from the nearby community of Tres Estrellas traveled nearly an hour each way to take part in the Intel Learn Program. "I gave the students permission to go, because it will open new doors for them," says Alfredo Tapia Ruiz, director of Sor Juana Inés de la Cruz Secondary School.

As a result, four of Ruiz's students—Ignacio, 13; Elsa, 15; Marco Antonio, 16; and Esther, 14—learned to use technology to research the migration of the monarch butterflies, create a reforestation proposal, and present their work via a multimedia presentation open to the public. Community members, including the Pro Mazahua Region Council—a civic association committed to improving the quality of life for the Mazahua population and helping them to create sustainable development while respecting their indigenous culture—were so impressed that they asked the children to come up with a formal plan of action so that the council could seek funding for the project.

"It was incredible to see children provide proposals to improve their community, but even more incredible to see their concern for rescuing the environment," says Consuelo Tafoya Guerrero, director of the Pro Mazahua Region Council.

The students complied with the council's request, adding three new members—Saul, 12; Daniela Yusleivi, 10; and Diana, 13—to their "Forest Youth Brigade" and developing a plan of action with the aid of Arq. Pavel Valdes Perez, environmental rescue coordinator of the Mazahua Region, and Obdulia Sotelo Sixto, forestry engineer.

American Express, already contributing to philanthropic efforts in the area, agreed to fund the project.

In the summer of 2007, one thousand trees and plants were placed in the Tres Estrellas area, near the small community where the youth involved live and about 12 kilometers from La Soledad. Involved in the planting were not just the students participating in the original project, but family, friends, and others from throughout the community.

Perez and Sixto were instrumental in coaching the group on tree placement, planting techniques, and ongoing care. Because the work was meaningful with real-world significance, the students took ownership of their project and paid serious attention to each detail. Sixto observes, "The kids worked hard and demonstrated responsibility because they were integrally involved."

The Intel Learn Program has become very important to the community center, reports Cruz, who administers the program: "It contributes to human and social development through the teaching of basic technology, since it allows the participants to develop the necessary skills to face and compete in this new era of technological globalization."

"In the future, those trained in the program will have the ability to look for innovative solutions to the problems they face," Cruz says. "They will be able to see a computer as a tool to collect information and discover interesting things to share with their people, thus promoting teamwork, and showing an active participation in the communities and surrounding areas."

## Intel Learn Program in Mexico

The Intel Learn Program was introduced in Mexico in 2004.

The program is delivered in areas of need throughout Mexico with the aid of three organizations: Servicios a la Juventud A.C. (SERAJ), the Latin American Institute for Educative Communication (ILCE), and the National University of Pedagogy (UPN).

SERAJ coordinates and administers the program, printing and distributing materials, and producing and delivering certificates, as well as evaluating the participating partners. ILCE and UPN translate and adapt the materials, train facilitators, evaluate the program, and provide pedagogical support.

In addition, the program operates with the collaboration of a number of other institutions and partner organizations, in whose community centers, located in both urban and rural communities with a high level of marginalization, the courses are delivered to students. Over 700 community centers throughout 24 states of the Mexican Republic are involved in the Intel Learn Program. To date, the program has reached more than 40,000 Mexican youth.

### The Intel® Education Initiative

The Intel® Education Initiative is Intel's sustained commitment to prepare all students, anywhere, with the skills required to thrive in the knowledge economy by improving teaching and learning through the effective use of technology, and advancing math, science, and engineering education and research. Through a sustained public-private partnership with educators and governments in more than 50 countries, Intel works with international organizations and governments at an international, national, and local level and invests approximately USD 100 million per year in education programs adapted to address the needs of each country to advocate for 21st century educational excellence through policy work and awareness efforts.

For more information, visit: [www.intel.com/education](http://www.intel.com/education).

For more information on the Intel Learn Program, visit:  
[www.intel.com/education/learn](http://www.intel.com/education/learn).

### Endnotes:

1. Basic Data Indicators of Marginalization 2005. Microregions Program, secretary of social development, Mexico (SEDESOL). <http://cat.microrregiones.gob.mx/dbasicos/>
2. National System for Municipal Information, 2000. National Institute for Federalism and Municipal Development (INAFED), Secretary of Government Affairs, Mexico. [http://www.e-local.gob.mx/wb2/ELOCAL/ELOC\\_SNIM](http://www.e-local.gob.mx/wb2/ELOCAL/ELOC_SNIM)

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