Objectives of the Climate Change Education Program

Teach middle and high school students the scientific foundations on: the causes and consequences of climate change, as well as the strategies to face it.

Strengthen teacher’s skills to teach science using the inquiry-based learning method.

Promote science as a fundamental element of education to achieve a society that values knowledge development and uses it to understand and participate in the world we live in.

Foster education which provides better opportunities by improving capabilities and access to greater resources.
Teaching science through inquiry and not memorization

Through diverse pedagogical tools, we want to change the way students learn so that they may understand and develop their abilities in order to appropriate knowledge and use science just like scientists do.

Teacher training to implement active learning plays a crucial role, so mechanisms which adjust to different realities and contexts must be considered.
Technology brings enormous opportunities to spread knowledge. To maximize its use, it’s necessary to create a bridge between the end users, teachers-students, platforms and its content, by preparing teachers and clearly communicating to them the benefits of digital resources.

In order to implement the new active learning methods, we require important changes by teachers. This is why the Mario Molina Center uses technology to instruct them by long distance and equip them with the most recent tools such as simulator use, real time data analyses on Earth indicators and a world of scientific information which allows them to address these subjects with confidence.

In an era where creativity and innovation cannot be ignored, education systems have adopted virtual tools to guide and improve learning abilities.
Creating capabilities

**Teachers**
Segmented training for middle school teachers and for high school teachers with professional training in science areas.

*Results:*
High efficiency in ending their training.
Implementation of the inquiry methodology.
Comprehension and climate change concepts.

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**Middle school course**
Experiment activities adequate to be carried out in the absence of a lab and in the context of low income schools.

*Results:*
92% efficiency in learning the content.
Students reported that the activities involving experiments were the best part of the course.

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**High school courses**
They address subjects of scientific areas (Physics, Chemistry and Ecology) through implementing concepts to a real and current problem.
Experiment activities adequate to be carried out in the absence of a lab and in the context of low income schools.
Fostering simulator use and other technology platforms.

*Results:*
30% increase in the efficiency of ending the training in the control groups.
Increase in assistance and participation in class.
Improvement in the overall academic performance of students.
Implementation of the Climate Change Education Program for middle and high schools

Schools where teachers we have trained have worked with their own students at their own schools.

- Middle school teachers
- High school teachers

*Evolve science education through committed and skilled teachers.*
Facing climate change requires a profound social transformation. Education transforms our reality.

Activities 2010–2019

2010
First dissemination book on Climate Change

2011
Designing material for students

2012
Designing a teachers manual and workshops
First teacher course (40 hours)

2013
First pilot test with middle school students, including teacher training (40 hours)
The States of Zacatecas and Veracruz participated. Results from the pilot test were evaluated and the project was reconfigured

2014
Course for teaching climate change (120 hours) with 21 teachers from UNAM

2015
Designing student materials for high school students compatible with the Physics, Chemistry and Ecology study plans

2016
Second pilot test with middle school students in the State of Mexico and a first trial with high school students. Every teacher had a 130 hour training (90 hours online and 40 in person)

2017
Adjustment to the materials and continuation of teacher training (high school)

2018
Grand scale test for teacher training and implementation with middle and high school students

2019
Teacher training at a national scale for SEP. Oaxaca Istmo de Tehuantepec Project.
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