# Escola Técnica Estadual Professor Agamenon Magalhães

## Turning students into social entrepreneurs

WORLD'S BEST SCHOOL
Innovation

FUNDAÇÃO
Lemann

WORLD'S
BEST SCHOOL
PRIZES

# Table of Contents

# Introduction

Escola Técnica Estadual Professor Agamenon Magalhães (ETEPAM) is a secondary school in Recife, Brazil. The school builds creative gadgets and computer software to address some of the biggest social and environmental issues facing its local community.

# Profile:

_____

**Country:**
Brazil

**Region:**
Recife

**School type:**
Public school

**Location area:**
City

**Student population:**
1500 to 2000

**Prize Category:**
Innovation

"What makes the school unique is that people are passionate for entrepreneurship – to try and want to make a difference in the lives of students."

– Eraldo Guerra, Teacher and Programme Lead, Escola Técnica Estadual Professor Agamenon Magalhães

# In-depth look

## CONTEXT AND CHALLENGE

Established in 1928, Escola Técnica Estadual Professor Agamenon Magalhães is considered the country's first state school. Pursuing a focus on tech, it aims to prepare young people for the labour market and for college entrance examinations, believing that doing so helps shape each student to become a better human being. The school runs a variety of programmes throughout the year.

In previous years, however, the school faced a high number of dropouts. To address this problem, the school began to intentionally pair student learning with entrepreneurial projects that would help the wider community and instil a greater sense of social responsibility.

The school's second challenge was a severe lack of financial resources, which went so far as to impact members of the faculty directly. Some teachers found themselves pleading alongside students to pay for basic needs, such as educational materials and transport funding to take students on educational trips.

Students who did remain at the school and got involved in the school's programming also had to deal with systemic, community-based issues, and struggled to address or alleviate those socio-economic issues on their own.

"What makes the school unique is that people are passionate for entrepreneurship – to try and want to make a difference in the lives of students."

**Eraldo Guerra, Teacher and Programme Lead, Escola Técnica Estadual Professor Agamenon Magalhães**

# EXPERTISE AND APPROACH

The school staff was disheartened by the number of students dropping out and looked into innovation as a means to increase retention. This led to Life Up, a social entrepreneurship workshop that has given birth to numerous projects that address the community's most pressing issues.

In addition to addressing community problems through the SDG Goals, Life Up aims to develop new skills such as empathy, communication, research, and technology in its students and prepare them for life in wider society. The programme did succeed in reducing dropouts and ultimately helped create an interactive and collective educational setting where students work together to build their academic knowledge with a social purpose.

Teacher Eraldo Guerra, father of the initative, also encouraged students to think of devices that could help alleviate some of the problems within their communities. This led to the "sustainable brick" – Life Up's first project – which reuses coconut fibres to make ecological bricks, which tackles waste and prevents scorpions, cockroaches, rats, and mosquitos from being attracted to discarded coconut remains, thereby reducing the risk of tropical diseases. The bricks can also be used to lay roads and in the construction of houses, both of which help minimize the environmental impact of other construction materials.

Based on the success of the "Sustainable Brick", Guerra wrote up an evaluation and designed a methodology for other schools and teachers to use towards inventions of their own. When the community faced landslides during the rainy season,

Life Up launched the "Carpet of Life": a bio blanket that helps reduce water pollution in rivers.

Another project was called CanGame, a software application for Apple and Android phones that helps autistic students' treatment, learning, cognitive, and social development through personalized learning routines. Guerra came up with the idea from his degree and was partially inspired by a story he had heard about an autistic girl who used technology to communicate better with others. "CanGame comes from the acknowledgement that, yes, we can help people with autism", said Guerra, explaining that professionals had dismissed the girl because of her condition, claiming she was unfit to live in Brazilian society, and his desire to change such prejudice.

CanGame was made in collaboration with Microsoft, whose staff gave students lessons on coding. In many ways, the software has also helped transform the school's wider community. For example, after the mother of an autistic child tried to commit suicide, due to her own struggles with her child's disability, CanGame helped the child improve in their studies, which gave the mother the emotional support she needed. Since then, the mother has become a leading voice for the project, and since its launch, CanGame has been used in 23 different countries.

Documenting the programme and project methodology allowed others to start their own projects without the need for direct mentorship. This became especially important during the COVID-19 pandemic, when it "motivated students to stay committed during school" despite the lockdowns, said Guerra.

"I feel compelled to do good – I just need to understand the problem and think of a way to solve it and help other colleagues."

–Eraldo Guerra, Teacher and Programme Lead, Escola Técnica Estadual Professor Agamenon Magalhães

# OUTCOMES
# AND RESULTS

Student interest surged as a result of the Life Up workshop, with many participants presenting their work at science fairs and business roundtables. Another initiative, Mobetc, which turned physical waste into eco-products, also resonated well with the wider community and empowered them to reduce their environmental impact. The project was so successful that the school got a shed where they produced eco-products and taught different courses on the subject.

The school was eventually awarded the Construindo a Nação award. Their projects and initiatives were covered in the news, and students and faculty shared their research at fairs and events.The Life Up movement gained so much attention that a workshop was held,

and promotional videos of the school's innovative gadgets were created and showcased, such as "Terra Seca" (Dry Land), which spoke about water preservation, "Bullying", which educated students about the topic, and a number of other videos that promoted some of the school's initial core projects.

Alongside both domestic and international press coverage, the school received invitations to present its projects at other fairs, science exhibitions, and congresses. Other students were very interested in taking part in the Life Up project, as were other schools, who sought to adopt similar programmes. The students involved with the programme felt so positive towards it that they went on to pursue further studies in entrepreneurship, academia, and professional services.

# Key Steps

## CREATE COLLABORATIVE SETTINGS

The school focused on creating a collaborative educational setting where students could present and debate issues from their communities. The idea was to overcome or address some of the wider issues, so that other students would be encouraged to help or even resolve the problem by working together.

## ASSEMBLING TEAMS

The school organised the students into teams, who chose their own issue to focus on, based on their interdisciplinary knowledge (propedeutic + technical + cultural). This entire process followed a 15-day cycle. In the second cycle, teams went on to consider possible solutions (using the Design Think technique) and presented their proposal to the community (representative)

for feasibility and interest. If the suggestion was approved, the project would then move on to the next step. If it did not, the cycle started over again to find a new proposal.

## SEEKING HELP

With all the material at hand, the school connected with professionals, community members, teachers, and others who could collaborate with students on their specific projects. The community members and professionals were considered the school's key partners, who could help provide additional training, give students access to laboratories, and help monitor student groups once they began implementing their projects.

## EXECUTION

After the planning and collaboration stages, the projects were put into execution and monitored closely to gather data on what went well and what didn't meet expectations.

# Advice and Guidance

Education is a collaborative effort and to create that dynamic, it's important that the school and its wider community work together. Any institution that aims to replicate this programme, must aim to have a clear and strong methodology that can be shared easily with others so that they can develop a similar programme along their own lines.

## More information

🌐 **http://www.etepam.pe.gov.br/**
▶ **ETEPAM**
in **ETEPAM**
f **Escola Técnica Estadual Professor Agamemnon Magalhães ETEPAM**

**Learn more about their work by watching their event at 2022's T4 World Education Week: watch here**