

Executive Summary



Project Title

**STEM Tinkering Coding
Programme - STEM Global**



Project Locations

10 Government Schools,
Bengaluru, Karnataka



Programme Duration

16 September 2021 –
15 September 2024 (3 Years)



Total Candidates Reached

~6,000 Students



Implementation Agency



(CSR Partner)

On-Ground Partner



Financial Assistance

₹1,60,65,500



Target Beneficiaries

Students from Grade VI to IX
and 40 Teachers

Key Performance Indicators & Findings

Engagement Levels

98.33%

student attendance in
Lab sessions.

90%

of students attended
mentoring sessions led
by engineers/volunteers.

88.33%

participation rate
in project
exhibitions.

Competitive Success

86.67%

of students participated in
high-level competitions,
including the National Level
Robotics Competition (IIT
Roorkee), Codingal, and the
Young Creators League.

Innovation Output

90%

participation in innovation.

Capacity Building

40

teachers were
trained in
future skills.

200+

students were equipped with
advanced Tinker Coding skills
through intensive 30-day camps.

Demographic Insights & Inclusivity

Digital Inclusion

The project enabled technological access for rural and village-background students who previously had zero home access to technology.

Gender Parity

83.33% of students agreed that boys and girls received equal opportunities to use labs and participate in activities.

Support for Diverse Learners

Teachers reported that "slow learners" who struggled in traditional subjects often became high-performers and more confident through hands-on STEM tinkering.

Skill Development & Confidence Building

The programme demonstrated visible growth across five core competency areas:

Coding & Technical Skills

Sound proficiency in 3D printing, laser engraving, sensor-based activities, and Python/Block-based coding.

Robotics

Students from a Bengaluru government school secured 1st Prize in an interschool robotics competition, outperforming private institutions.

Communication Skills

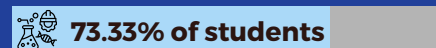
Principals noted students are speaking "more boldly and confidently," with improved presentation abilities and communication in English.

Analytical Thinking



feel confident in learning advanced technology independently.

Career Aspirations



expressed a strong interest in pursuing STEM-related careers, a notable shift in mindset for government school populations.

Economic & Social Impact

- **School Enrolment:** DEO/BEO reports indicate that school admissions increased following the inception of the STEM programme, enhancing the reputation of government institutions.
- **Community Perception:** 70% of students feel their local community is supportive of their participation. The success in competitions (winning 1st prizes) has boosted the school's credibility among parents and local leadership (MLAs).
- **Family Support:** 96.67% of students feel highly encouraged by their families to participate in STEM activities, showing a visible shift in parental awareness regarding digital literacy.

Training Quality & Participant Satisfaction



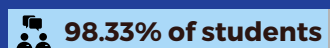
reported being "satisfied" or "very satisfied" with the course.



strongly agreed that labs had sufficient working equipment.



confirmed reliable internet access.



strongly agreed they received adequate mentoring from the SRF/globalEDGE team.

The teachers rated the training



noting a boost in their own confidence to deliver technical lessons.

Sustainability & Recommendations

Current Status

- While 100% of schools are motivated to continue,
- the lack of dedicated full-time STEM faculty
 - ongoing funding for consumables remain a challenge.

Recommendations

- Need to increase the ratio of engineers to schools (currently 3 engineers for 10 schools is a bottleneck).
- Scale the model to more rural schools.
- Advanced modules in Artificial Intelligence (AI) and Machine Learning (ML) may be introduced.
- Need to think about establishing formal maintenance budgets for equipment like 3D printers and Raspberry Pis.