Smile Foundation

Impact Study of STEM Program in Noida & Ghaziabad (U.P.)

Impact Study Report

2025-26



Report By.
Oumuamua Foundation

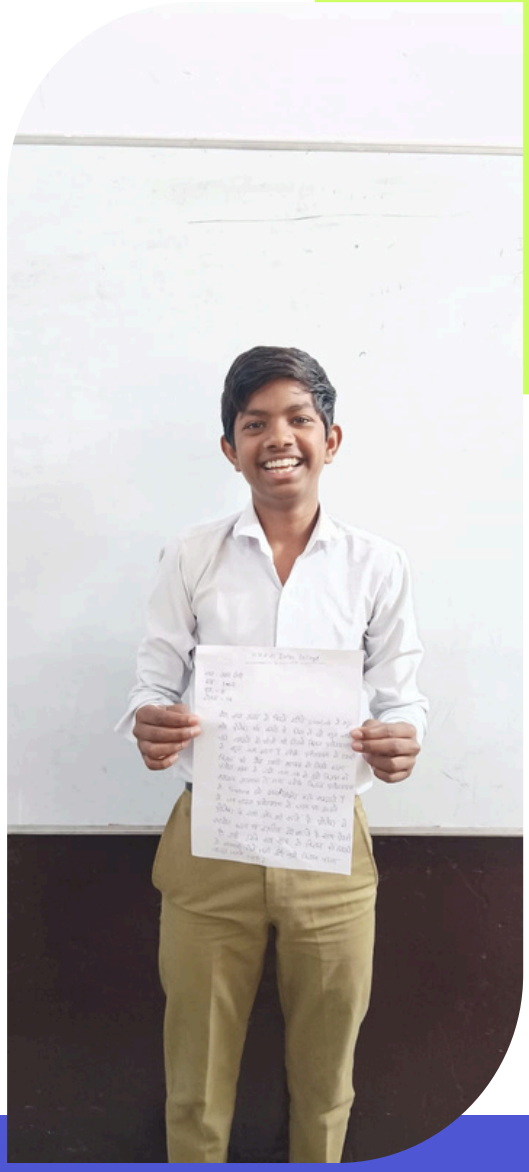
February 2026

ABOUT THE ORGANISATIONS

BMW India Foundation

The BMW India Foundation serves as the Corporate Social Responsibility (CSR) arm of BMW Group India, providing a unified platform to design and implement social impact initiatives across the country. Rooted in BMW Group's commitment to long-term thinking and responsible action, the Foundation focuses on key areas such as social inclusion, skill development, road safety, responsible use of resources, and intercultural innovation.

Through strategic partnerships and sustained engagement with diverse stakeholders, the Foundation aims to drive meaningful and scalable social change. By aligning its efforts with both ecological and social sustainability goals, the BMW India Foundation reinforces the Group's commitment to contributing to India's development—embodying the vision of "Make India" alongside "Make in India."



SMILE FOUNDATION

Smile Foundation is a nationally recognized development organization established in 2002, dedicated to improving the lives of underprivileged children, youth, and women through education, healthcare, livelihood, and empowerment initiatives. It has implemented over 400 projects across 2,000 remote villages and urban slums in 25 states, directly benefiting more than 1.5 million individuals annually. The foundation works to bridge gaps in access to quality education, deliver essential healthcare services, and provide vocational skills training to enhance youth employability and economic independence.

Smile Foundation also prioritizes women's empowerment by promoting reproductive health, nutrition, financial literacy, and entrepreneurship. In addition, it supports disaster relief and long-term rehabilitation, strengthens grassroots organizations, and sensitizes privileged children and youth toward social responsibility. Through its integrated and sustainable approach, the organization continues to foster inclusive and equitable development across India.

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Executive Summary

Measurable improvement in students' STEM skills and conceptual understanding from baseline (August 2025) to endline (February 2026) assessments.



Project Background

The STEM education program, implemented by Smile Foundation across five schools in Noida and Ghaziabad, Uttar Pradesh, aims to strengthen scientific thinking, innovation, and hands-on learning among 1,654 students in Grades 6–8. The program focuses on improving conceptual understanding in Science and Mathematics while promoting real-world problem-solving and essential 21st-century skills.

Key interventions include the establishment of STEM labs with hands-on learning models, installation of Interactive Flat Panels with curriculum-aligned digital content, and regular STEM sessions to foster critical thinking, creativity, collaboration, and communication.

Project Details

Project Name

STEM Program in Noida & Ghaziabad (U.P.)

Implementation Year

Academic Year 2025- 2026

Location

Noida & Ghaziabad, Uttar Pradesh

Beneficiaries

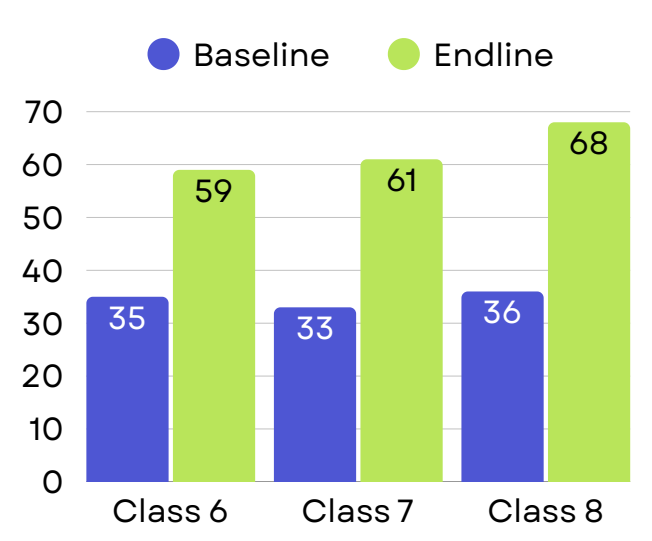
- 1654 Students from 5 schools

Significant Improvement in Student Learning Outcomes

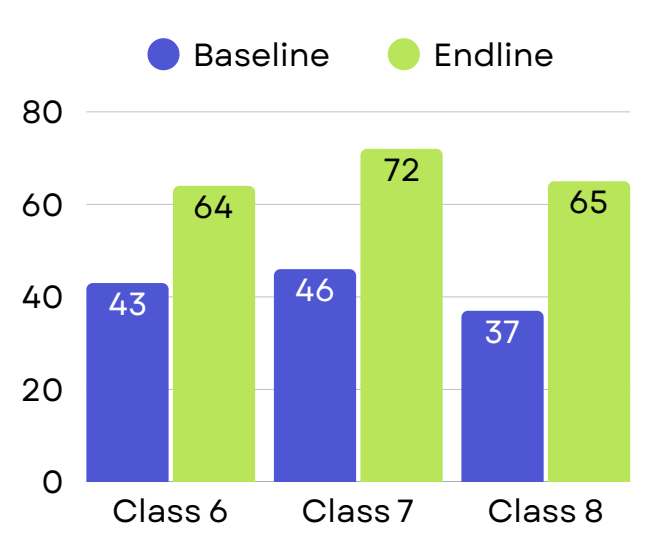
Baseline and endline assessments indicate significant improvement in students' conceptual understanding of Science and Mathematics across all grades. In Science, scores increased from 35% to 59% in Class 6 (+24), 33% to 61% in Class 7 (+28), and 36% to 68% in Class 8 (+32). Similarly, Mathematics scores improved from 43% to 64% in Class 6 (+21), 46% to 72% in Class 7 (+26), and 37% to 65% in Class 8 (+28), reflecting strong gains in problem-solving ability and conceptual clarity.

Overall, average Science scores increased from 35% at baseline to 63% at endline (+28), while Mathematics improved from 42% to 67% (+25). The combined STEM score rose substantially from 38% to 65% (+27), demonstrating the program's effectiveness in strengthening foundational STEM concepts and improving overall student learning outcomes.

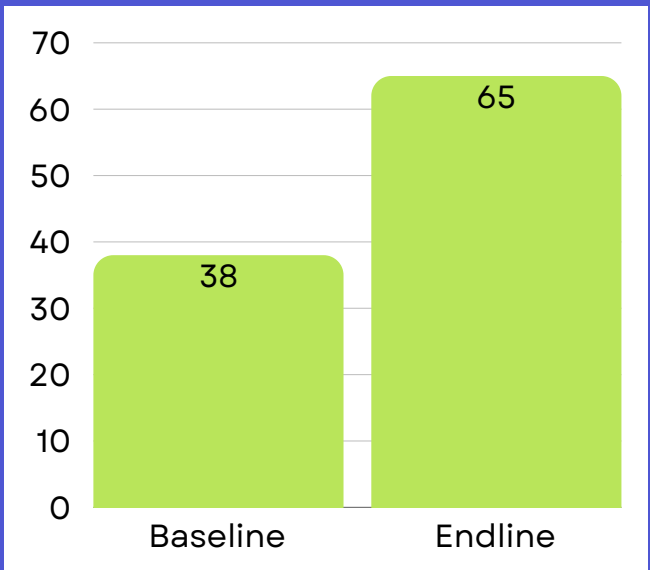
Science



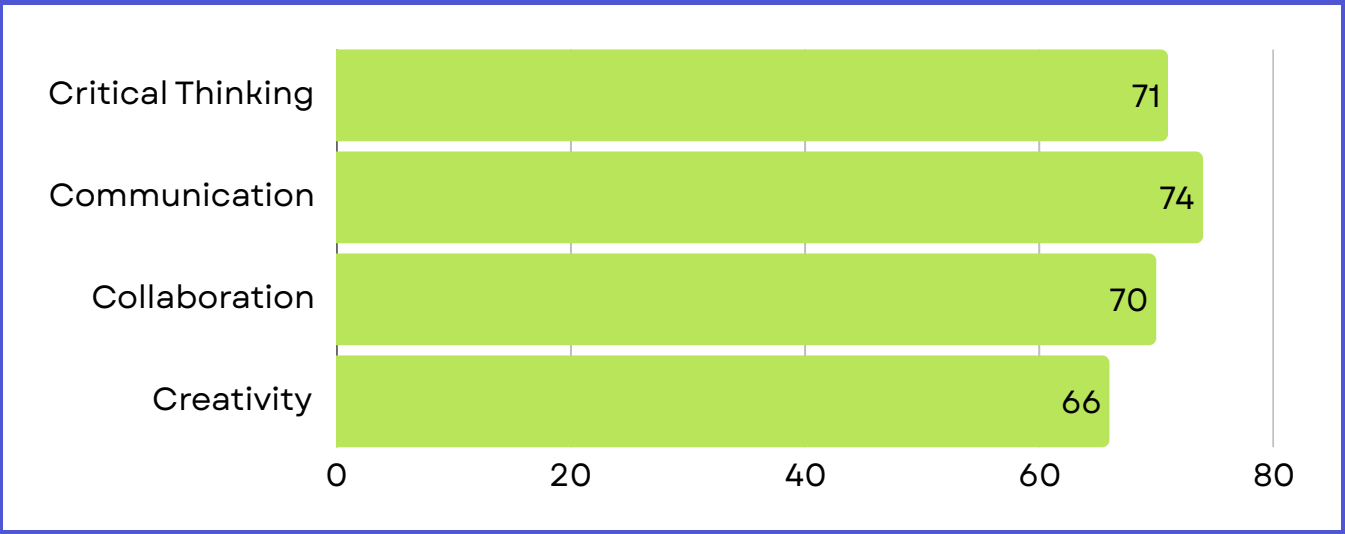
Maths



Overall



Develops 21st Century Skills



Strong Institutional Adoption and Sustained Use of STEM Learning Models



71% of students stated that STEM models & DIY Kits make their lessons more fun.



72% of students stated that STEM models & DIY Kits help them understand concepts better.



73% of students stated that they enjoy visiting and doing experiments and activities in the STEM lab



100% of teachers stated that STEM Lab models and kits help them teach science and maths more effectively



96% of teachers reported that STEM Lab tools have made their classes more student-friendly and engaging



87% of teachers stated that STEM Lab content aligns well with topics in the school syllabus



100% of principals stated that the STEM Lab models are highly effective in enhancing student-centred instructional practices.

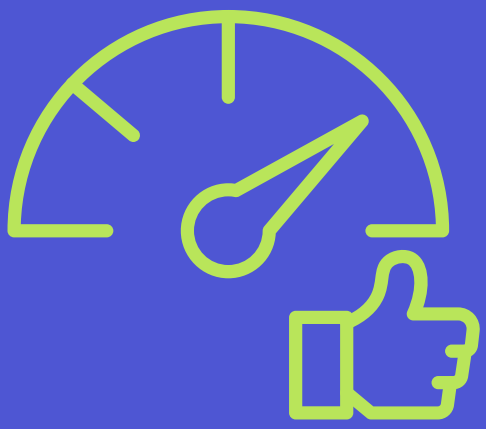


100% of principals stated that the STEM Lab models aligns well with her/his school's curriculum.



100% of Principals stated that teachers in their school regularly use the STEM Lab during science or maths classes.

Strong Endorsement from Teachers and School Leaders



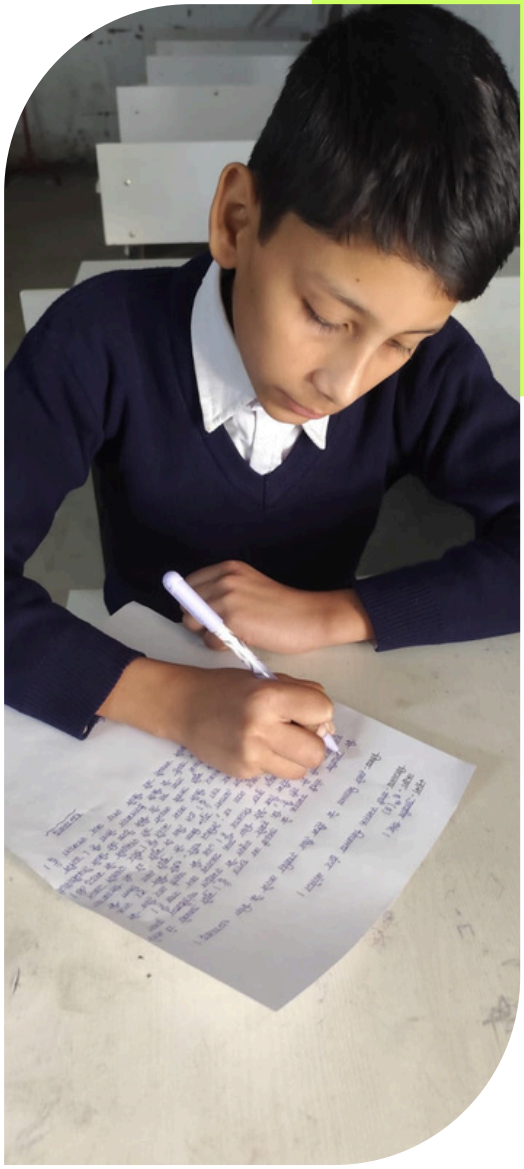
NPS: +93

Feedback from 22 teachers and 5 principals resulted in a high Net Promoter Score (NPS) of +93, indicating strong stakeholder satisfaction and a high willingness to recommend the program, reflecting its positive impact and effectiveness.

Summary:

The STEM education program implemented in five schools across Noida and Ghaziabad has demonstrated a strong and positive impact on student learning outcomes, teaching practices, and the overall learning environment. Significant improvements in Science and Mathematics scores, along with enhanced critical thinking, creativity, and problem-solving skills, highlight the program's effectiveness in strengthening conceptual understanding and promoting experiential learning.
The high adoption of STEM lab resources by teachers, strong support from school leadership, and exceptionally high stakeholder satisfaction reflect the program's relevance and success. The continued use of STEM infrastructure and sustained commitment from teachers and principals indicate strong potential for long-term impact. Overall, the program has successfully enhanced the quality of STEM education and established a strong foundation for sustainable improvements in participating schools.

Program Overview



The STEM education program, implemented by Smile Foundation across five schools in Noida and Ghaziabad, Uttar Pradesh, aims to foster scientific thinking, innovation, and hands-on learning among middle school students. The program directly benefits 1,654 students in Grades 6–8 studying under the U.P. State Board, with a focus on strengthening conceptual understanding in science and mathematics and promoting real-world problem-solving skills.

Key components include the establishment of fully equipped STEM labs with experiment models to enable experiential learning; installation of digital learning tools such as Interactive Flat Panels with curriculum-aligned e-content to enhance conceptual clarity; and regular STEM sessions designed to build critical thinking, creativity, collaboration, and communication skills. The program also promotes the formation of Innovation Clubs and organizes Annual Innovation Fairs to encourage students to identify community problems and develop practical solutions. Additionally, teacher capacity building is a core component, with structured training to strengthen STEM pedagogy, promote contemporary teaching methods, and support teachers in integrating hands-on STEM learning into regular classroom instruction.

Objectives of the Program

- To improve access to quality STEM education in schools.
- To increase student interest through interactive and experiential learning.
- To promote hands-on learning and real-world application of concepts.
- To develop students' creativity, critical thinking, and problem-solving skills.
- To strengthen teachers' capacity to effectively deliver STEM education.

Program Components

STEM Lab

Increased interest in science and math, hands-on learning, concept clarity

Digital Learning Tools

An Interactive Flat Panel (IFP) with grade-specific e-content has been installed at the ME Centre to support interactive digital learning.

Innovation Clubs

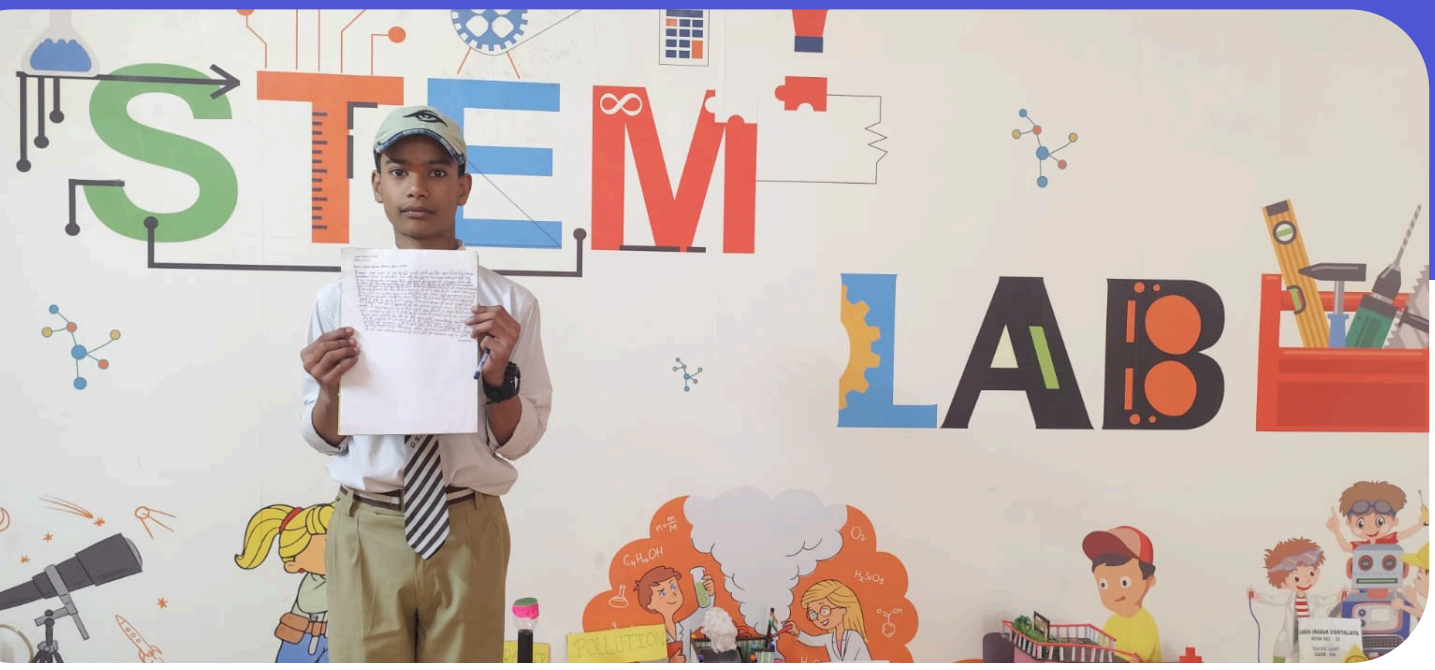
Promotion of creativity, innovation, and STEM-linked career aspirations

Teacher Capacity Building

Improved pedagogy, usage of hands-on methods, shift in mindset about STEM

Annual Innovation Fair

Enhanced problem-solving, creativity, and real-world application of STEM through student-led innovation and community-based solutions.





Methodology

The impact assessment of the STEM education program implemented across five schools in Noida and Ghaziabad employed a mixed-methods approach, integrating both quantitative and qualitative data collection to ensure a comprehensive evaluation. The assessment was guided by the OECD DAC evaluation criteria—relevance, coherence, effectiveness, efficiency, impact, and sustainability—to examine the program's alignment with student and school needs, its integration with the existing education system, and its effectiveness in strengthening STEM learning outcomes.

A Simple Random Sampling technique was used to select student participants, ensuring unbiased and representative coverage across Grades 6–8. Quantitative data was collected through student assessments and structured surveys to measure changes in conceptual understanding, interest in STEM, and skill development. Qualitative insights were gathered through Key Informant Interviews with school leaders and teachers, Focus Group Discussions with students, and classroom observations to understand changes in teaching practices, student engagement, and the overall learning environment.

Objectives of the Study

- Evaluate the impact of the STEM education program using the OECD DAC framework.
- Understand the experiences of key stakeholders like students, teachers, and the community.

Evaluation Criteria: OECD DAC Framework

Relevance

Is the organization doing the right things?

Coherence

How well does that intervention fit?

Effectiveness

Is the intervention achieving its objective?



Efficiency

How well are the resources being used?



Impact

What difference does the intervention make?



Sustainability

Will the benefits last?

Data Sampling

Sampling Technique

Simple Random Sampling

Total Students

1654

Sample Size for Quantitative Study

496 Students

To ensure comprehensive and statistically reliable findings, a robust sampling approach was adopted.

Sample Size Determination:
The sample size for intervention schools was calculated using the formula for proportions:

$$n = Z^2 \times p \times (1-p) / E^2$$

where Z represents the 95% confidence level, p was assumed as 0.5 (maximum variability), and E was set at 0.05 (5% margin of error).

The required sample size was estimated at 496 students. However, baseline and endline assessments were conducted with 502 students, exceeding the minimum requirement.

Research Tools

Quantitative Tools	Qualitative Tools
Baseline and Endline Assessments: Conducted in Science and Mathematics with 502 students from Classes 6 to 8 in five intervention schools to measure initial conditions and final outcomes, enabling a comparative analysis of the project's impact over time.	**Key Informant Interviews (KIIs):** Interviews were conducted with principals, parents, students and teachers from 5 schools to obtain in-depth perspectives on the project's impact and sustainability. The interviews and FGD involved 5 principals, 10 parents, 20 students and 10 teachers offering rich qualitative insights into various stakeholders' perceptions.
Student Survey: Administered to 315 students across 5 schools, the survey collected quantitative data on educational outcomes, providing insights into students' experiences and perceptions of the program.	**Classroom Observation:** A total of 10 Observations were conducted in the classrooms of 5 intervention schools to assess the project's effect on teaching practices and student interactions.
Teacher Survey: A survey was conducted among teachers to collect data on their perceptions of the project's impact. A total of 23 teachers from 5 schools participated in the survey.	
Principal Survey: A survey was conducted among principals to collect data on their perceptions of the project's impact. A total of 5 principals from 5 schools participated in the survey, offering quantitative data on principals' perspectives and experiences within the project.	

Key Stakeholders



Children

They are primary stakeholders. Their engagement, satisfaction, cultivation of interest in classroom, holistic well being and improvement in overall learning experience are the key denominator to measure the project's success.



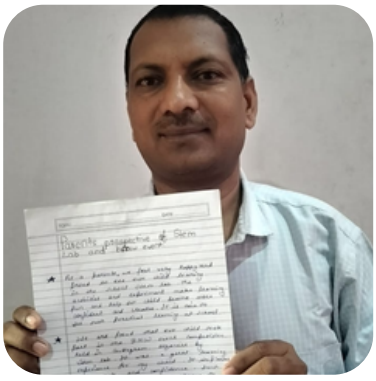
Teachers

Teachers are important stakeholders, and interviewing them yields essential data on project implementation, teaching methodologies, and student engagement, offering crucial insights into educational effectiveness.



Principals

They are the Strategic Direction Provider, hence crucial stakeholders in new initiative implemented in the school. Usually supportive of initiative that can enhances school's brand value



Parents

Parents are an integral part of SMCs. They are funding their ward's education. Their heightened confidence in school and teachers is crucial for continuation of child's education

Intervention Schools

Sr. No.	School Name
1	Shambhu Dayal Inter College-Ghaziabad
2	HHKM Inter College-Madhopuram-Ghaziabad
3	Shree Lalchand Sharma School-Sahibabad
4	Jyoti International School-Sec-62-A-Noida
5	Gandhi Smarak School-Sec-22-Noida



Key Findings

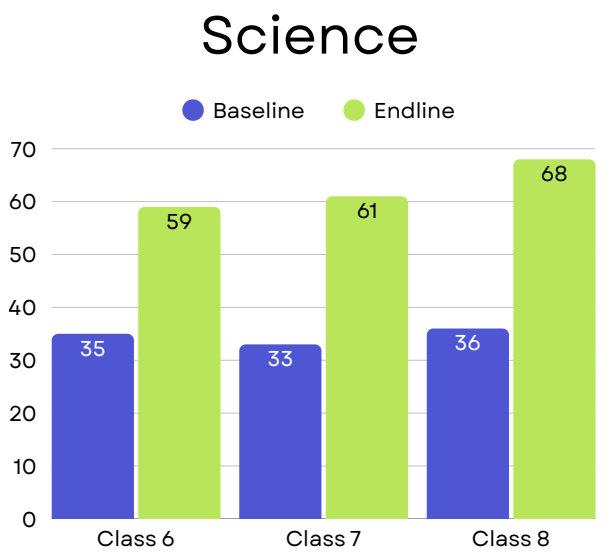
Measurable improvement in students' STEM skills and conceptual understanding from baseline (August 2025) to endline (February 2026) assessments.

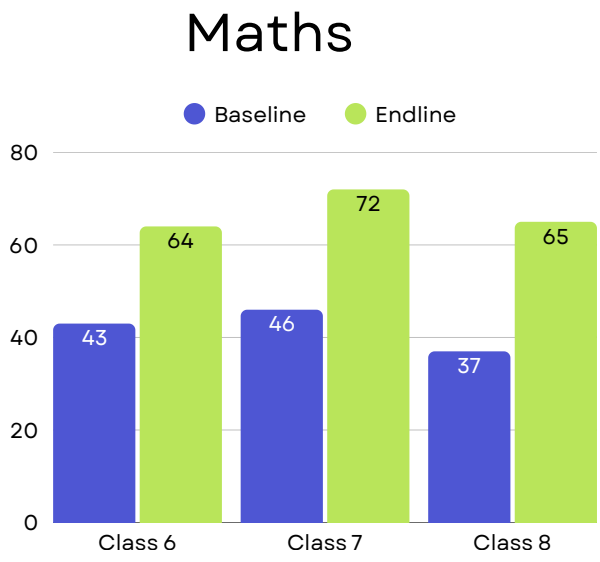


Baseline to Endline Data Analysis

Students were assessed at baseline and endline to measure changes in conceptual understanding in Science and Mathematics. Comparative analysis shows clear improvement across all grades in both subjects.

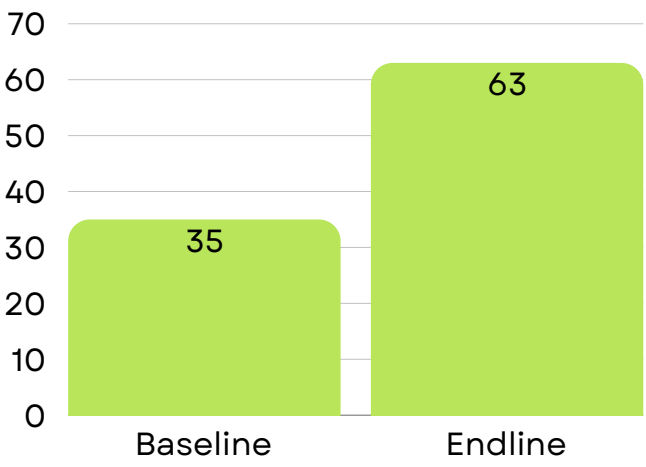
In Science, Class 6 improved from 35 to 59 (+24), Class 7 from 33 to 61 (+28), and Class 8 from 36 to 68 (+32), showing steady progress across higher grades. In Mathematics, Class 6 increased from 43 to 64 (+21), Class 7 from 46 to 72 (+26), and Class 8 from 37 to 65 (+28), indicating strong gains in problem-solving and numerical understanding.



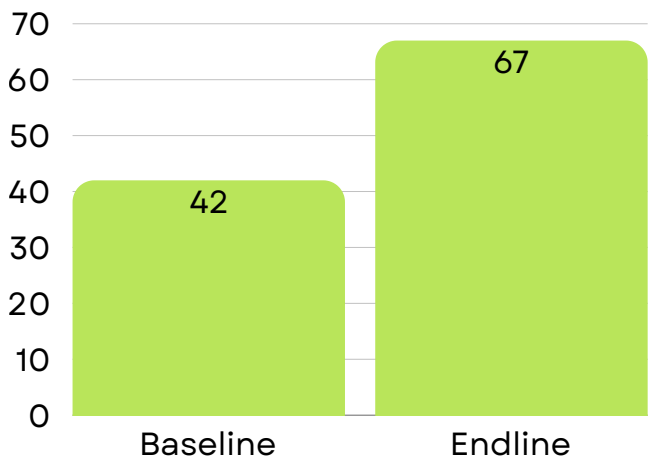


Overall Analysis

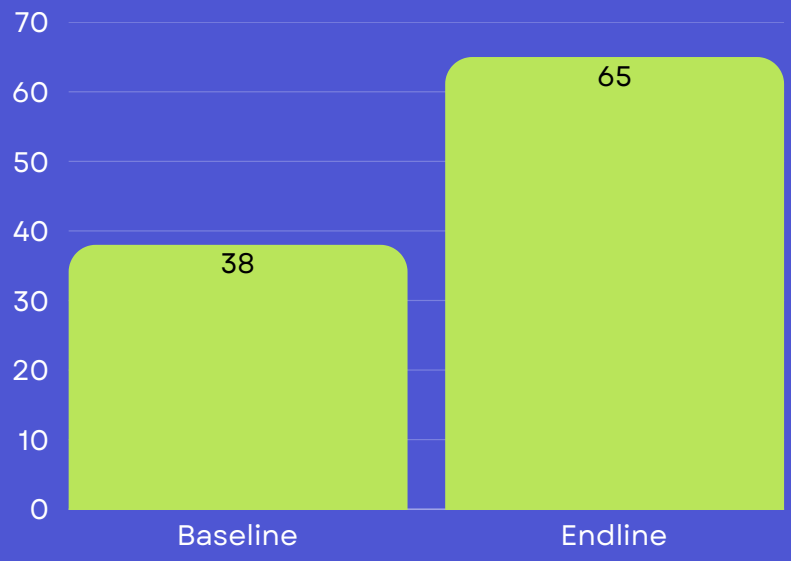
Science



Maths



Science & Maths Combined



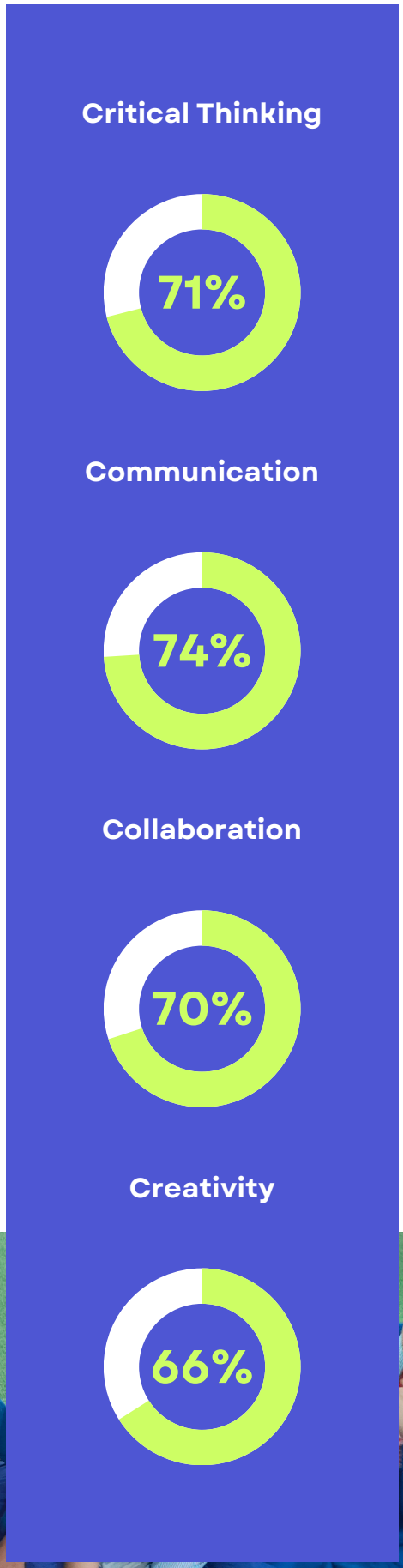
Overall, average Science scores increased from 35 at baseline to 63 at endline (+28), while Mathematics improved from 42 to 67 (+25). The combined STEM score rose significantly from 38 to 65 (+27). These improvements demonstrate the program's effectiveness in strengthening students' conceptual understanding and promoting meaningful learning in STEM subjects.



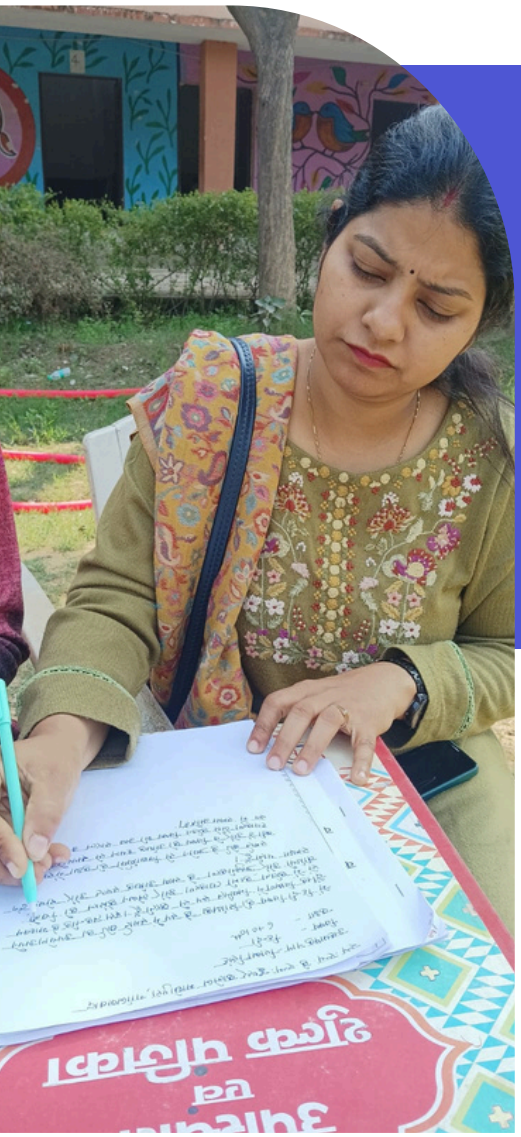
Task Experiment through Student FGD

Context and Analysis:
While traditional paper-based assessments effectively measure academic knowledge, evaluating 21st-century skills requires a more applied and interactive approach. To address this, a task-based experiment using a **concept cartoon** on seed competition was conducted to assess students' STEM competencies and the **4Cs—Critical Thinking, Communication, Collaboration, and Creativity.** Students engaged in structured group discussions, analyzed multiple perspectives, justified their reasoning using scientific concepts, articulated their ideas clearly, worked collaboratively to reach consensus, and proposed innovative solutions to optimize seed growth. A rubric-based assessment (scale of 1–4) was used to ensure systematic evaluation.

The results indicate strong proficiency across skill domains: Critical Thinking (71%), Communication (74%), Collaboration (70%), and Creativity (66%). These findings demonstrate that students not only strengthened their conceptual understanding of STEM principles but also developed essential problem-solving, teamwork, and creative thinking skills, reflecting the program's positive impact beyond traditional academic outcomes.



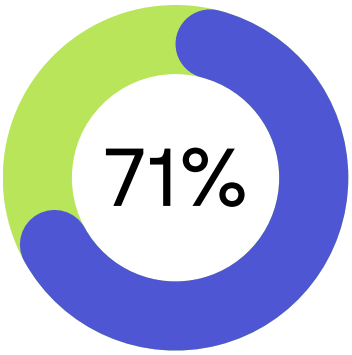




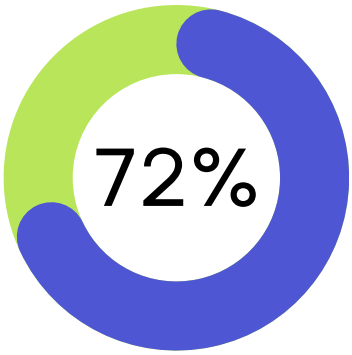
STEM Lab & DIY Kits

Surveys were administered to students, teachers, and principals to gather structured feedback on various program components. These surveys captured perceptions on teaching–learning practices, STEM activities, infrastructure improvements, capacity-building initiatives, and overall program effectiveness, providing multi-stakeholder insights into implementation and impact.

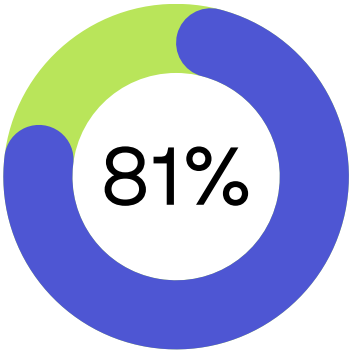
Student Survey



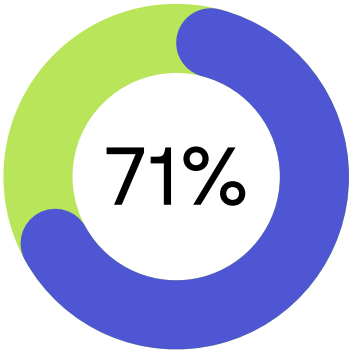
71% of students stated that STEM models & DIY Kits make their lessons more fun.



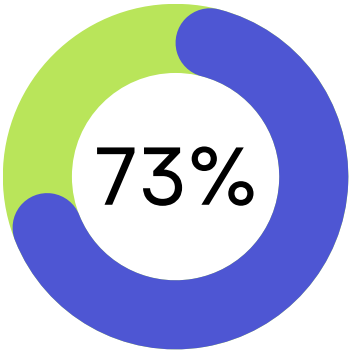
72% of students stated that STEM models & DIY Kits help them understand concepts better.



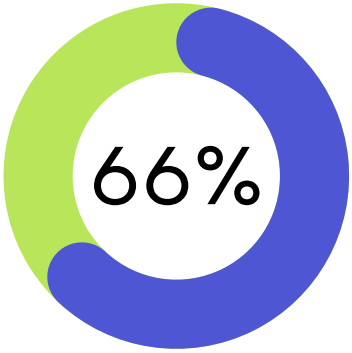
81% of students stated that they like science as a subject



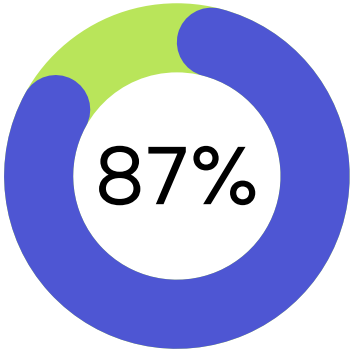
71% of students stated that they like maths as a subject



73% of students stated that they enjoy visiting and doing experiments and activities in the STEM lab



66% of students stated that they enjoy being part of the Innovation Club



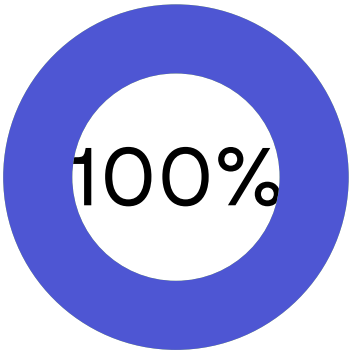
87% of students stated that they helped make a project in the Innovation Club

"Earlier, we mainly relied on textbooks and examples to teach children. But since the STEM laboratory was introduced, it has become much easier to help them understand concepts using models and hands-on activities. This has greatly increased their interest in Science.
I have observed clear intellectual growth among the students. They are now more curious and eager to learn new and different things. Their ability to work collaboratively has improved, and they are more confident in finding solutions to problems. They are also coming up with innovative ideas to address real-world issues such as pollution and energy conservation, showing a deeper level of understanding and creativity."

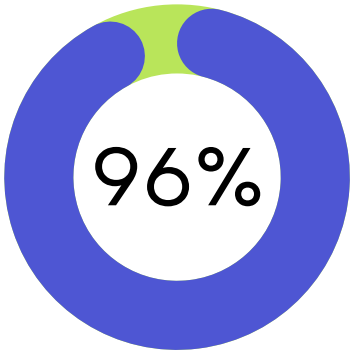
-Mrs.Hemalata,Teacher, Jyoti International School



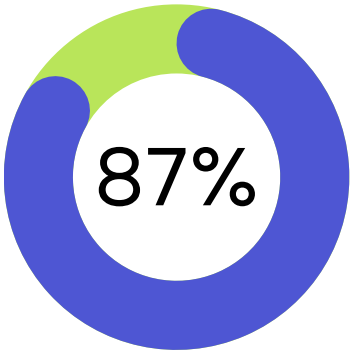
Teacher Survey



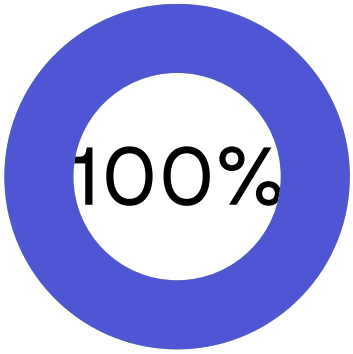
100% of teachers stated that STEM Lab models and kits help them teach science and maths more effectively



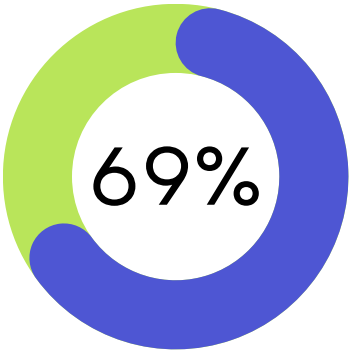
96% of teachers reported that STEM Lab tools have made their classes more student-friendly and engaging



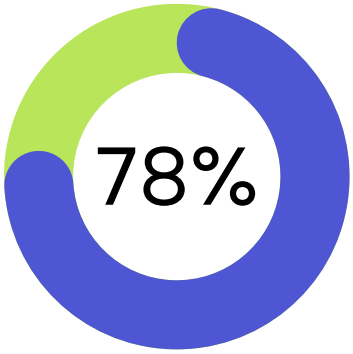
87% of teachers stated that STEM Lab content aligns well with topics in the school syllabus



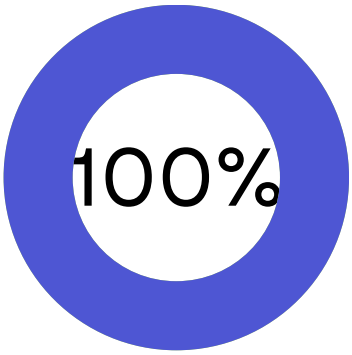
100% of teachers reported regularly using the STEM Lab during their science or maths classes



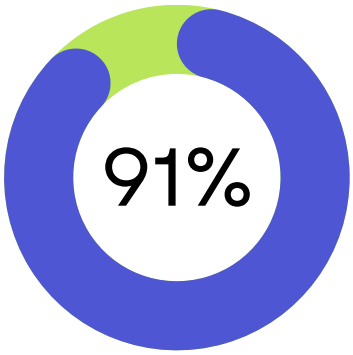
69% of teachers stated that the teacher training has positively improved their teaching practice and ability to use the STEM Lab effectively



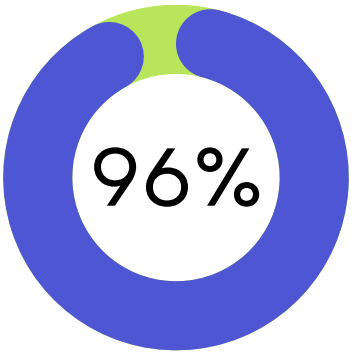
78% of teachers expressed interest in receiving additional training on STEM Lab and related topics in the future



100% of teachers observed increased student interest in science and maths after using the STEM Lab



91% of teachers reported that the Innovation Club helps students apply science and maths to solve real-life problems



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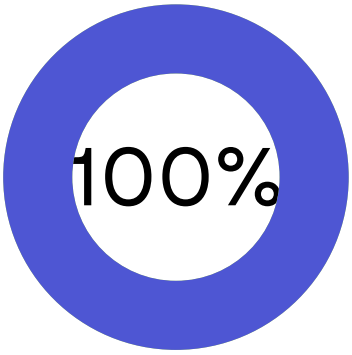
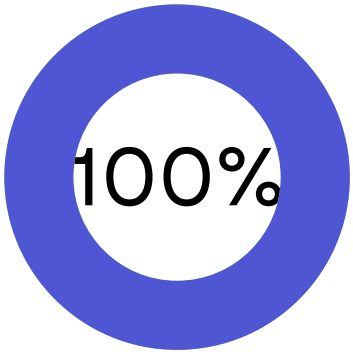
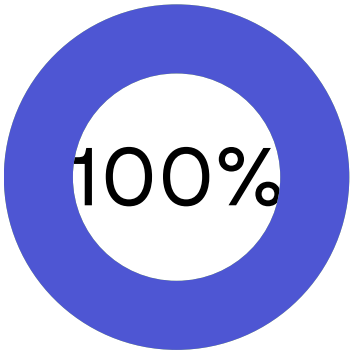
Principal Survey



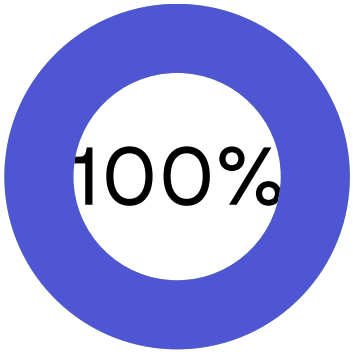
100% of Principals stated that STEM Lab models and kits are effective in improving student-centered teaching practices in their school.



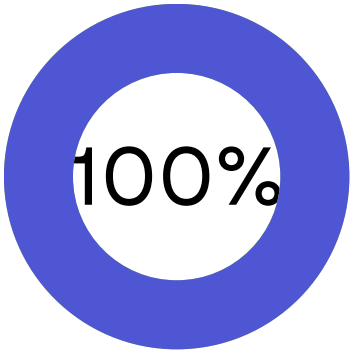
100% of Principals reported that STEM Lab content aligns well with the school curriculum for science and maths.



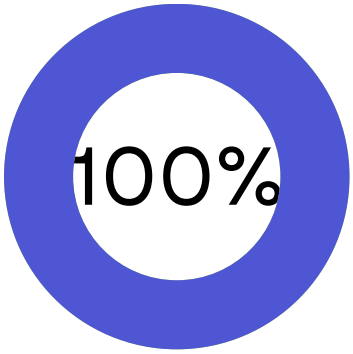
100% of Principals stated that teachers in their school regularly use the STEM Lab during science or maths classes.



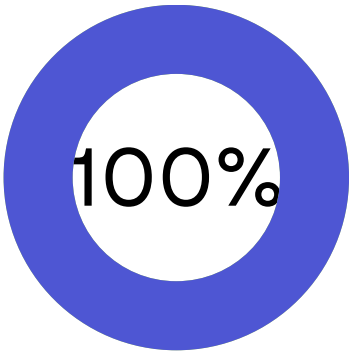
100% of Principals observed increased student interest and participation in science and maths after the introduction of the STEM Lab.



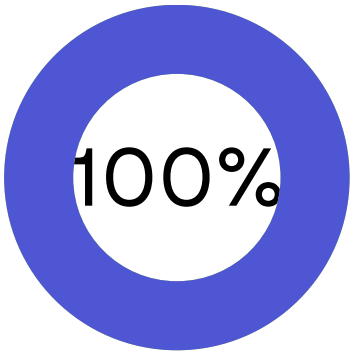
100% of Principals reported improvement in students' creativity and curiosity through the Innovation Club and project-based learning activities.



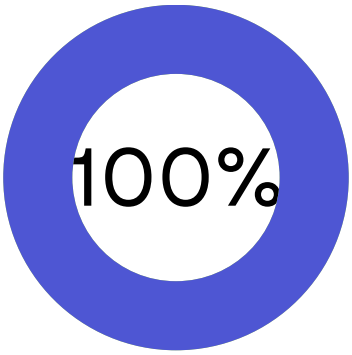
100% of Principals stated that the Annual Innovation Fair provides a meaningful platform for students to present their ideas and learning.



100% of Principals reported that teacher training has improved teachers' ability to conduct hands-on and engaging classes.



100% of Principals stated that the use of STEM Lab resources has improved the overall academic environment and learning culture in their school.

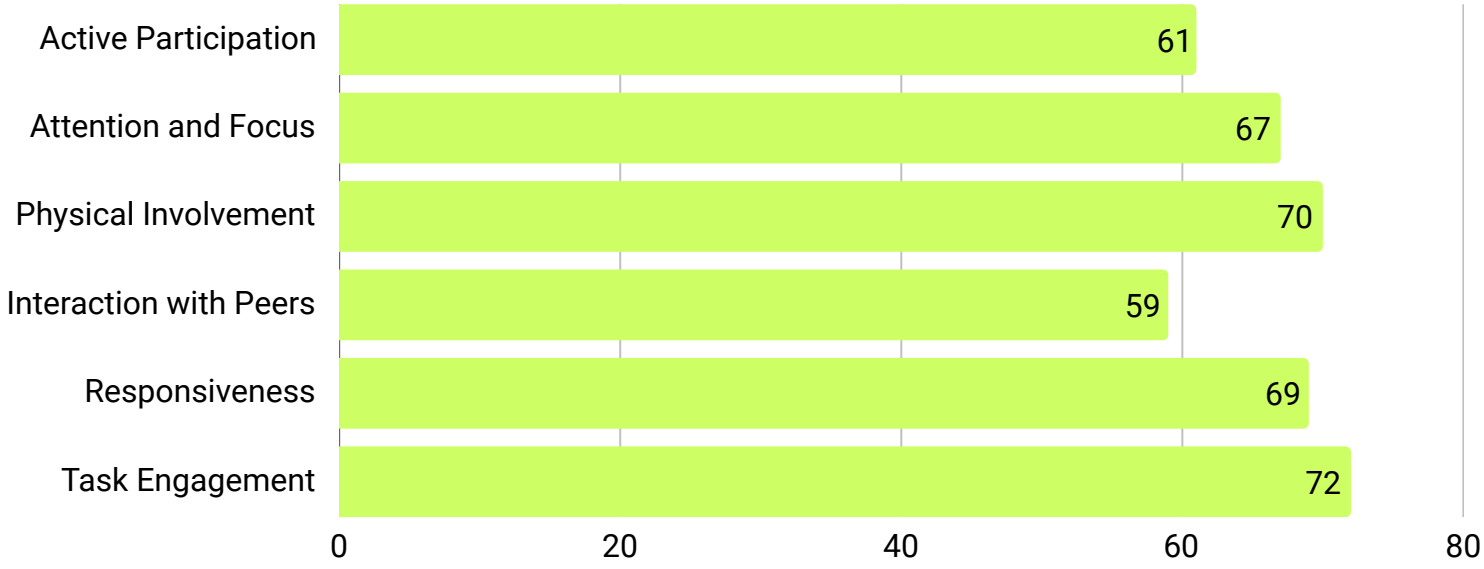


100% of Principals expressed support for the continued use and expansion of the STEM Lab and related activities in their school.

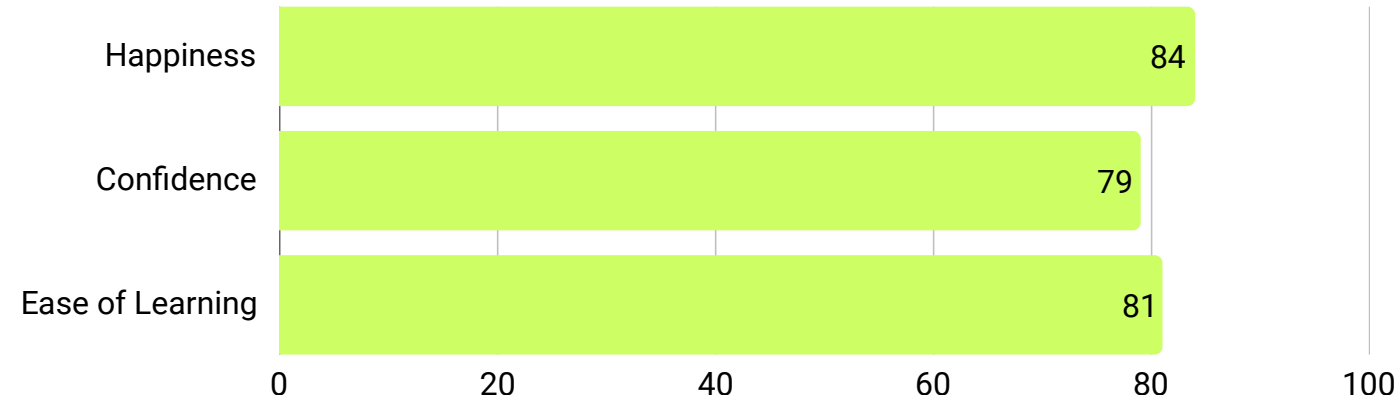
Strengthened teaching and learning practices.

Ten classroom observations were conducted in five intervention schools to assess pedagogical changes. The findings show **improved teacher effectiveness and strengthened teaching practices.**

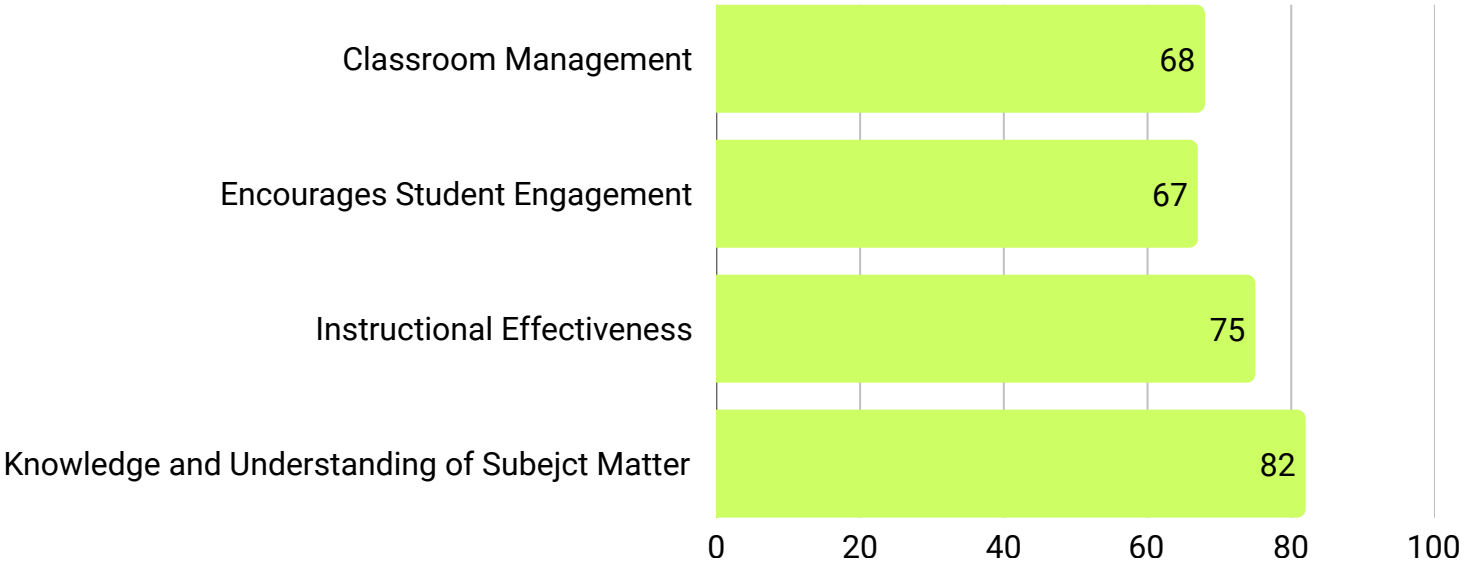
Student Action



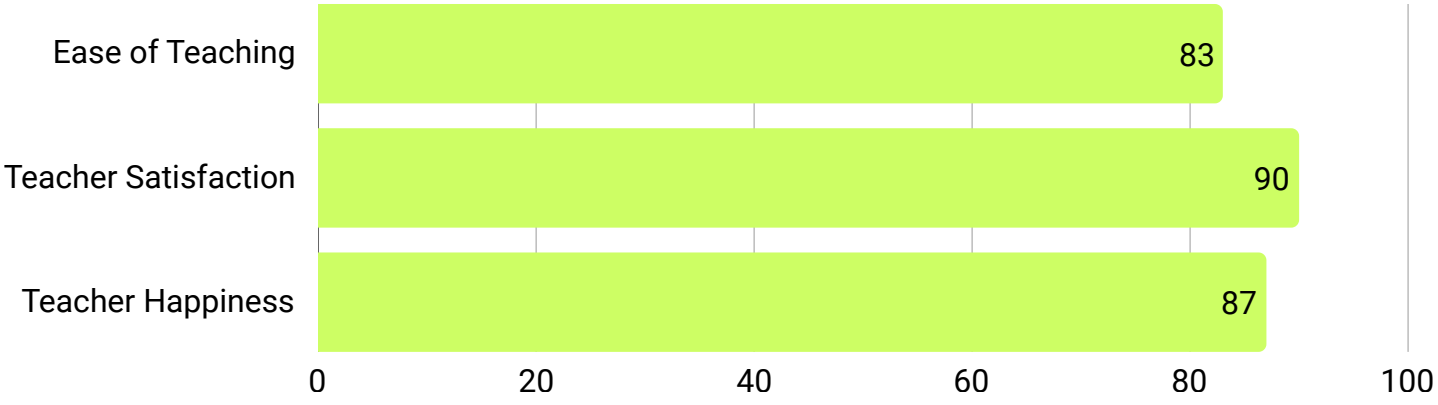
Student Experience



Teacher Action



Teacher Experience



"I have been actively involved in creating different projects in our science laboratory, which has helped me understand many new concepts. In the beginning, I had very little interest in the lab, but over time, working with models sparked my curiosity, and my fear of Science gradually disappeared. Mathematics used to be my weakest subject, and I often struggled to understand it, which affected my grades. However, with the support and encouragement of my teachers and the opportunity to learn through models in the STEM Lab, I slowly began to understand the subject better. Their constant guidance helped me overcome my fear of Maths. I have now realized that Maths becomes easy to understand when we apply logic and think carefully."

-Mas.Yuvraj Sharma, Class 8, Govt. HHKM Inter College

Net Promoter Score

NPS: +93



Analysis:
A total of 28 stakeholders provided feedback on the program. Among them, 27 were Promoters and 1 was a Detractor, resulting in an **exceptionally high Net Promoter Score (NPS) of +93.** This outstanding NPS reflects extremely high levels of satisfaction and a strong willingness among stakeholders to recommend the program. The findings highlight the program's strong relevance, effectiveness, and positive impact in enhancing STEM learning and supporting both students and teachers in the participating schools.

NPS Classification			
Category	Score Range	No. of Responses	Percentage
Promoters	9–10	27	54.05%
Passives	7–8	0	40.54%
Detractors	0–6	1	5.41%
Total		28	100%

ANALYSIS BASED ON OECD FRAMEWORK

1. Relevance: Is the intervention doing the right thing?



What is Relevance?
This criterion assesses whether the intervention objectives and design are aligned with the needs, policies, and priorities of the beneficiaries. It also considers whether the intervention remains relevant as circumstances change.

Analysis:
Analysis:
The STEM education program implemented in Noida and Ghaziabad is highly relevant, as it addresses critical gaps in STEM learning, conceptual understanding, and the development of essential 21st-century skills among middle school students. The program's alignment with students' learning needs is clearly reflected in the significant improvement in academic performance between baseline and endline assessments.

In Science, average scores increased from 35% at baseline to 63% at endline, reflecting a 28 percentage point improvement. Similarly, Mathematics scores improved from 42% to 67%, marking a 25 percentage point gain. At the grade level, Science scores improved from 35% to 59% in Class 6 (+24), 33% to 61% in Class 7 (+28), and 36% to 68% in Class 8 (+32). In Mathematics, Class 6 improved from 43% to 64% (+21), Class 7 from 46% to 72% (+26), and Class 8 from 37% to 65% (+28). Overall, the combined STEM score increased substantially from 38% at baseline to 65% at endline, reflecting a 27 percentage point improvement. These gains demonstrate the program's strong effectiveness in strengthening students' conceptual understanding and promoting meaningful learning.

A task-based assessment conducted during student engagement activities further highlights the program's relevance in developing 21st-century skills. Students demonstrated strong competencies in Communication (74%) and Collaboration (70%), indicating improved teamwork and ability to express ideas effectively. Critical Thinking was evident in 71% of students, reflecting enhanced analytical and problem-solving abilities, while Creativity was observed in 66% of students, demonstrating growing confidence in generating innovative ideas and solutions.

With clear improvements in academic performance and skill development, along with strong adoption by teachers and active student participation, the STEM program demonstrates high relevance in addressing educational priorities and equipping students with the knowledge and skills required for future academic and career success.

Coherence: How well does the intervention fit?

What is Coherence?
This criterion assesses how well the School Improvement project integrates with the existing educational landscape and development initiatives.

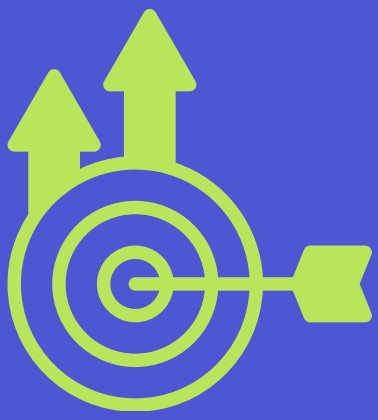
Analysis:
The intervention demonstrates strong coherence by effectively aligning its components with the existing school system and educational framework. The integration of teacher training with digital and STEM-based learning tools has been particularly effective, with 69% of teachers reporting that the training positively improved their teaching practices and their ability to use STEM labs. This indicates that the intervention is successfully equipping educators with the skills required to utilize STEM and digital resources effectively in the classroom.

Additionally, the program shows strong alignment with the school system, as 100% of principals confirmed that STEM labs have been integrated into their school curriculum. This reflects that the intervention has been smoothly incorporated into existing academic structures, ensuring continuity in teaching and learning processes.

By strengthening the connection between teacher capacity building, digital infrastructure, and curriculum integration, the intervention ensures that its components work cohesively, contributing to an improved and more effective learning environment for students.



3. Effectiveness: Is the intervention achieving its objectives?



What is Effectiveness?
This criterion assesses the extent to which the intervention has achieved or is expected to achieve its objectives, and its results, including any differential results across groups.

Analysis:
The intervention demonstrates strong effectiveness in achieving its objectives, as reflected in substantial improvements in student learning outcomes, skill development, and teaching practices.

Baseline-to-endline assessment data shows a significant increase in student performance. The overall combined STEM score improved from 38% at baseline to 65% at endline, marking a 27 percentage point gain. Science scores increased from 35% to 63% (+28), while Mathematics scores improved from 42% to 67% (+25). These improvements indicate enhanced conceptual understanding and demonstrate the program's effectiveness in strengthening foundational STEM competencies across grade levels.

The intervention has also contributed significantly to the development of key 21st-century skills. Task-based assessments show strong student performance in Communication (74%), Critical Thinking (71%), Collaboration (70%), and Creativity (66%). These findings reflect the program's success in fostering analytical thinking, teamwork, and innovation among students, which are essential skills for academic and real-world problem-solving.

Teacher feedback further reinforces the program's effectiveness. All teachers (100%) reported using STEM lab models in their classrooms and observed increased student interest in science and mathematics after STEM lab integration. Additionally, 96% of teachers reported that STEM labs made classes more engaging, and 91% observed that Innovation Clubs helped students apply science and mathematics to solve real-life problems. A majority of teachers (69%) also reported improvements in their teaching practices and ability to use STEM labs effectively, while 78% expressed interest in receiving further STEM-related training.

Overall, the intervention has successfully achieved its intended objectives by improving student learning outcomes, strengthening essential skills, enhancing classroom engagement, and building teacher capacity. The consistent improvements across academic performance, skill development, and teaching practices demonstrate the program's strong effectiveness in promoting meaningful and sustained STEM learning.

4. Efficiency: How well are resources being used?

What is Efficiency?
This criterion assesses how resources are being used to deliver results.

Analysis:
The intervention demonstrates strong efficiency in utilizing available resources, ensuring that investments in STEM labs, digital tools, and teacher capacity building have translated into measurable improvements in teaching practices and student learning outcomes.

Teachers have effectively utilized the STEM lab infrastructure and resources in their regular classroom instruction. All teachers (100%) reported using STEM lab models and kits, and 100% confirmed regularly integrating STEM lab activities into their science and mathematics classes. Additionally, 96% of teachers reported that STEM labs have made classes more student-friendly and engaging, while 87% stated that the STEM lab content aligns well with the school curriculum. These findings indicate optimal utilization of provided infrastructure to enhance classroom learning.

Investments in teacher capacity building have also been efficiently translated into improved teaching effectiveness. A majority of teachers (69%) reported that training positively improved their teaching practices and their ability to use STEM lab resources effectively. Furthermore, 78% of teachers expressed interest in additional STEM-related training, reflecting both the relevance and practical value of the training provided.

These efficient inputs and resource utilization have translated into strong learning outcomes. The combined STEM score improved significantly from 38% at baseline to 65% at endline (+27), demonstrating that investments in STEM infrastructure, teacher training, and hands-on learning have been effectively converted into measurable academic gains.

Overall, the intervention has demonstrated high efficiency by ensuring that investments in infrastructure, teacher training, and STEM learning resources are actively used and effectively contribute to improved teaching practices, enhanced student engagement, and better learning outcomes.



5. Impact: What difference does the intervention make?

What is Impact?
This criterion assesses the extent to which the intervention has generated, or is expected to generate, significant positive or negative, intended or unintended, higher-level effects. It looks at the long-term effects of the intervention, including its social, environmental, and economic effects.

Analysis:
The intervention has generated significant positive impact by improving student learning outcomes, strengthening 21st-century skills, and enhancing teaching practices and the overall learning environment.

Student academic performance improved substantially, with the combined STEM score increasing from 38% at baseline to 65% at endline (+27). Science scores improved from 35% to 63% (+28), and Mathematics from 42% to 67% (+25), reflecting stronger conceptual understanding across grades.

The program also strengthened essential skills, with students demonstrating high levels of Communication (74%), Critical Thinking (71%), Collaboration (70%), and Creativity (66%), indicating improved problem-solving and teamwork abilities.

Teaching practices improved significantly, with 100% of teachers using STEM lab resources and reporting increased student interest and engagement. Additionally, 96% of teachers found STEM labs made learning more engaging, and 91% observed improved real-world application of STEM concepts. All principals (100%) also reported increased student participation, improved teaching practices, and enhanced academic engagement, and expressed full support for continuing the program.

Overall, the intervention has created meaningful impact by improving learning outcomes, strengthening essential skills, and fostering a more engaging and effective STEM learning environment.



6. Sustainability: Will the benefits last?

What is Sustainability?
This criterion assesses the extent to which the net benefits of the intervention continue, or are likely to continue. Depending on the timing of the evaluation, this may involve analysing the actual flow of net benefits or estimating the likelihood of net benefits continuing over the medium and long-term.

Analysis:

The sustainability of the intervention is evident through the continued use and strong institutional support for STEM lab resources. All teachers (100%) reported regularly using STEM lab models and observed increased student interest and engagement, indicating successful integration into classroom practices. Additionally, 69% of teachers reported improved teaching effectiveness, and 78% expressed interest in further STEM training, demonstrating commitment to continued professional development.

School leadership has shown full support, with 100% of principals confirming that STEM labs align with the curriculum, improve student engagement, and enhance the overall learning culture. All principals also expressed support for the continued use and expansion of STEM lab activities.

The exceptionally high Net Promoter Score (NPS) of +93 further reflects strong stakeholder satisfaction and confidence in the program's long-term value.

Overall, the strong adoption by teachers, full support from principals, and high stakeholder satisfaction indicate that the program's benefits are likely to be sustained over the long term.



Testimonials

"I have witnessed a remarkable transformation in students—they now ask questions, observe, experiment, and apply logical reasoning rather than simply memorizing concepts. The practical exposure provided in the STEM lab has significantly enhanced students' problem-solving skills, teamwork, and confidence. Projects such as hydraulic models, solar kits, working prototypes, and real-life application-based activities have made learning meaningful and engaging."

- Mr.Pradeep Verma, Principal, Jyoti International School

"I have learned many new and useful things through the STEM Lab. Through experiments and model-making, I am able to understand and experience concepts more clearly, rather than just reading about them."

-Ms.Manasvi Aggarwal, Class 8, Shree Lalchand Sharma School-Sahibabad

"I am extremely pleased to share my experience with the STEM Lab in our school. As a Mathematics teacher, I have observed a remarkable improvement in students' understanding of mathematical concepts through the STEM Lab. Topics such as Algebra, Geometry, Mensuration, and Statistics, which earlier seemed difficult for students, have now become simpler and more interesting through practical activities and models. Students are not only learning mathematical principles but are also able to understand and apply them in real-life situations."

— Mr. Mukesh Pal, Teacher, Shambhu Dayal Inter College

"The STEM Lab has also given students opportunities to participate in competitions outside the school. My child attended a BMW event, where he created his first model, presented it, and won first prize. This experience greatly boosted his confidence."

- Mrs. Mayavasu, Parent, Gandhi Smarak Vidhyalya

"The STEM Lab has proven to be a highly valuable addition to the school, transforming traditional learning into an engaging and experiential process. It has enabled students to understand concepts through hands-on activities, experiments, and model-making, rather than relying on rote learning.
The STEM Lab has made learning more interactive and meaningful, positively influencing academic performance and overall school outcomes, with students demonstrating stronger conceptual clarity and improved results in Science and Mathematics."

- Mr. Aman Singh, Principal, Shree Lalchand Sharma School-Sahibabad

""The lab sessions enabled students to move beyond textbook learning and understand scientific concepts through hands-on observation and experimentation."

- Ms Shabeena, Teacher, Jyoti International School

Impact Study













Acknowledgements

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