SCHOOLS 2030

HOLISTIC
LEARNING
INNOVATIONS

GROWTH LABS

Country: India

Target Age: 10-15

Learning Areas: Collaboration | Creativity | Critical Thinking | Problem-Solving | Science | Technology

THE CONTEXT

Upgraded Middle School, Chakiya Tola, Dighwara is situated along the banks of the sacred River Ganges, offering a peaceful and inspiring environment for learning. Located in the culturally vibrant Saran district of Bihar, the area is renowned for hosting Asia's largest animal fair— an iconic annual event that attracts visitors from across India and provides students with a unique opportunity to observe a wide variety of animals up close.

The school serves students from grades 1 to 8, with a current enrollment of 306. Most parents are engaged in agriculture or operate small local businesses such as shops or stalls. Many of the students are **first-generation learners**, and overall awareness about the importance of education remains low in the community.

This presents a significant challenge: without a supportive learning environment at home, many students struggle to stay engaged in their studies, which often hinders their academic development.

Ongoing group activity with class 5 students in Growth Lab.

THE CHALLENGE

How might we increase interest in and the confidence of students in STEM subjects?

A key challenge identified at the school was low engagement among Grade 5 students, particularly in science. Many students showed hesitation towards learning scientific concepts from textbooks. Children preferred staying outside the classroom during science lessons, reflecting a lack of curiosity and confidence in the subject. A lack of opportunities to promote collaborative learning in science was also identified through the HCD process by the teacher.

According to the school leader, many students come from families where parents are engaged in daily wage work, leaving little time for educational support at home. In such households, the focus is often on earning a livelihood, and education, especially, in science and technology has been deprioritized. While some students attend school to access scholarships and government benefits, there is significant opportunity to build stronger motivation for learning. Strengthening foundational understanding in science is key to unlocking future opportunities in STEM-related fields.

THE SOLUTION

Growth Lab – A Hands-On Science Learning Approach

The Growth Labs were launched with Grade 5 students to promote experiential learning and active participation. Using simple materials like chart paper, colored cardboard, scissors and pencils, students collaborated in a vibrant, hands-on environment – cutting, coloring, exchanging ideas and creating models. In this school, focus was on the human body, the project allowed children to explore internal organs and systems through visual, tactile learning.

In many government schools, science education is challenged by limited resources and the absence of lab facilities. Growth Lab innovations help bridge this gap by introducing low-cost, activity-based learning methods. These tools empower teachers to guide students through key scientific processes - observation, experimentation and reflection – nurturing curiosity and scientific temperament.

The project began with two days of interactive discussions designed to better understand students' learning challenges. Instead of starting with textbook-based instruction, the approach encouraged children to share their ideas through drawings and group conversations, creating an open and engaging environment.

As the sessions progressed, science topics such as the digestive system, kidneys, heart, lungs, bones, and muscles—which were initially difficult for students to grasp—were introduced through drawing-based learning. This visual method made abstract concepts more relatable and engaging. Students were also introduced to learning materials provided by AKF, which immediately sparked their curiosity. By moving away from passive learning, they engaged in hands-on activities that made the study of the human body both interactive and meaningful.

Over three days, students created subject-based drawings in their notebooks. While some hesitated at first, many soon participated actively. Five days later, the Human Body Model project was formally launched with Grade V students. Using simple materials such as chart paper, coloured cardboard, scissors, pencils, and erasers, they worked collaboratively in teams. Each child played a role—some cutting paper, others colouring, and many contributing ideas—transforming the classroom into a lively space of shared creativity.

As collaboration deepened, discussions naturally shifted to being student-led. Children began asking thoughtful questions such as, "What protects the organs in our body?" and "Which organ helps us breathe?" This shift empowered them to explore answers independently and learn from one another. Rather than relying on rote memorization, the emphasis remained on conceptual understanding. Students not only learned about the functions of internal organs but also discovered practical ways to care for them in daily life.

By the end of the project, the children had developed stronger collaboration skills, a sense of responsibility, and greater ownership of their learning. The process nurtured curiosity, encouraged critical thinking, and built confidence in science education—transforming the classroom into a space where learning felt both meaningful and inspiring.

THE IMPACT

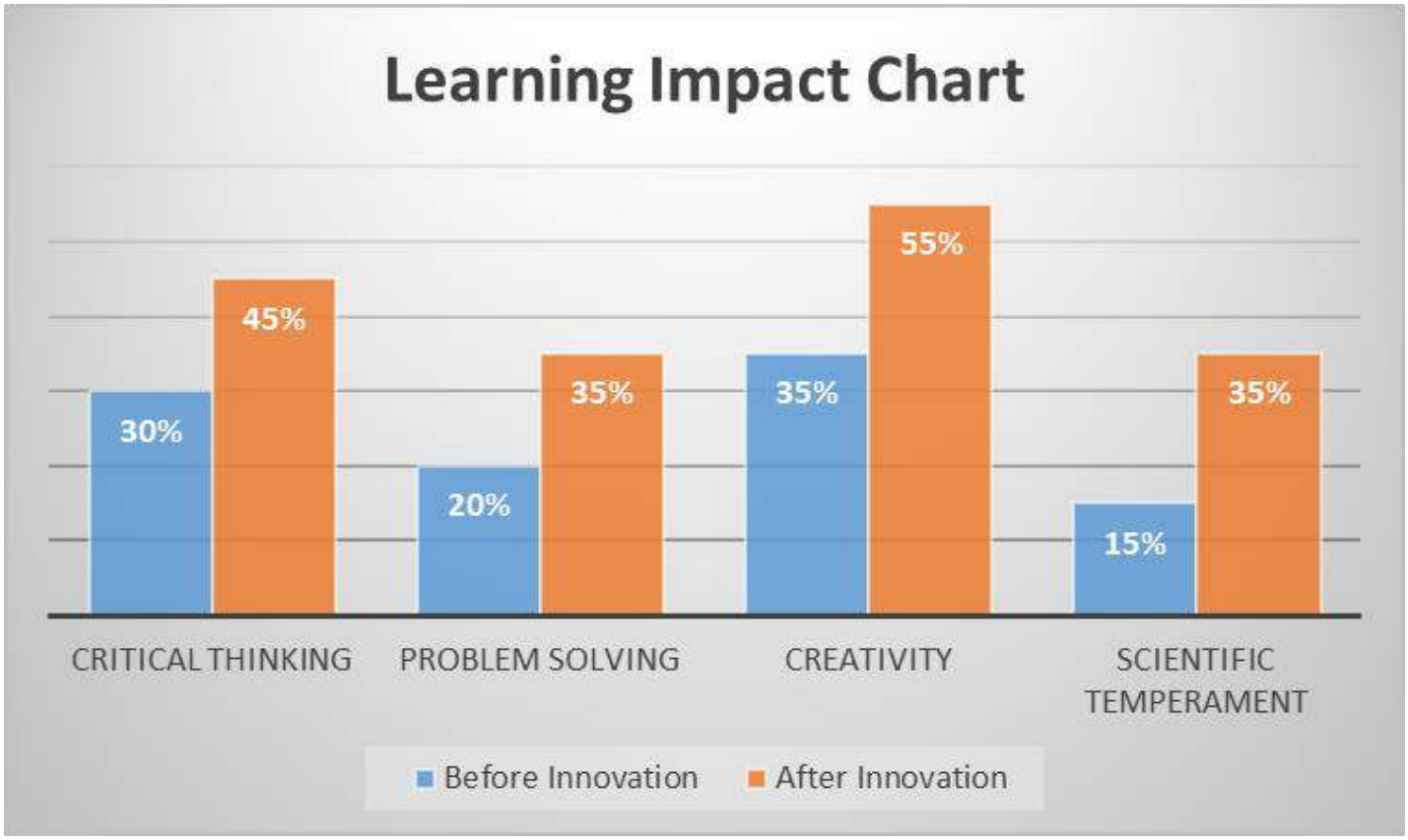
A tactile, visual and practical approach enhancing understanding of challenging concepts, increased collaboration and a sustained interest in science classes

Students showcasing their project on Human Body Part along with the teacher.

Benefits include:

1. **Enhanced Understanding** – Students were able to grasp an abstract concept in Science effectively through a visual and hands-on learning approach.
2. **Child-Led Learning** – Classroom discussions became student-driven, with children asking thoughtful questions like, "What protects our organs?"
3. **Improved Collaboration –** Students supported one another during activities, making the learning process more interactive, inclusive and engaging.
4. **Increased Participation –** Students who were previously hesitant became more confident and actively involved in classroom lessons.
5. **Bridging Theory and Practice –** The model-making activity helped students connect textbook knowledge with real-world applications, deepening their understanding.
6. **Sustained Interest in Science** – The fear associated with science reduced significantly, and students began showing genuine curiosity and enthusiasm for the subject.

THE IMPACT (CONTINUED)



Meet the Teacher

Anjali Singh

Teacher, UMS Chakiya Tola, Dighwara, Saran, Bihar, India

I have been working as a primary school teacher since December 2023. What I enjoy most about my role is interacting with the children—seeing them every day brings me joy. My goal is to give my best in teaching and nurturing these young minds to help them grow and succeed.

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