

Report on the Field / Exposure Visit to Pre-incubation units of ATL Lab at KV School, Tripura

Date of Visit: 18th February, 2025

Location: Kendriya Vidyalaya (KV) School, Tripura

Attendees: Two Teachers and BBA 2nd Semester Students (30 Students)

1. Introduction

On the 18th of February 2025, a group of two teachers along with 30 no of BBA 2nd Semester students visited the ATL (Atal Tinkering Lab) at Kendriya Vidyalaya (KV) school, Tripura. This visit was an insightful experience aimed at exposing the students to practical applications of science and technology, specifically the principles behind innovation and experimentation in the field of electronics and basic engineering. The ATL Lab visit was structured to engage students with hands-on learning and inspire them to take an interest in scientific experimentation, ideation, and problem-solving.

2. Overview of ATL (Atal Tinkering Lab)

The **Atal Tinkering Lab (ATL)** is a significant initiative under the **Atal Innovation Mission (AIM)** by the Government of India. It was launched to foster creativity, innovation, and entrepreneurship among school students across the country. ATL aims to provide students with a platform to experiment with various aspects of science and technology by providing access to a diverse range of tools and materials such as robotics kits, sensors, microcontrollers, and other electronic components.

The lab at KV Tripura is equipped with tools and resources for students to develop prototypes and models based on real-world problems. It provides a space for students to explore concepts in science, technology ultimately nurturing innovation from a young age.

3. Purpose of the Visit

The purpose of this visit was to:

- Familiarize students with the concept of **tinkering** and **innovation** through practical demonstrations.
- Understand the role of the ATL initiative in promoting scientific curiosity and problem-solving skills among young minds.
- Gain exposure to the various tools, components, and equipment used in the lab to create scientific models.
- Encourage students to brainstorm and create their own scientific models or prototypes based on the skills and knowledge gained during the visit.

4. Key Activities and Observations

During the visit, the students were introduced to a variety of electronic components and basic circuit-building techniques. Some of the key highlights include:

a. Introduction to ATL and its Impact

A teacher from KV School gave a comprehensive introduction to the **Atal Tinkering Lab** and its purpose. The teacher explained that the **Government of India** had implemented ATL in various schools to create a culture of innovation and self-learning among students. Through these labs, the government aims to provide young minds with the tools and knowledge to invent, build, and experiment. The lab serves as an incubator for creativity, where students can work on ideas that could potentially evolve into full-fledged innovations in the future.

b. Hands-On Demonstration of Electronic Components

The students were introduced to various components by Mr. Mrinal Debnath, such as:

- **Diodes:** Basic semiconductor devices used to allow current to flow in one direction only. The students were taught the role of diodes in rectifiers and other circuits.
- **Batteries:** Different types of batteries, including their structure, functionality, and applications in powering electronic devices, were explained.
- **Transistors:** The teacher provided an explanation of **transistor** functionality, discussing their role as amplifiers or switches in circuits.
- **Circuits:** Students were shown different circuit-building practices, from simple series and parallel circuits to more complex systems.

These components were used in various scientific models and experimental setups displayed in the lab. These models were designed and constructed by young students, emphasizing the practical application of theoretical concepts. The models ranged from simple devices like light-emitting diodes (LED) connected to circuits to more complex devices like automated control systems.

c. Inspirational Models:

Several prototypes were on display, showcasing the creativity and problem-solving capabilities of school students. These models included:

- **Solar-powered devices**
- **Automated systems**

The students were encouraged to understand the design process behind these models, focusing on the underlying principles of physics and engineering that made them function.

d. Motivation for Innovation

One of the key objectives of the visit was to encourage students to think critically and innovatively. The teacher emphasized that the essence of innovation lies in solving problems through creative thinking and applying scientific knowledge. The students were inspired to work on their own scientific models and use the tools available in ATL to build prototypes.

The teacher also emphasized the importance of teamwork, experimentation, and iteration in the process of innovation. Students were encouraged to embrace failure as part of the learning process and to continuously improve their models based on testing and feedback.

5. Conclusion

The visit to the ATL lab at KV School, Tripura, provided valuable exposure to students, particularly those studying in the BBA 2nd Semester, on the significance of innovation, experimentation, and creativity in the field of science and technology. The hands-on experience with various electronic components and models helped to bridge the gap between theoretical knowledge and practical application.

The ATL initiative by the Government of India has undoubtedly provided a platform for young minds to explore the exciting world of science, technology. The visit has left an impact on the students, motivating them to explore the realm of scientific innovation and encouraging them to develop their own prototypes and models in the future. By creating a culture of innovation, ATL Labs across the country are playing a crucial role in nurturing the next generation of engineers, scientists, and entrepreneurs who will drive the future of technology and innovation.

Report Prepared by:

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Attendance of the students:

Date :- 18/02/2025

ATAL Tinkering Lab Visit

PM SHRI KENDRIYA VIDYALAYA NO. 1 KUNJABAN, AGARTALA.

SRL. No.	Name	Signature
1	Khatun Jamatia - 24	
2	Kumar Gourab Saha - 28	
3	Surajit Majumdar - 55	
4	Rusom o/b - 42	
5	Ritan Deb - 41	
6	Sonita Debbarma - 50	
7	Zeenat Halam - 57	
8	Aditya Kalai - 2	
9	Nupur Das - 34	
10	Deepshikha Das - 33	
11	Pipasha Chowdhury - 37	
12	Anghadip Ghosh - 5	
13	Dipanjana Chowdhury - 16	
14	Joydeep Das - 23	
15	Pinak Biswas - 36	
16	Suham Saha - 52	
17	Nitya Krishna Rai - 23	
18	Josial Debbarma - 22	
19	Kaishav Debbarma - 26	
20	Aniket Nal - 05	
21	Dhanabang Deb - 14	
22	Chayan D/b - 11	

23) Rajdeep Debnath - 40

24) Mahi Deb - 31

25) Simlalchim Halam - 49

26) Disha Tripathi - 17

27) Anurba Debbarma - 38

28) Raju Jamatia - 59

29) Liza Debbarma - 29

30) Penny Darlong - 56

