



## Report on 3-Days Work Shop on Teaching Learning Processes



**Workshop On -**  
**Active Teaching Learning Processes (ATLP)**  
**&**  
**Argument Driven Inquiry (ADI), Pedagogy in Science**

  
Government of India  
Ministry of Human Resource  
Development

**JOINTLY ORGANISED BY:**  
**TLC, IIT, Kharagpur under PMMMNMTT Scheme of MHRD**  
**&**  
**IAPT - Midnapur College Centre for Scientific Culture.**

**IN COLLABORATION WITH :**  
  
**Bhagabati Devi Primary Teachers Training Institute**

**Date: 26th - 28th June 2019**  
**Venue: Bhagabati Devi PTI, Baramohanpur, Khakurda, Paschim Medinipur, 721445**

### **Introduction :**

Our institution B.D.P.T.T.I. has been running with a lot of views since 2003. General student are not interested in science education so our institution, T.L.C., I.I.T., Kharagpur and I.A.P.T. Medinipur College Centre for Scientific Culture organized 3days science based workshop to enhance Teaching Learning Processes and Argument-Driven pedagogy in science at our multipurpose hall from 27<sup>th</sup> June to 29<sup>th</sup> June 2019. In the workshop students have done various science practical in hand. Especially Class-VIII standard students were doing the science activities in hand. Biological Science, Chemistry, Physical Science, the process of forming an inquisitive mind, preparation of low cost teaching learning material etc are discussed in the workshop.

**Participants :**

43 students and 14 teachers and nearby 10 schools, 31 trainee teachers of organized institution, 12 recourse persons, 10 official, 5 would be teachers and 5 teacher educators participated in the workshop.

Details are given below :

- 1) Baramohanpur High School – 1 Teacher & 4 Students.
- 2) Baramohanpur Sitangshu Balika Vidyapith – 1 Teacher & 4 Students.
- 3) Kedar High School - 1 Teacher & 4 Students.
- 4) Keshrambha Vidyasagar Vidyabhaban - 2 Teachers & 5 Students.
- 5) Lalat Gangadhar Pathsala High School - 1 Teacher & 4 Students.
- 6) Sabra Ramkrishna Bidyabhaban - 1 Teacher & 4 Students
- 7) Sauri Bholanath Vidyamandir - 1 Teacher & 5 Students.
- 8) Turka High School - 1 Teacher & 4 Students.
- 9) Tutranga Anchal Sikshaniketan - 1 Teacher & 4 Students.
- 10) The Institute for Academic Excellence (Private School) - 2 Teachers & 6 Students.
- 11) Bhagabati Devi Primary Teachers' Training Institute (Organized Institute) - 5 Teachers & 31 Students.
- 12) Recourse Persons – 12
- 13) Official Staff – 10
- 14) Teacher Educator – 5

Total Participants– 115

**Resource persons :**

Dr. S Samanta and Sri Dhirendra Nath Dandapath from I.A.P.T. Medinipur College Centre for Scientific Culture, Dr. Anirban Mukharjee, Principal Project officer, TLC, IIT, Anirban Samanta, Barun Nandi, Tarumay Pal, Saddam were present in the workshop as a guide. Kartick Chandra Acharya, President of BDPTTI and HM of Keshrambha

Vidyasagar Vidyabhaban (H.S.), Nanigopal Shit, Retd. HM, Belda Gangadhar Academy, Sri Bankim Ch. Maity, Sri Basanta Kr. Mishra were also present in the workshop.

### **ADI :**

Argument Driven Inquiry is an instructional approach that can be integrated into any science curriculum. In this seminar Anirban Mukharjee, IIT and Sk. Saddam discussed about the argument among students and teachers, advantage of noisy class room, inquisitive mind of the students etc. They also emphasized the advantage of group activities in a class room. Students should be taught through questioning and they should be encouraged to learn other than teach. ADI can help the learners to learn more than they typically do from hand-on-lab activity.

**Practical Activities which have been done in the workshop are given below:**

### **Physics :**

- 1) Draw a circle in the graph paper and determine the value of pie.
- 2) Convert from CM to Inch.
- 3) Determined water density and size.
- 4) Determination of mass and volume of fluid remove by objects. (Application of Archimedes formula)
- 5) Determine the weight of the unknown objects with the help of the liver.
- 6) Determination of the time velocity acceleration and recession.
- 7) Temperature and applying the formula for calorimetry.
- 8) Determination of pressure and velocity of the fluid.
- 9) Deviation angle, determine the value of  $\mu$ , reflection angle light dispersion etc. Applying the pass call formula.
- 10) Simple oscillation period evaluation the value of  $\theta$ .
- 11) Determination of flow and voltage difference.
- 12) Magnetism effect on the electric field.

### **Biological Science:**

- 1) Experiment to show evolution of oxygen during photosynthesis by using graduated test tube.
- 2) Experiment to show Acrobic Respiration with the help of Respiroscope.
- 3) To demonstrate the phenomenon of osmosis through plant membrane with help potato osmoscope.
- 4) Diffusion of water in water. (water and ink)
- 5) Inter osmosis experiment use of raisin.
- 6) How to calculate BMI.
- 7) Observation of simple leaf, composite leaf.
- 8) How to prepare stained temporary mount of onion peel.
- 9) How to prepare stained temporary mount of Human Squamous epithelial cells.
- 10) Starch, Glucose, Protein, Fat experiment.
- 11) Transpiration and circulation in plant.
- 12) Experiment to measure the rate of Transpiration by weighing method.

#### **Chemistry :**

- 1) Saturated and Unsaturated solution.
- 2) Physical and chemical change.
- 3) Type of chemical reaction.
- 4) Gas preparation ( $\text{CO}_2$ ,  $\text{O}_2$ ,  $\text{H}_2$ ,  $[\text{H}]$ )
- 5) Electrical chemical function.
- 6) Crystalline water.
- 7) Role of indicator in chemical reaction.

Very soon we will organize science based workshop at nearby 10 schools where the trainee teachers trained by you will attend as resource persons. In future we will organize such science based workshop, science fair, mathematical workshop at our institution. So that the student can do various science activities in hand. TLC, IIT and IAPT Medinipur College Centre for Scientific Culture helped us to organize the 3days workshop in all direction. We will always take this initiative to develop science mentality among the students.

Related pictures of the workshop :



Inauguration Session



Area of Circle is measured in a graph paper



**Related pictures of the workshop :**



Light shadows, Reflection, Dispersion are experimented.



Experiment on Acid & Bases.

**Related pictures of the workshop :**



Faction of Liver & its measurement.



Measurement of Pie in graph paper.





পদ্মুয়াদের বিজ্ঞানে আগ্রহ দেখাতে কর্মশালা  
খাকুড়দার ভগবতী দেবী প্রাইমারী টিচার্স ট্রেনিং  
ইনস্টিটিউটে বুধবার থেকে ৩ দিন ব্যাপি এক কর্মশালায়  
আয়োজন করা হয়েছে। এই কর্মশালায় স্কুল কলেজের  
প্রচুর ছাত্রছাত্রী অংশগ্রহণ করেন। উদ্দেশ্য ছিল কম খরচে  
পঠনপাঠন সংক্রান্ত বস্তু প্রস্তুত, হাতে কলমে শিক্ষাদান ও  
বিজ্ঞানকে জানার চেষ্টা। পদ্মুয়াদের উৎসাহ ছিল দেখার  
মতো।