Capacity Building Program/Leadership Development Program for TGT Mathematics of DOE, GNCTD and DIET/SCERT faculty, Delhi 9 (Batch-II)

Date and Duration of the Program:17-21September 2024
Venue-Agastya Foundation,Kuppam,Andhrapradesh

Details of the Program:

- **No.of proposed participants:50**(49TGTand1faculty)
- **No.of participants attended:50**
- **Stakeholders:**
    1. Mr.Manjunath
    2. Mr.Anand
    3. MrGanesh
    4. Ms.Swapna,
    5. Ms.Devi,
    6. Mr.ShyamSundar
    7. Ms.Sarmisthasahu
    8. Mr.Jayakumar
    9. Ms.Yashodhara
    10. Mr.R.JhunjunwalaDiscoveryCentre
    11. Mr.Venkatesh
    12. Ms.Mobeena
    13. Ms.Ayeesha
    14. Mr.Purushotham
    15. Mrs.Vijayshanthi
    16. Prof.SharmistaSahu

- **Transaction Methodology:** Lecture,Constractivism Hands on practice/Teaching,experiential Learning
- **Name of Coordinator**:Dr.Sudha,Assistant Prof,DIET Keshavpuram Delhi-35

Schedule of Training (CourseDesignwithSessionPlan)

Schedule for DELHI SCERT CMYOL–17th to 21st Sept. 2024

Day 1: 17/09/2024

Venue : Auditorium BATCH : 2 Subject:Maths

Anchor-Mrs. Neelima Host : Mr. Venkatesh

9.30–10.30 AM	Registration Inauguration–Welcome,Introduction to Agastya– Screening of the film on Agastya. Welcoming the resource persons,Lighting of the lamp, Introduction to Agastya Ice Breaking Sessions & Pre-Test	Mr. Manjunath Mr. Jayakumar Mr. Venkatesh Ms. Mobeena & Ms.Ayeesha
10.30-1:00 PM	Maths Process Skills	Mr. Jayakumar Mr. Venkatesh Mr. Purushotham
01.00–02.00PM	Lunch	
2.00–3.45 PM 4.00–5.00 PM	Discussion: Important of Maths Process Skills. Conclusion of Maths Process Skills Hands-OnActivities (MYOL) Maths	Mr. Purushotham Mr. Jayakumar Mr. Venkatesh
5.15–6:30 PM	Teachers Explore to Planetarium	Cluster Head, Mr. Purushotham, Mr. Venkatesh

Home work:-

a) Reading AhaBook from Page number1to36.

b) MYOL Templates Cutting.

Day2–18/09/2024

6:30–8:00AM Yoga Session

09.15–1.00PM	ReflectionofthePreviousDay Knowledge Constructivism: Designing Maths Problem solving activity and Followed by Discussion Cognitive and Social Constructivism Presentation	Mr. Manjunath Mr. Purushotham Mr. Jayakumar Mr. Venkatesh
1.00–2.00 PM	Lunch Break	
2.00–5.00 PM	Hands-On Activities (MYOL) Maths	Mr. Jayakumar Mr. Venkatesh
5.15–6.30PM	Teachers Explore to BDC&Chemistry Labs	Cluster Lead,Mrs.Vijayshanthi Ms. Mobeena

Homework:-1.Reading AhaBook from page37 to 50

DAY3–19/09/2024

6:30–8:00AMEcoWalk

9.15–12.00 PM	Reflection on PreviousDay 5E Explanation& Observation By Resource Person 5 E Demo & Followed by discussion with RP Expert Speaking about teaching methodology question-answers session	Mr.Venkatesh Prof. SharmistaSahu(RP) Mr. Jayakumar
12.15–1.00PM	Hands-On Activities(MYOL) Maths	Mr. Jayakumar Mr. Venkatesh Mr. Purushotham
1.00–2.00 PM	Lunch Break	
2.00–5.00 PM	Hands-On Activities (MYOL) Maths	Mr. Jayakumar Mr. Venkatesh Mr. Purushotham
5.15–6.30PM	Teachers Explore to Discovery & Imaginary Maths Lab	Cluster Head, Mr. Prasad Mr. Jayakumar

Homework:- MYOL Templates Cutting

Day4 20/09/2024

09:15–11.30PM 11:45–1.00PM	Reflection Yesterday Sessions Hands-On Activities(MYOL) Maths AVISSession	 Mr. Jayakumar Mr. Venkatesh Mr.Charanth
01-0002.00PM	Lunch	
02.00–3.45PM 4.00–5.00 PM	TeachersExploreMathsLab Hands-OnActivities(MYOL)Maths	Mr.UdayKumar Mr.Jayakumar Mr.Venkatesh

Homework:-MYOLTemplatesCutting

Day5 21/09/2024

9.45–10.30 PM 10.30to1.00PM	Teachers Explore to ART Lab Hands-OnActivities(MYOL)Maths	Mrs.Neelima,Ms.Mobeena Mr. Jayakumar Mr. Venkatesh Mr.Purushotham
1.00–2.00 PM	LunchBreak	
2.00–3.45 PM	Post assessment and general feedback relieveletters and certificates distribution Consolidations	AgastyaTeam

Objectives of the Program: To strengthen 21st century skills

1. To create Curiosity Creativity and Confidence among teachers and students.
2. To Increase Exposure and Knowledge of alternative teaching pedagogies etc.
3. To enhance the teaching skills and pedagogical approaches of TGTMathematics teachers.
4. To integrate hands-on learning with mathematical concepts.
5. To promote constructivist teaching methods in the classroom.
6. Toexploreinnovativestrategiesforengagingstudentsinmathematicallearning.

Resource Persons' Profile: The training program feature data of experienced educators and facilitators with a strong background in both theoretical and practical aspects of teaching mathematics.The facilitators brought diverse perspectives,offering a rich and varied learning experience.

Training Program- Brief Overview:
SCERT,Delhi organized fivedays Capacity Building Program for Nominated TGT Mathematics teachers of Directorate of Education (DOE), GNCT of Delhi in offline mode at Agastya Foundation, KUPPAM, Andhra Pradesh from 17th Sep 2024 to 21st Sep 2024.

Day1-(17-09-2024)

Our anchors/mentors Manju Nath and Anand sir started with Lightning of lamp.In addition to that, an introductory video on the Infrastructure, Theme, Motive of Agastya Foundation was played.

Following activities took place:
(a) Collecting 10 differentLeaf Activity (In which teachers were asked to write as many concepts we can teaching leaveseg.Increasing/Decreasing order based on length or Area covered, Area, Perimeter, Congruency, Similarity, Symmetry, etc).

(b) Dice on Dice Magic game
(In which they have placed dice one another and ask as many possible question just based on the fact that sum of opposite faces of dice is 7)

(c) Tangram Activity
(Teachers learnt that how7 fix shapes can be rearrange to form not only different 2D shapes but also different birds/animal/fishes images)

After this, Lunch was offered to all the teachers (1pm).They served tasty South Indian meal and then we came back and enjoyed energizer activity like African dance.

(d) Pattern Activity
(In this teachers learnt that identities should not be explained directly rather they should be derived by students only i.e. using inductive approach)

(e) Bhram Gopra Game

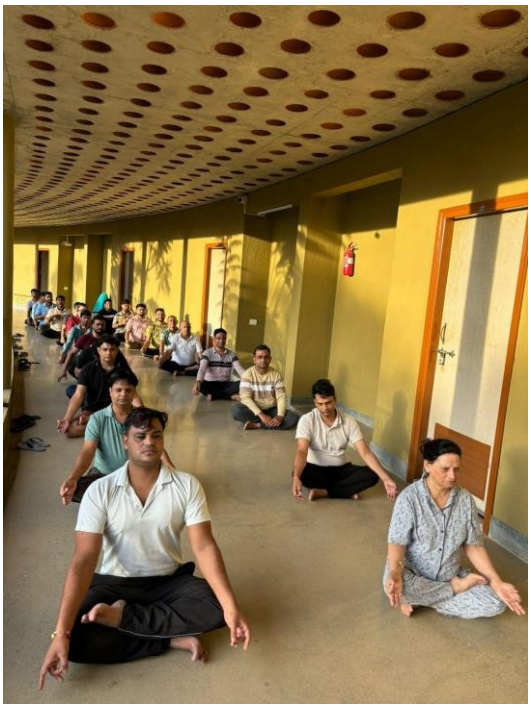
Intheend, we all visit edplanetarium which itself look likes the Sunand its interiors are beautifully designed showing all the planets.

Few questions that raised and teachers struggle to answer were:-

1. Why the sum of oppfacesis7only?
2. If dice is not made in this standard format,Is there any effect on the probability of getting outcomes?

DAY-2-(18-09-2024)

The day start with the yoga session at 6:00a.m. in the morning with Mr. Ganesh in which all the teachers performed some easy and body relaxing Asanas like Surya Namaskar, Tadasan, Pawanmuktasan, pranayametc.The session last up to 7:30 a.m.




Session1

First session was on reflection about previous day where all groups discussed their takeaways from previous day. The session was taken by Mr. Anand.

Session2

The next session after tea break was taken by Mr. Manjunath where the discussion about knowledge transfer and construction of knowledge and important of experience for construction of knowledge and cognitive and social constructivism topic were discussed.

SessionAfter Lunch

After lunch there were various hands on activity practiced under MYOL session (make your ownlab)like are a of triangle,activity on(a+b)^2,Area of parallelogram,set of real number, theorems of circle etc. The session was quite interesting, energetic, and informative.

Session After Evening Tea break

After the tea break there was a visit of chamegica (Chemistry lab) which is in a 4 part inorganic lab, kitchen chemistry, electrochemistry, and 3D dimensional model then we visit Biology lab which includes DNA lab,neurosensory lab,Zoology Lab and

Mechanical labs howing mechanical function is on our body with this tesecondday wrapped up with lot of interesting and informative activities.

DAY-3–(19-09-2024)

1. Eco Walk(6:30AM)
Facilitators:Ms.Swapna,Ms.Devi,Mr.ShyamSundar

The day began with a neco-walk,where the participants were introduced to various plant species. This outdoor activity aimed to connect educators with nature, emphasizing the importance of environmental education alongside traditional subjects.

2. Session1(9:30AM)
Key Activities:

- Recap of the previous sessions.
- A puzzle game that demonstrated the use of tricks in mathematical problem-solving.
- TLM(Teaching-Learning Material) Making:
    a) The facilitators guided participants in finding the value of and calculating the area of a circle using its sectors.

b) Participantslearnedhowtoderuvetheformulaforusingquadrilaterals, encouraging creative approaches to algebraic concepts.

3. **Session 2**

Facilitators:Ms.Sarmistha Sahu& Mr.Jaya Kumar

- Focus on "Learning Naturally "by adopting a hands-on approach to teaching mathematics.
- Teachers were encouraged to engage students with interesting,real-world activities to make learning more interactive.
- Introduction to constructivist teaching methods, demonstrated through classroom observations.Participants explored how to allow students to build knowledge by doing rather than passively receiving information

4. **Session 3 (Afternoon)**

Facilitator: Ms. Yashodhara

- The session began with an energizing activity conducted by Ms.Nilima,settingalively tone for the remainder of the day.
- The focus shifted to teaching strategies that move from the known to the unknown, hepling students connect new concepts with prior knowledge.
- Teachers explored both analytical and synthetic methods for proving theorems, ensuring a comprehensive understanding of different mathematical approaches.

5. Session 4

The participants were shown a visual presentation titled "Do Flowers Fly?"which highlighted the drawbacks of convention teaching methods and encouraged more dynamic,interactive strategies.

❖ **TLMMaking:**

- Constructionofapentanomouspuzzletoengagestudentsingeometry.

❖ **Visiting of physics lab at Mr.R. Jhunjunwala Discovery Centre**

The day concluded with a visit to the Physics lab,where participants were introduced to various scientific experiments that could complement their math teaching.


Day4

1. Session1(9:30AM)
Facilitator:-Ms. Sarmistha sahu&Mr.Jaya Kumar
Key Activities:

- Recap of the previous sessions.
- Demonstrate,how to drive formulas in mathematics
- TLM(Teaching-Learning Material)Making:
- a.The facilitators guided participants infindingthe value of solid angles.
- b.Participants learned how toderuve the formula for using quadrilaterals,encouraging creative approaches to algebraic concepts.

2. Session 2
Facilitators:Mr.Jayakumar,Mr.Purshottam&Mr.Vankatesh

❖ **TLM Making:** A workshop on Maths TLM (Teaching Learning Material) making was conducted to enhance teaching effectiveness.Teachers created innovative tools like fraction strips, geometric shapes, and number charts to simplify complex concepts.

The hands-on materials help students visualize and understand mathematical principles better, making learning interactive, engaging, and more practical.

❖ **Visiting of Mathematics lab at Mr.R.Jhunjunwala Discovery Centre**

The day concluded with avisit to the Mathematics lab, where participants were introduced to various scientific modles& puzzles that could complement their math teaching.

This comprehensive program provided a rich learning experience, combining theoretical knowledge with practical tools to equip teachers with new strategies for engaging students in mathematics. The focus on hands-on learning, constructivist approaches, and innovative

Teaching materials was well-received by the participants,who expressed enthusiasm for applying these methods in their classrooms.

DAY5-(21.09.2024)

SESSION 1

1.Lab visit


SESSION 2

(Facilitator name-Mr Jaya Kumar)

1.TLM MAKING

SESSION3
(Facilitator-Mr. Vankateshand Mr. Jayakumar)

Certificate distribution

Feedback from participants-

The Agastya foundation has given a wonderful opportunity for teachers. Everyone enjoyed the different activities of math. They learned by doing & with Hands-on practice. All the staff of Agastya is very supportive and hardworking. This training was helpful for teachers to understand the concept by the hands-on practice. Mathematics Kit will help in classroom this is great teaching learning material.Visit/experience of Labarea, Morning yoga, Campus morning- walk, Medicinal plant/ garden were great. Overall training was excellent

PlanforImplementationofLearningOutcomes(byParticipants).

Teacherswill

- Introduce Math Kit to students.Demonstrating how to use them anipulative store present mathematical concepts.
- Teachers will use Mathkit in the classroom.
- Plan ways to adopt activities to cater to different learning levels within the classroom.
- Based on student needs,modify activities or provide additional support as needed.
- Encourage students to discuss their strategies and reasoning with peers while us the mathKit.