

Capacity Building Program on Innovative Approaches to Mathematics: Overcoming Phobia and Enhancing Learning

Date: 27th December 2024

Time: 8:30 am - 2:00 pm

Venue: Modern School, Barakhamba Road

Teachers: 35

The Modern Institute for Education successfully organized a Capacity Building Program titled “*Innovative Approaches to Mathematics: Overcoming Phobia and Enhancing Learning.*” The event took place on **Friday, December 27, 2024**, and featured enriching and thought-provoking sessions aimed at improving students' learning outcomes through engaging and interactive teaching methods. The workshop, held in the **state-of-the-art AI Lab at Modern School**, witnessed the active **participation of 30 teachers from different branches of Modern School.**

The workshop was inaugurated by the **Mathematics Department of Modern School Barakhamba Road (MSBR)**. Prior to the inauguration, **Ms. Abha Sadana, Director of the Modern Institute for Education (MIE)**, shared valuable insights and outlined the objectives of conducting the workshop. **Dr. Vijay Datta, Principal of Modern School Barakhamba Road**, welcomed all participants during the inaugural session. He emphasised the importance of eliminating the fear of mathematics in children and nurturing confidence in their abilities.

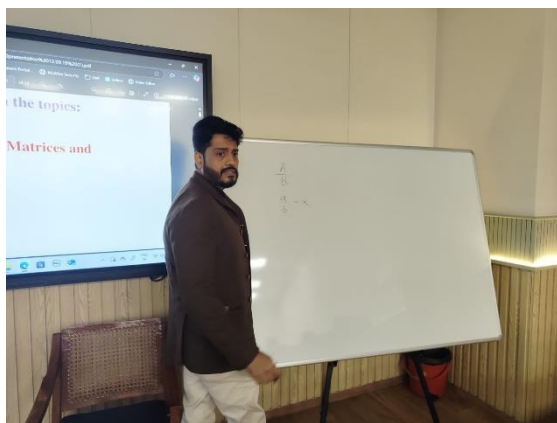


The facilitator then introduced the resource person, Mrs. Sangeeta Gulati, a seasoned educator with over 30 years of experience. Mrs. Gulati is the Head of the Mathematics Department at Sanskriti School, New Delhi, and a recipient of the National Award for Utilizing ICT in Teaching (2016). She is also a Google Education Certified Innovator and Trainer, with extensive contributions to educational technology, including over 125 NCERT video lectures.



In her session, Mrs. Gulati focused on the effective use of digital tools like GeoGebra and Desmos in mathematics classrooms. She demonstrated how these platforms can make math concepts more interactive and accessible, empowering teachers to integrate technology to enhance student learning.

The second session was divided into two segments: one for senior secondary (Classes 9-12) teachers, led by Lalit Sharma (PGT, Mathematics, MSBK), and another for middle school (Classes 6-8) teachers, led by Kanchan Gambhir.



Mr. Lalit Sharma's session focused on fostering a research-based attitude among senior school students through innovative teaching methods. He provided practical examples from topics like Matrices, Determinants, and Calculus and shared his research on concepts such as the Quotient

Matrix and Inverse of a Singular Matrix.

The next half of the session was conducted by Mrs. Simarpan Kaur, who began with an icebreaker activity where participants



introduced themselves using mathematical symbols. This helped foster rapport and ease communication. The session then focused on math anxiety, discussing its causes and strategies to overcome it. She emphasized building a growth mindset and creating a need to learn when introducing new topics. The workshop adopted a constructivist teaching approach, incorporating

hands-on activities such as games, quizzes, and math lab exercises, all tailored to the 9th and 10th-grade curriculum.

The second session for middle school teachers was conducted by Kanchan Gambhir, who addressed math phobia among middle school students (Classes 6-8). The session began with an icebreaker, followed by a discussion on the causes of math anxiety and its impact.



Innovative teaching methods were introduced, including interactive activities like “Math Pictionary” and “Form Your Own Math Game,” aimed at making math more engaging and approachable. Handouts summarizing the session were provided, and the session concluded with a vote of thanks to the participants for their enthusiastic involvement.

The workshop successfully equipped teachers with innovative tools and strategies to overcome math anxiety, foster a positive learning environment, and improve student engagement in mathematics.



Feedback of the workshop was taken at the end of the session by circulating a google form. 80% of the teachers rated the conduction of workshop as excellent. The main takeaways of the sessions have been basic learnings of geogebra and desmos, effectiveness and importance of activity based classroom, to think out of the box, teaching should be interactive, promoting research based attitude among students etc. 100% of the teachers agreed that the sessions have helped in changing their perspectives towards teaching Mathematics and about 84% suggested that the sessions have in creating practical and research-based attitude towards teaching Mathematics among them. Teachers responded to the question of what additional resources or support would they like to receive in future, they responded by mentioning a few more sessions on desmos and geogebra, more of self-practice, regular in-house workshops for collaborative sharing of ideas, mentorship program's, worksheets, activity sheets, more Maths software, ways to improve more in getting better board results and useful activities to be added in curriculum in order to make Maths more interesting, Application based questions etc.

The session ended with a vote of thanks from the Mrs. Abha Sadana, Director, Modern Institute for Education, expressing gratitude to all the participants for their active involvement and enthusiasm throughout the workshop and a big thankyou to Dr. Datta for hosting the event in the MSBR campus and encouraging his teachers to host one session.