District Level Deliberations on STEM Education

Zoom in on this image

GUIDELINES (STEM-DLDs)

TRAINING UNIT, CBSE

*(**Reference:** Notification TRG-3/2025 dated 01/04/2025 'STEM Education' as Theme for Teachers' Training for the Session 2025-26. Deliberations by teachers from different schools on STEM-based topics are crucial for fostering professional development, collaboration, and the effective integration of STEM education in schools. Teachers' deliberations provide a platform to discuss best case papers on practices, share insights, and address challenges in teaching STEM subjects)*

What STEM-DLD is:	A voluntary forum for substantive discussion on STEM (Sub-themes) as part of mutual learning endeavors. These deliberations can be organized in each district. Group of schools can come together or the Sahodaya School Complex can organize these deliberations in the form of either Workshop or Expert led Discussions in **offline mode**. Different STEM subjects and Grades/Stages of Schooling (Foundational, Preparatory, Middle and Secondary) can be targeted in different districts in the region. In one district, more than one DLD can be organized but on different topics targeting different group/s and at different venue. It is Not a science exhibition. It is an exhibition of what schools did differently and innovatively to serve the objectives embedded in the STEM-Subthemes.
Can any school volunteer and host DLD	Yes, any affiliated school can volunteer and be a **Lead School** to host a 1-Day DLD in consultation with the DTC/Dy. DTC/Sahodaya Functionary.
Mode of STEM-DLD And Its Duration	**Offline Only** 6 -7 hours
STEM-DLD Types	1. STEM-DLD **Workshop** Version 2. STEM-DLD **Expert-Led** Version

Workshop	Expert Led
Presenting Case Papers on best / innovative practices for STEM education applied in the school and holding active discussions	Insightful talk by an expert (invited from within the CBSE resources or outside) on any of the STEM sub-themes followed by active discussions
Focus: Peer learning, co-creation, Knowledge sharing	Focus: Thought leadership, reflection
Participants are active creators	Participants gain newer perspectives

DLD Workshop Version
(Actions for **Host School**)

1. A school intending to host and conduct STEM-DLD will be termed as **Lead School**.
2. Lead School to Discuss with the DTC/DDTC/Sahodaya Functionaries and pick **any 4 topics** for workshop from the list of sub-themes given below:

   a. Supportive STEM Environment
   b. Experiential Learning through motivated STEM Teachers
   c. Motivated students for STEM/Skill based subjects, AI, Design-Thinking, Coding, Robotics, Maths, Science Projects
   d. STEM & Engagement with the Community
   e. Creating STEM Literate Society
   f. STEM Education & Sustainable Practices
   g. Connection with Local STEM Talent
   h. STEM Hands-on, Practical Learning
   i. Gender parities in STEM Education
   j. Enhanced STEM competencies and 21st Century Skills

3. Lead School to reach out to local schools with the help of DTC/DDTC/ Sahodaya Functionaries and Inform them the chosen sub-themes, fix a date for the workshop.
4. Articulate the objective of the event inviting attention on the Board's Notification.
5. Send invites to the schools and encourage principals to nominate interested staff and present their best case paper of practices on STEM Education.
6. The Case Paper should be as per the format **F1**.
7. Lead school/organizer to ensure fairness, inclusivity and diverse topic range.
8. Conduct and facilitate the Workshop, allow healthy discussions to foster in-depth conversation, and collaborative brainstorming.
9. Prepare a report of the programme as per the format **F2 - A.**
10. Share the report of the programme with the concerned CoE within the given timeframe under intimation to the DTC and DDTC.
11. Document key takeaways from the programme.
12. Share them with the participating schools. Also urge them to maintain the record of their participating teachers to be updated on OASIS.
13. Host school / or group of schools to bear the expenses.
14. Being an academic event, expenses may be kept minimum as deemed reasonable.
15. Run the event paperless. Keep minimum print copies for record.
16. Participants Number should be around 40. Participants must carefully note the case papers from an outcome perspective.

Arrangements needed

1. A hall / room equipped with presentation aids.
2. Documentation : Assign someone to record the proceedings.
3. Photos of the workshop may be taken and reported in local daily.

Presentations Duration

Each Case Paper Presenter representing his/her school will have only **25 Minutes** for presentation (20 Minutes explanation time + 5 Minutes for QAs)

Total Presentations allowed

Maximum **16 presentations** x **25 Minutes** per presenter = 6 hours 40 minutes

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Evaluation of the case papers

1. DTC / or DDTC / or Sahodaya Functionary and the Lead School to form an **Appreciation Committee (AC)** comprising of

   a. 1 External STEM Educator from KVs/JNVs/College/University
   b. 2 STEM Principals/Teachers not involved themselves in the presentation.

2. AC would select 2 best papers and prepare report as per the format F4 and share the report and the Two Papers with the CoE on Google Drive with the help of host school / organiser.

Can more than one DLD be organized in a District?	Yes, more than one DLD can be organized in a district on different sub-themes targeting different stages (Foundational, Preparatory, Middle and Secondary) at different venues.

Role of DTC/DDTC/Sahodaya Functionary	1. Discuss with the schools in the district and identify the willing Lead Schools

2. Finalize the Sub-themes, the date, the venue, participants in consultation with the Lead Schools and others for the Month and share the same with the CoE in time.
3. Share the Format **F1** with schools for Case Paper submission in a structured manner.
4. DLDs can be organized from April 2025 onwards.
5. CoE / Board would share a Google Form to collect the details of Proposals received District wise. DTC/DDTC/Sahodaya Functionary to compile the same for the month and share on the Google Form with the CoE / Board.
6. Coordinate with the Lead School at every stage for smooth and fair conduct.
7. Encourage schools to present best case paper of practices on STEM Education.
8. Ensure gender balance, inclusivity and fair opportunity for all as far as possible.
9. Facilitate the Workshop, allow healthy discussions, collaborative brainstorming.
10. Prepare a report of the programme as per the format **F2-A**.
11. Help Lead school maintain records of sessions.
12. Facilitate with the Appreciation Committee for criteria-based evaluation as per the format **F4** for adjudging the best two papers.
13. Forward the adjudged best 2 case papers within 03 days of conduct to the CoE.

Role of the Head, CoE	1. Encourage DTCs/Sahodaya Functionary for conduct of DLDs in their district.

2. Encourage diverse themes and different stages (Foundational, Preparatory, Middle and Secondary)
3. Solicit district-wise DLD proposals from the DTCs/ Sahodaya through a Google form having the following fields:

- Name of the proposer
- You are (DTC/DDTC/Sahodaya Functionary)
- District
- State
- DLD Month – (May 2025)
- Lead School – DLD Month – (May 2025) : Name and Address
- Lead School - Affiliation number
- Email id of the Venue School
- Date - DLD Month – (May 2025)
- Lead School - Mobile number of the Principal
- Proposed DLD Event- (Workshop or Expert Led Deliberation)
- STEM Subject
- Chosen Sub-themes
- Target Group (Foundational/ Preparatory/ Middle/Secondary)

Plan for **Six Months be** shared in **excel (table below)** with the HQ **by 1st May 2025**) at email dldstemedu@gmail.com

CoE	State /UT	District	DLD type (Workshop/ Expert led Discussion)	Month	Date	Duration	Venue	Theme	Target Group

4. Collate the best case papers district-wise **till 31st July 2025**. Categorize them sub-theme wise and share the monthly data in excel as per Format **F3** with HQ at email id dldstemedu@gmail.com. (Monthly data to be shared within the first week of the subsequent month)

Role of the Training Unit, HQ And Papers for National Teachers' Conference	With the view to promote action-research and outcome-oriented endeavors in our schools, the papers for National Teachers' Conference (NTC) would be picked up from amongst the best papers in the STEM-DLD workshops held at district level. Best papers from different districts sub-theme wise would be examined by an Expert Committee to select the final papers for presentation in the NTC-2025. Final results would be announced one or two weeks before the conference dates. The three Best papers in each sub-theme will be considered. The 1st best paper will qualify for presentation in the NTC

tentatively fixed on 11th Sept (Thursday) and 12th Sept 2025 (Friday). The 2nd and 3rd best paper will have poster presentation. Evaluation criteria at the national level remain the same as stated in the Format **F4**.

STEM DLD Expert-Led Version (Actions for **Host School**)	1. **Lead School** may discuss with the DTC/DDTC/Sahodaya Functionaries and pick any one topic or more from the list of sub-themes and invite one or more experts for delivering insightful lecture on STEM education involving participants for active discussions and reflections. 2. Lead School to identify the experts in consultation with the organising Sahodaya School Complex, DTC and DDTC and reach out to local schools and inform them the date and the topic and sub-theme for the Expert-Led Discussion. 3. Send invites to the schools and encourage principals to nominate interested staff. 4. Finalise the logistics – tech requirements, details of the participants and the seating arrangements, etc. 5. Conduct and facilitate the programme – record attendance of participants and Expert, record the proceedings of the programme. 6. Document key takeaways from the programme. 7. Share them with the participating schools. Also urge them to maintain the record of their participating teachers to be updated on OASIS. 8. Share the report of the programme with the concerned CoE within the given timeframe under intimation to the DTC and DDTC. 9. Prepare a report of the programme as per the format **F2 - B**. 10. Host school / or group of schools to bear the expenses. 11. Being an academic event, expenses may be kept minimum as deemed reasonable. 12. Run the event paperless. Keep minimum print copies for record. 13. Participants Number should be around 40.
Arrangements required	Same as in DLD Workshop
Expert-Led Sessions	Each Interactive Lecture Session may be of 60 Minutes or more followed by the Question-Answer Sessions of 30 minutes
Max. Sessions in a day	Maximum **4** Sessions
Role of DTC/DDTC/Sahodaya Functionary	1. Finalize the Topic, Sub-themes, and Expert in consultation with the Lead Schools and others and share the same with the CoE in time. 2. Coordinate with the Lead School for smooth and fair conduct. 3. Ensure gender balance, inclusivity and fair opportunity for all as far as possible. 4. Facilitate the Discussion Sessions and allow healthy discussions. 5. Prepare a report of the programme as per the format **F2 - B.**
Role of the Head, CoE	Use the same Google form and collect month wise and district wise data. By following these guidelines, deliberations on STEM-based topics can be a powerful tool for enhancing professional growth of teachers, fostering collaboration, and advancing the quality of STEM education across schools. These sessions should be viewed as opportunities for teachers to learn from each other, share ideas, and work together to improve the overall STEM learning experience for students.

TEMPLATE FOR Case Paper Submission for STEM-DLD

Teachers can present innovative teaching strategies, share successful classroom experiences such as increasing student engagement in science, handling diverse student needs in any STEM subject(s), challenges faced, solution adopted and the outcomes, and the innovative intervention introduced in school and its outcome etc.

1. Title of the Case Paper of Practice
- Name of the initiative:
- Corresponding Sub Theme of STEM Education (as notified in Notification no. TRG-3/2025 dated 01/04/2025:
- School Name:
- Address of the School:
- School Affiliation Number:
- State/UT:
- Concerned CoE:
- Presented by: [Name/Team]
- Contact Details of the Presenter:
- Date & Occasion

2. Introduction
- Background/context
- Problem or need addressed
- Target group and timeline

3. Objectives
- Learning outcomes targeted
- STEM skills or competencies focused

4. Description of the Practice
- What was done?
- How was it conducted?
- Materials/tools used

5. Methodology
- Pedagogical approach (e.g., inquiry-based, project-based)
- Role of students and teachers
- Curriculum integration

6. Evidence-Based Impact
- Student learning outcomes (data, assessment results)
- Testimonials, student products or outcomes
- Engagement or behavior changes

7. Novelty and Relevance
- Unique aspects of the practice
- Connection to real-world problems or current trends

8. Inclusivity and Equity
- Participation of diverse student groups
- Gender balance, students with disabilities, under-represented groups

9. Scalability and Replicability
- Potential to implement in other schools
- Necessary conditions for replication
- Documentation available

10. Sustainability and Cost Effectiveness
- Long-term viability
- Budget used and cost-saving methods
- Use of local or low-cost materials

11. Learnings and Reflections
- Challenges faced and solutions
- Key insights and improvements for the future

12. Conclusion
- Summary of impact
- Future vision or next steps
- Questions/feedback welcome

Optional Add-ons
- Include QR codes linking to videos/blogs/portfolio
- Attach sample student work or photos

(Reporting the conduct of STEM DLD Workshop by the Lead School and DTC/ Sahodaya Functionary)

Month:……………………..

District Name:………………………………. State:…………………………. Date:…………….

1. Host School Name:……………………………………………………………………………...
2. **Chosen Sub-Themes of the DLD Workshop**
   a. _____
   b. _____
   c. _____
   d. _____

3. **List of Case paper Presentations and deliberations**

SN	Presenter's Name	School Name	Sub-Theme	(Title of the Case Paper)	Timing	Session Moderator
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

4. **Details of the Appreciation Committee formed for shortlisting two best case papers**

S. N.	Name	Designation	School/Organisation	Email id	Mobile No

5. **Details of the 2 best case papers recommended by the Appreciation Committee**

S. N.	Title of the Case Study/Paper on the Best Practice	Sub-theme	Presenter	Designation	School	Email id of the Presenter	Mobile No of the Presenter	Link of the Case Paper
1								
2								

6. **Glimpses of the DLDs :** (4-5 captioned photos showcasing key moments of the workshop)

7. **Overall impressions : (**4-5 lines as to how the participants and the presenter felt about the event and the way forward)

8. **Declaration :** The Host School / the Organizer jointly confirm the successful conduct of the event adhering to the guidelines issued by the Board.

Host School Principal Name: …………………   **DDC/DDTC/Sahodaya ………………………**
Designation: ………………………………..…   Designation: ………………………………….
Contact: [Email/Phone]   Contact: [Email/Phone]

Date of Submission to the CoE:

(Reporting the conduct of Expert – Led STEM DLD by the Lead School and DTC/ Sahodaya Functionary)

Month:…………………….

District Name:……………………………….… State:…………………………. Date:……………

1. Host School Name:……………………………………………………………………………………….

2. **Chosen Topics (Sub-Themes) and the Invited Expert(s)**

Topic and the Sub-Theme	Expert Name, Designation, Address

3. List of Participants

SN	Name	School Name	Designation	Mail Id	Mobile No
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
39					
40					

4. **Glimpses of the DLDs :** (4-5 captioned photos showcasing key moments of the Expert-Led Discussions)

5. **Overall impressions : (**4-5 lines as to how the participants and the presenter felt about and the way forward)

6. **Declaration :** The Host School / the Organizer jointly confirm the successful conduct of the Expert-led STEM DLD Sessions adhering to the guidelines issued by the Board.

Host School Principal Name: ……………………   **DDC/DDTC/Sahodaya ……………………….**
Designation: ……………………………….…   Designation: ………………………………….
Contact: [Email/Phone]   Contact: [Email/Phone]

Date of Submission to the CoE:

For Compiling Monthly Best Case Papers District-wise (STEM-DLD)

(to be prepared by the CoE)

Centre of Excellence :………………………..Month: ………………..

(**Monthly Reports** received from various Districts through respective DTC/Sahodaya Functionary to be compiled and data of the **Best Case Papers be shared in excel** with the HQ at email dldstemedu@gmail.com as per format below:

SN	District	Venue (Lead School Name & Address)	Presenter	Designation	School & Address	Email id	Mobile No	Title of the Case Paper	Sub-Theme	Link of the Case Paper
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

CoE have checked the correctness in respect of the data of the best case papers **district wise** and found correct for forwarding to the Training Unit, CBSE HQ for further action.

Authenticated by the Head, Centre of Excellence

Evaluation Sheet (Rubrics) for scoring and adjudging the Best TWO Case Papers in DLD-STEM
(to be prepared by the Appreciation Committee)

District :……………………………………
Venue:………………………………….……………………………………………….
Date:……………

SN	Presenter	School Name	Sub-Theme (Title of the Case Paper)	Criteria for scoring									
				1. Demonstrated Impact : Paper demonstrates data driven and evidence supported outcomes (30 Marks) 2. Novelty : Incorporates innovative ideas, methods, or technologies (10 Marks) 3. Relevance : Aligns with curriculum goals and addresses real-world STEM issues (10 Marks) 4. Methodology : Uses sound pedagogy (e.g., inquiry/project-based learning) with clear structure (10 Marks) 5. Inclusivity : Promotes access and engagement for diverse student populations (10 Marks) 6. Scalability : Can be expanded to more students, grades, or schools (10 Marks) 7. Replicability : Can be adopted by other schools with similar success (10 Marks) **8.** Sustainability : Designed for long-term implementation and integration (5 Marks) **9.** Cost Effectiveness : Achieves outcomes efficiently with reasonable resources (5 Marks)									
				1	2	3	4	5	6	7	8	9	Total score out of 100
				30	10	10	10	10	10	10	5	5	
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													

Based on the scores above, the best two Papers are as below:

1………………………………………………………………………………Score :……. (SN……)

2………………………………………………………………………………Score: ……. (SN……)

Name: ……………………
(Member 1)
Appreciation Committee
Designation: ………………………
Email………………………………
Phone…………………………………

Name: ……………………
(Member 2)
Appreciation Committee
Designation: ………………………
Email………………………………
Phone…………………………………

Name: ……………………
(Member 3)
Appreciation Committee
Designation: ………………
Email……………………..
Phone………………………

Countersigned by :

DDC/DDTC/Sahodaya ………………………
(Name and Designation)