

TROP ICSU: Trans-disciplinary Research Oriented Pedagogy for Improving Climate Studies and Understanding

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Report on the TROP ICSU Workshop for Teachers at FLAME University, Pune

organised in collaboration with

The Pune Climate Warrior

Workshop Title: Faculty Development Program cum Workshop
CLIMATE CHANGE IN YOUR CLASSROOM: A
WORKSHOP FOR TEACHERS OF ALL
DISCIPLINES

Date: July 27, 2024

Venue: FLAME University, Pune

Facilitators from TROP ICSU team: Dr. Rahul Chopra, Ms. Sanjana Singh, Mr. Sanchit Sant

Facilitating and Organising team from Pune Climate Warrior: Mrs. Vandana Chavan (Ex MP Rajya Sabha), Mrs. Divya Chavan, Pune Climate Warrior Team

Number of participants: 35

Disciplines/Subjects taught by participants: Biological Sciences, Physics, Mathematics & Statistics, Chemistry, Physics, Earth Sciences, Environmental Sciences, Humanities, Social Sciences Geography, Economics etc.

A detailed listing of the disciplines is provided in
[Annex I: Details of Participants](#)

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Summary of the Workshop

A **1-day faculty development program cum workshop** for educators from various disciplines teaching different grade levels was conducted in collaboration with the Pune Climate Warrior on the 27th of July, 2024.



Group Photo: Workshop for School Teachers, FLAME University, Pune, India.

In this workshop, participants learnt:

1. How to integrate climate change in their everyday teaching
2. How to use inter- and trans-disciplinary teaching resources in their classroom
3. Effective teaching strategies using digital teaching tools
4. Ideating lesson plan concepts based on various topics in disciplines
5. How to teach key topics in their discipline with a climate related example in their classroom

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This workshop introduced the participants to digital teaching resources to teach topics in the Sciences, Mathematics, Social Sciences, and the Humanities disciplines using climate-related examples, case studies, and activities. In this interactive workshop, participants carried out several hands-on activities through the use of different types of digital teaching tools. Participants also discussed and ideated their own lesson plan concepts that they would use in their classroom to enhance the conceptual understanding of topics in different disciplines while increasing awareness of climate change.



Plenary sessions conducted by Dr. Rahul Chopra and Ms. Sanjana Singh at the workshop, FLAME University, Pune, India.

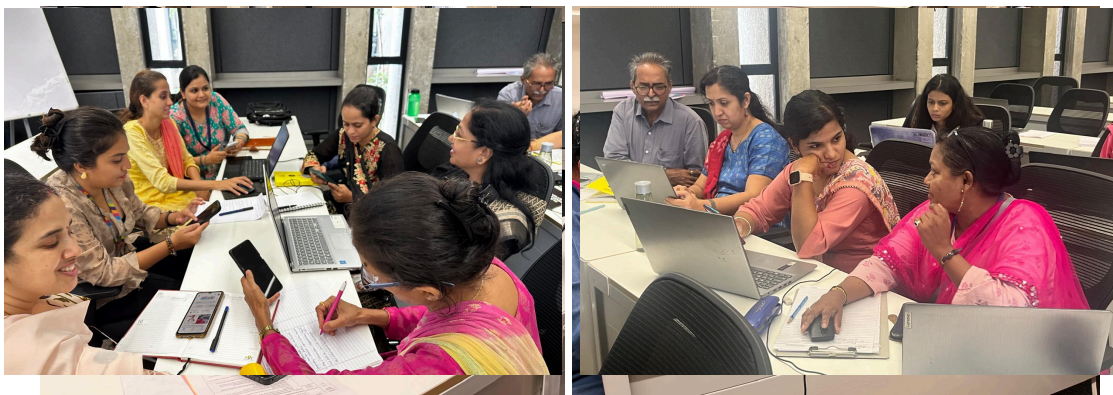
Session 1 Summary

The workshop commenced with welcome remarks by Ms. Sanjana Singh, Coordinator and Senior Research Associate, CSECC FLAME University and Project Coordinator, Project TROP ICSU, followed by a few words from Mrs. Vanadana Chavan, Project Lead, Pune Climate Warrior addressing the audience of school teachers and educators teaching various disciplines at the middle school and high school levels for the schools across Pune, India. This was followed

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by a brief introduction of the participants and their institute affiliations. Then, Dr. Rahul Chopra, Director CSECC FLAME University and Project Director, Project TROP ICSU, gave a detailed introduction to Project TROP ICSU, aims and objectives of the project along with highlights about the outreach of the project, which was followed by an introductory session on the ‘Science of Climate Change’ by him. After this Ms. Sanjana Singh gave a detailed platform walkthrough and introductory Lesson Plan walkthrough which explained the structure of a Lesson Plan to the participants in detail. This was followed by the 1st Activity of the workshop: Lesson Plan Review and Curriculum Mapping, wherein participants browsed through the Project TROP ICSU website and chose a Lesson Plan of their teaching interest for a detailed review. They also tried to map the lesson plan of their choice to a specific board/curriculum, through this activity. The session 1 concluded with talks from our guest speakers- Pavan Iyengar, Founder DLRC on “Integrating Nature in the Curriculum: The DLRC Experiment”; and Arjun Atreya, Member Climate Educators Network on “The Climate Educator Network: An Introduction”.

Session 2 Summary



Group activity during the workshop, FLAME University, Pune, India.

The second session began with a group or individual activity of ideation of Lesson Plans as per curricular topics. This activity was a carry forward from the previous session of reviewing a Lesson Plan. During the previous day discussion, many educators voiced the need to create more introductory resources for their particular syllabus. This led to them finding the right resources

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and devising ideas for developing a Lesson Plan that they can use in their classroom. During this activity most participants teamed with others from the same discipline and together created content that they would like to use in their classrooms. The session ended with all participants presenting their work and an open discussion on topics such as climate positivity, inclusive educational resources, policy change, amongst others.



Participant presentation of Lesson Plans at the workshop, FLAME University, Pune, India.

Guest Talk Summary

On behalf of the Pune Climate Warrior, the Project Lead Mrs. Vandana Chavan (Ex MP Rajyasabha) shared her views on climate positivity and importance of climate awareness at middle school and high school level and encouraged the teachers to be active citizens towards climate action. From among the invitees for the workshop, Mr. Pavan Iyengar, Founder [DLRC](#), [The Learning Farm](#) talked about “Integrating Nature in the Curriculum: The DLRC Experiment”

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and Mr. Arjun Atreya, Member [Climate Educators Network](#) gave a talk on “The Climate Educator Network: An Introduction”.



Guest plenary session during the workshop, FLAME University, Pune, India.

Details of Workshop

Schedule and Agenda

- Welcome remarks by Project TROP ICSU
- Felicitation and Welcome Remarks by Pune Climate Warrior
- Introduction of Participants (Name, Level of teaching, Subject)
- An Introduction to Project TROP ICSU
- A Simple Introduction to the Science of Climate Change and Related Teaching Resources
- Detailed Platform walkthrough and Introductory Lesson Plan walkthrough
- Activity 1: Lesson Plan Review and Curriculum Mapping
- Guest Talk 1: Pavan Iyengar (Founder, DLRC) “Integrating Nature in the Curriculum: The DLRC Experiment”
- Guest Talk 2: Arjun Atreya (Member, CEN) “The Climate Educators Network: An Introduction”
- Activity 2: Ideation of Lesson Plans as per curricular topics
- Presentations of lesson plan ideas designed by the participants

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Participant Feedbacks and Suggestions on Existing Teaching Resources

Summary of the feedback received on the Lesson Plans curated on the TROP ICSU website

- **Finding an appropriate key topic(s) in the discipline: 90.9%** of the responses from the participants stated that the key topic(s) listed in the discipline(s) were relevant to their classroom teaching.
- **Finding and appropriate lesson plan for the syllabus: 87.9%** of the responses from the participants indicated that they could find an appropriate lesson plan for their current syllabus and curriculum.

Ideas for New Lesson Plans

10 lesson plan ideas were submitted to the TROP ICSU team by 10 groups of participants (3-4 participants in each group). There were some culturally and geographically relevant lesson plans while others were discipline-specific such as:

- A River's Story- Marathi Literature (Humanities)
- Application of trigonometry to study sea level rise- Mathematics
- Traffic Speeds and Emissions- Physics
- Conservation of natural resources- Geography & Earth Sciences
- Grammar and Formal/Informal writing- English Literature (Humanities)
- Species Extinction- Biological Sciences, Environmental Sciences
- Biodiversity Loss- Biological Sciences, Environmental Sciences
- Wind and Climate Change- Physics, Geography, Earth Sciences
- Reading Comprehension- English and other languages (Humanities)
- Impact of Climate Change on Biodiversity- Biological Sciences, Environmental Sciences

Key Takeaways and Learnings from the Workshop

- Key Learning for team TROP ICSU: we learnt how we can populate certain disciplines with more relevant content for middle school and high school teachers.
- Key learning for the participants: they were introduced to how climate change can be integrated into their lesson plans and everyday teaching without needing to veer away from the topic in discipline.

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- Participants had limited knowledge about the science of climate change and hence having a session on what is natural and anthropogenic climate change was one of the most useful sessions for them.
- Participants found group activities to be the most effective interactive session.
- Peer discussions in groups helped in the exchange of ideas and enhanced participants' learning.
- School teachers were introduced to the method that TROP ICSU uses to create lesson plans on its platform
- School teachers had an opportunity to express themselves creatively yet scientifically relevant, which gave them insights into how they can make modifications in their current classroom teaching

Next Steps

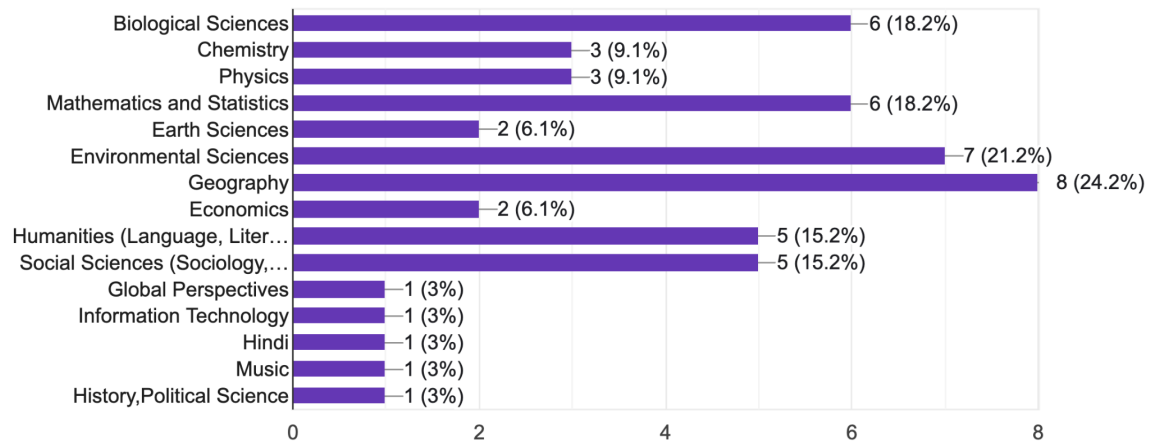
- Addition of new resources across disciplines as per suggestions for new lesson plan ideas.
- Addition of new resources keeping middle school and high school teachers in focus.
- Mapping of existing resources to Indian Education Boards and syllabi as per suggestion.
- Engagement of participants for a Level 2 workshop focusing on content creation.

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Annex I: Details of Participants

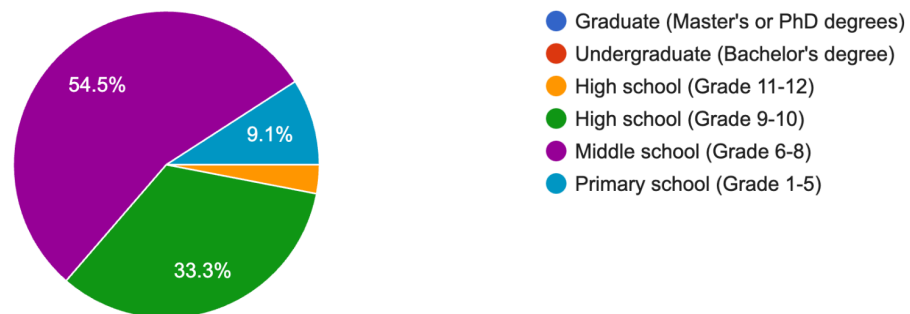
3. What is the main subject that you teach? Select the most relevant option

33 responses



4. What grade level do you teach? Select the most relevant option

33 responses

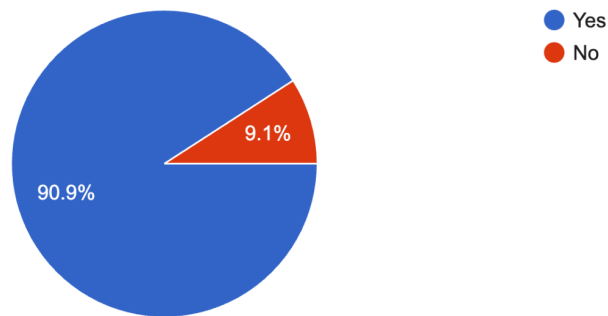


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Annex II: Review of Lesson Plans by Participants

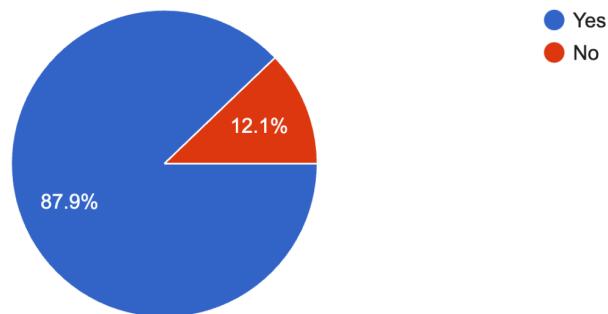
5. Did you find an appropriate Key Topic in your discipline on the TROP ICSU website?

33 responses



6. A. Did you find an appropriate Lesson Plan from your current syllabus on the TROP ICSU website?

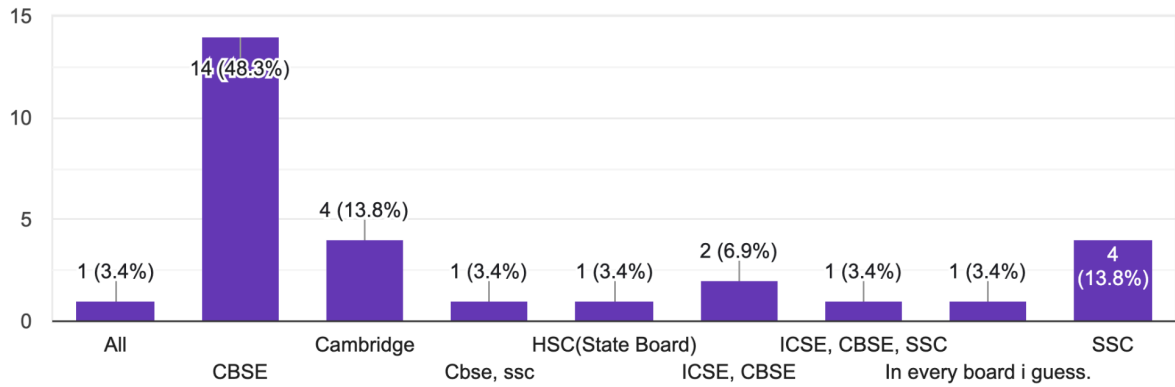
33 responses



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v) What board does this Lesson Plan fall under? (eg: ICSE, CBSE, SSC, Cambridge, IB, etc)

29 responses



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