

Report on Science Professional Development Workshop Tsirang Dzongkhag 2020

Rationale

The Education Sector of Tsirang Dzongkhag organized “Science Professional Development Workshop” with the theme “*Improving learning outcome through the development of teachers’ competency*” from 25th October 2020 to 4th Novemebr 2020 at three different stations in Tsirang. The said workshop aimed to enhance the teaching strategies in teaching Science in the real classroom situation, so that the learning outcome of students excels through the latest teaching procedure. The Chief Dzongkhag Education Officer is the prime coordinator of the workshop. Mr. Khaganath Gajmer (DCS), Mr. Prem Kumar Ghalley (DMSS) and madam Leki Wangmo (MCS) facilitated the entire workshop sessions to all Science teachers of Tsirang.



Venue : Tsirangtoe central school

Report on PD from Tsirangtoe central school

Day I, Session I: Connection and Science result presentation

The day one began with the connection activity with madam Leki’s presentation on Story of Angelo Valencia, who was a successful lawyer and how he found his purpose by building classrooms and school in one of the highest peak on mount Luzon in Philippines. A poll was also done using **slido.com** to get an idea on how many participants were aware of our PD topic, **the Thinking Map**. Followed by Science result analysis for Tsirang dzongkhag by Mr. Prem Kumar Ghalley.



Connection video by Mrs Leki

Day I, Session II: Activity

The second session began with brainstorming activity on the topic ‘What makes a Science lesson Boring/interesting’. The participants were divided into 4 groups of which two groups discussed and presented on what makes a Science lesson boring and similarly two teams did for what makes a Science lesson interesting. We also discussed on some of the challenges faced in the classroom to teach Science in the classroom.



Presentation of work by the participant

Dasho Dzungda, CDEO and planning officer’s visit

Honorable Dasho Dzungda graced the session after lunch and gave his words of wisdom to the participants. Before that CDEO presented the current situation of performance level in the Dzongkhag and

the emergent of conducting the workshops in the Dzongkhag, followed by planning officer who shared how IWP should be linked with Dzongkhag APA.

Dasho narrated his personal story about his schooling days and how the teaching strategy have transitioned over the years for the betterment of the students. Dasho also narrated the story from his majesty's excerpt about a man praying to god to help him win a lottery. When the God didn't help the man and he started cursing the God, the God spoke and asked him to 'Buy the lottery first in order for him to help'. Likewise, in order for teachers to make a difference, the strategies the teachers use are important and the PD would be like 'buying a lottery first in order for not to FAIL the students. The crux of Dasho's speech was that it is important for teachers to 'KNOW ONESELF' first, know our signature strength and use it in a right way and make students like the teachers so that the students like the subject. Dasho mentioned that if a student likes a teacher, then almost 50% of the job of a teacher is done and that teacher impacts the life of a student. The quality students depend on quality teachers and that *students are mirror of teachers*. Dasho also mentioned the possibility of allowing students to use mobile phones during study hours and not necessarily during teaching hours, which he believes might help the students. Finally there was a photo session with Dasho Dzongda and sector heads with the participants.



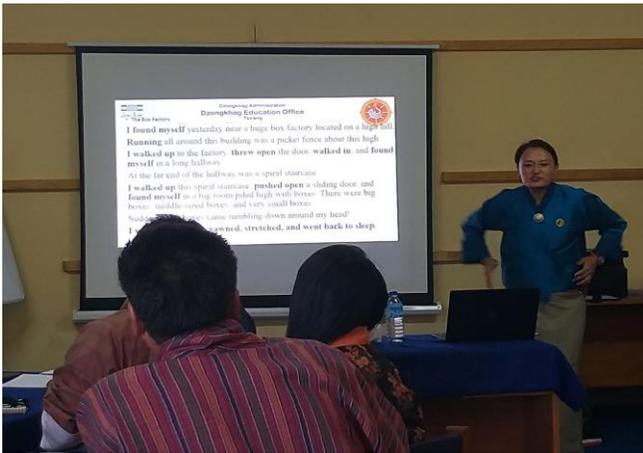
Photo session with the guests

Day I, Session III: Introduction of Thinking map

During the third session, the participants were taken through the background on Thinking maps and some of the benefits of using one in the classroom. The participants were also briefed on other strategies that could be used in teaching Science lesson. Finally the participants were introduced to the first type of thinking map, '**The circle map**' by Mr. Khaganath Gajmer.

Day II, Session I: Circle Map and Activity

The day two began with the energizing activity on box factory initiated by Mrs. Leki Wangmo. With participants actively involved in the activity, they were able to refresh themselves and get ready for the rest of the sessions. The energizing activity was followed by group activity on circle map by the participants. In the group, participants thoroughly discussed the topic that was relevant to constructing a circle map. The participants then took turns to present their group works which was followed by comments, discussions and suggestions from the rest of the participants and the facilitators.



Energizing activity before the start of the session.

Day II, Session II: bubble map.

The presentation on bubble map which is used in describing the qualities of a concepts or an object, was done with the activities on describing the qualities by observing one of the participants by other participants. The concept on bubble map and its application was presented to the participants followed by subject wise group activity. In the group activity, participants were provided with the short description on different topics with which they constructed the bubble map. The presentation of the each of the group activity was followed by comments, feedbacks and suggestions.



Presentation of the group activity by the participants.

To further strengthen the understanding of the Bubble map amongst the participants, second group activity was organized and evaluated through Gallery works. Participants thoroughly evaluated each other's work with jotting down of the comments and feed backs.

Day II, session III: session with Dzongkhag HR official.

The participants of both science and math PD program had short session with the official from the Dzongkhag HR office which was initiated by the Chief Dzongkhag Education Officer. The participants were familiarized with following HR policies.

- i. Zhiyog Electronic system.
- ii. Casual leave to be used only for unavoidable circumstances.
- iii. Entitlement of Encashment for the 30 days accumulated casual leave for the teachers.
- iv. Medical leave: the medical leave less than a month is approved by the committee of doctors at the Dzongkhag level and by the board of directors at head office if it exceeds one month.
- v. Maternity leave: if the start of the maternity leave falls during the winter vacation, the teacher is eligible for teaching allowance.
- vi. Paternity leave
- vii. Bereavement leave: documents to be obtained from concerned Gewog office.

The official also clarified certain queries raised by the participants.



Dzongkhag HR official familiarizing the participants with HR policies.

The session continued with the quiz activity using Kahoot app initiated by Ms. Leki Wangmo.

This was followed by presentation on Double bubble map by Leki Wangmo. The understanding of the concept was further strengthened by the participants carrying out group activity.

Day II, session IV: Tree map

Mr. Khaganath Gajmer, presented on the fourth type of thinking map – the tree map which is very common and being used by the teachers in their lesson.

The session ended with brainstorming group activity amongst the participants.



Group activity

Day III Session I

Connection video



The session began with connection activity presented by Mrs. Leki Wangmo. In this activity, she presented the video clip of Dr. Devi Shetty who is the founder of the Narayan Health Trust fund stationed at Bangalore. It is the world's cheapest heart surgery hospital with the goal to provide affordable, and quality health care to all citizens of India and world around. The video ended with beautiful quotation, "We grossly underestimate the power of purpose. If we realize the power of purpose, everything else becomes minor details."

Flow Map

The connection activity was followed by the presentation of the fifth Thinking Map; Flow Map-sequencing thinking process. There were two group activities to drill the participants on the map. The group presented their work with feedbacks and comments by each other.



Flow map discussion in the group

Brace Map



Gallery walk on brace map

The sixth Thinking Map introduced was the Brace Map which showed the relationship between whole to parts and vice-versa. Two activities were assigned to participants in each group of which one activity was presented by the group member and the other was assessed by gallery walk.

Day III Session II: Multi Flow map

In the session II, Mr. Khaganath presented the seventh Thinking Map; Multi Flow Map which investigate the cause and effect thinking pattern. Group activities were assigned where by each group was supposed to write the cause, and then pass it onto another group for writing the topic of the causes and the final group to write the effects of the events written by the second group. The activity was interesting but challenging as participants shared.



Presentation on multi flow map

Day III Session III



Before the start of session III, the account officer disbursed the TA/DA to the eligible participants.



Presentation on bridge map

The session III was taken over by Mrs. Leki Wangmo to take through the last Thinking Map; Bridge Map, which is used to see the similarities or analogies.

Activity involved the participants to complete the bridge map game, whereby they need to write the analogies/similarities. The second activity followed with paper stripe drawn with bridge map and the participants were to write the analogies and pass onto the other group to write the similar analogies.

Activity ended by the shorted member of the group presenting the completed task. After the activity session, a video clip was projected on how Thinking Maps can be applied in teaching and learning presented by David Hyerle, the author of the Thinking Maps.

All the Thinking Maps were being completed by this session.

Day III Session IV

To check the understanding of the participants on Thinking Maps, the session IV was reserved for assessment of Thinking Maps.



Some works displayed by the participants

In this session writes up were provided to each group with the instruction to construct as many Thinking Maps as possible by reading through it. Each group came up with atleast two thinking maps, which were displayed and assessed through gallery walk by participants.

There was the final video as reminder to all participants as Why/How to leave behind the Legacy.



The professional development for science at Tsirangtoe Central School concluded with vote of thanks from participants’ representative Mr. Gyeltshen Dukpa (Principal of Gosaling PS) to the facilitators and organizer/coordinator, followed by acknowledgement and inspirational talk by Chief DEO who said, **“as teachers, our duty is to develop curiosity in students so that learning becomes fun, interesting and enjoyable.”** And we should not be looking for monetary benefit **“as the power of knowledge is more valuable than power of money.”**

25-27TH OCTOBER, 2020
VENUE: TSIRANGTOE CENTRAL SCHOOL
ATTENDANCE REPORT

SI	Name	school	Employee ID
1	Choiten Tashi	Tsirangtoe CS	200901466
2	Ugyen Choden	Tsirangtoe CS	20190113340
3	Thinley Wangmo	Tsirangtoe CS	20170308910
4	Sabitri Chuwan	Tsirangtoe CS	20190414421
5	Migma Tshering	Tsirangtoe CS	20150105220
6	Karma Tshering	Sergithang PS	20200317504
7	Sangay Lhamo	Sergithang PS	20200317505
8	Tshering Yangki	Sergithang PS	20200317323

9	Leytho	Phuentenchu PS	201101666
10	Gyan Bahadur Darjee	Semjong PS	9908117
11	Rabilal Sharma	Semjong PS	8504023
12	Jigme Wangmo	Semjong PS	2020016493
13	Somnath Neopany	Gosaling PS	20140303790
14	Gyeltshen Dukpa	Gosaling PS	200207387
15	Ramesh Tamang	Pemathang PS	20150305711
16	Amrita Sherpa	Pemathang PS	200207521
17	Ram Bahadur Rai	Kilkhorthang PS	20150305696
18	Tek Bahadur Kharka	Kilkhorthang PS	9908162
19	Leki Wangmo (RP)	Mendrelgang CS	20170107638
20	Khaganath Gajmer (RP)	Damphu CS	200801208
21	Prem Kumar Ghalley (RP)	Damphu MSS	201001216
22	Rinchen Gyeltshen	Education Sector	9108071



Venue : Mendrelgang Primary School

Report from Mendrelgang PS

The second round of Science PD program began from 29th October at Mendrelgang Primary school. As many as 17 teachers attended the PD from five different schools in Tsirang. The PD began by chief DEO presenting the overview of PD to the teachers. He gave us the background of PD and mentioned that one of the purposes of PD was to **increase interest and motivation of students in learning the subject through building competency of the teachers and making teaching-learning enjoyable, creative and fun.** Likewise CDEO also showed the participants on how to compute Academic Learning Score (ALS), learning outcomes by subject, proportion of students scoring more than 60% in STEM subjects and pass percentage. He also presented the result analysis for 2019 for Tsirang Dzongkhag and

the target set for this year. He encouraged the teachers to work harder and take the best from PD programs.



Chief DEO presenting on background of PD to the participants

Day I, Session I: Connection and Science result presentation

The day one began with the connection activity where participants were asked to choose the Hard, Rocky, weedy and good area based on the story of a farmer who scattered the seed and the seeds fell on the above four areas. A poll was also done using **slido.com** to get an idea on how many participants were aware of our PD topic, **the Thinking Map**. Followed by Science result analysis for Tsirang dzongkhag by Mr. Prem Kumar Ghalley.



Mr. Prem presenting the report analysis of Science result of academic year 2019

Day I, Session II: Activity

After the tea break, the second session began with brainstorming activity on the topic 'What makes a Science lesson Boring/interesting', followed by presentation by the participants with some discussions.

Day I, Session III and IV: Background on Thinking maps and the introduction of first thinking map

During the third session and fourth session, the participants were taken through the objectives of the PD and on the background on thinking maps. The participants were also briefed on other strategies that could be used in teaching Science lesson besides thinking maps. Finally the participants were introduced to the first type of thinking map, 'The circle map' by Mr. Khaganath Gajmer.



Mr. Khaganath in action explaining the objectives of the PD program at MPS conference hall

Day II: Session I: Energizing activity and circle map

Day two of PD began with energizing activity where the teachers were asked to narrate the story with gestures and intonations followed by assigning activity on circle map and then the presentations by the participants.



Group work on circle map



The box factory demonstration by Mrs Leki

Day II: Session II: Bubble map

Mr. Prem introduced the second map, the bubble map and assigned the activity to the participants. It was followed by presentation by the participants.



Bubble map introduced by Mr. Prem

Day II: Session III : Double bubble map

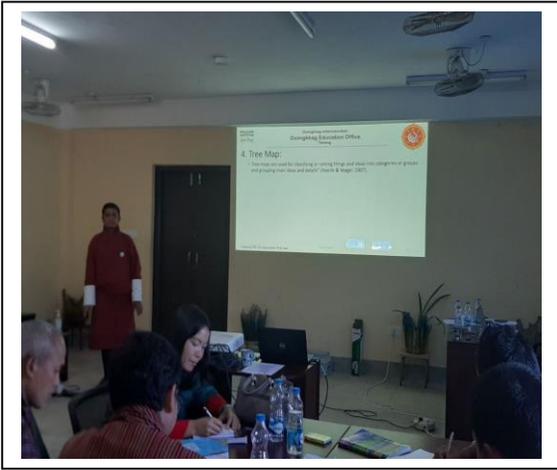
The participants were introduced to the third type of thinking map, the double bubble map. The participants were made to brainstorm and asked to make double bubble map based on the topics assigned, followed by presentation of their work.



Beautiful work presented by the participants on double bubble map

Day II: session IV: Tree map

Finally the participants were introduced the tree map and a challenging activity was assigned for the participants.



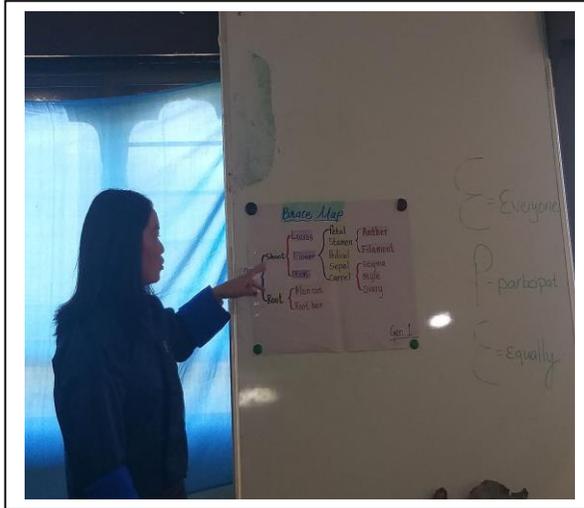
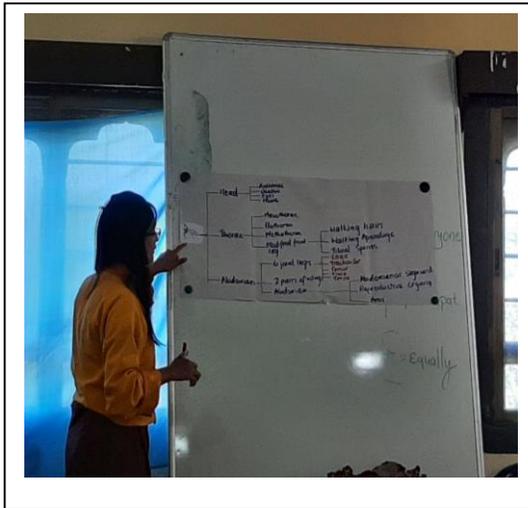
Mr Khaganath introducing the Tree map



Participants working on activity on tree map

Day III, session I

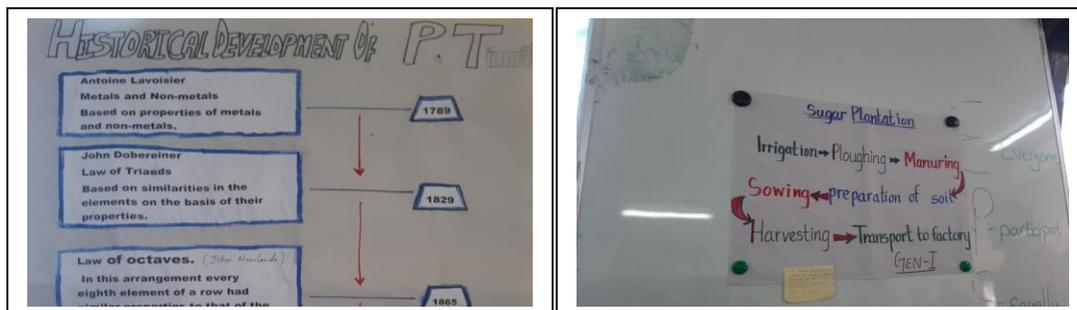
Participants were introduced to brace map on the third day and presented their work in the first session.



Participants presenting their work on brace map

Day III: Session II

In the second session, the participants were introduced to flow map and multi flow map. The participants discussed and debated thoroughly on the two maps.



Flow map works displayed by participants

Day III: Session III

In the last session, the participants were introduced to the last thinking map and activities assigned were discussed and presented. A quiz on **Kahoot!** Was conducted to check their understanding of the thinking maps which the participants enjoyed. The winner for the quiz was awarded the prize by the chief guest during the closing session.



Mrs Leki introducing the bridge map



The quiz winner on Kahoot!

Day III: Closing session

The closing session for PD at Mendrelgang was held at Mendrelgang CS Multi-purpose hall for both Science and Maths participants. Deputy Chief Finance officer was the chief guest present with other guests from dzongkhag. During the closing, chief DEO presented the objectives of conducting PD for the teachers and the overview of participants. He mentioned that it is important for teachers to make use of the different strategies in the classroom in order to enhance quality of education. He thanked dasho dzongda, chief guest, principals and others who made the conduction of PD possible. Mrs. Leki Wangmo presented the Science report to the guests and the participants. The participants each from Science and Maths shared their feedback on the three days PD where they shared the PD was enriching and would help them to make teaching learning fun.



The Chief Guest gave his words of wisdom where he mentioned that “**Today’s magic is tomorrow’s Science**’ and talked about importance of Science and Maths in today’s world. He also mentioned that it is important to really connect with the students and caring for all and not for the selective ones. In addition to this, he also mentioned the use of ICT and how we should think about giving students’ the access to phones to browse during their studies hour. In support for use of ICT, deputy chief DEO also presented how we can use TELEGRAM during PD and minimize the use of papers. The day ended with the photo session.

29-31ST OCTOBER, 2020
VENUE: MENDRELGANG PRIMARY SCHOOL
ATTENDANCE REPORT

Sl	Name	School	Employee ID	Subject
1	Pema Namgayel	Mendrelgang PS	20130201446	General
2	Karma Leki	Mendrelgang PS	201202124	General
3	Chhimi Dorji	Mendrelgang PS	20140303674	General
4	Karma Tenzin	Mendrelgang PS	200701337	General
5	Indra Mani Gurung	Mendrelgnag PS	8807027	General
6	Kezang Tenzin	Mendrelgang CS	201001559	Physics
7	Singye Wangchuk	Mendrelgang CS	20140303629	Physics
8	Tshering Yangzom	Mendrelgang CS	201101626	Physics
9	Phub Dorji	Mendrelgang CS	20190113338	Biology
10	Yam Kumar Rana	Mendrelgang CS	20190414422	Chemistry
11	Sonam Dorji	Mendrelgang CS	20190414423	Biology
12	Dilliram Katwal	Mendrelgang CS	20130201621	Chemistry
13	Sangay Tempa	Mendrelgang CS	201101594	Biology
14	Duptho Wangchuk	Barshong PS	20160407103	General
15	Jamyang Choden	Patsaling PS	20170308856	General
16	Dorji Phuntsho	Rangthangling PS	201001655	General
17	Cheku	Rangthangling PS	200207375	General
18	Leki Wangmo (RP)	Mendrelgang CS	20170107638	

19	Khaganath Gajmer (RP)	Damphu CS	200801208	
20	Prem Kumar Ghalley (RP)	Damphu MSS	201001216	
21	Rinchen Gyeltshen (CDEO)	Education Sector	9108071	



Venue : Damphu MSS

Report from Damphu Middle Secondary School

The third round of Science PD at Damphu MSS began from 2nd November and ended on 4th November. There were 20 participants from five different schools in Tsirang.

Day I, Session I: Connection and Science result presentation

The day one began with the connection activity. Followed by Science result analysis for Tsirang dzongkhag by Mr. Prem Kumar Ghalley.



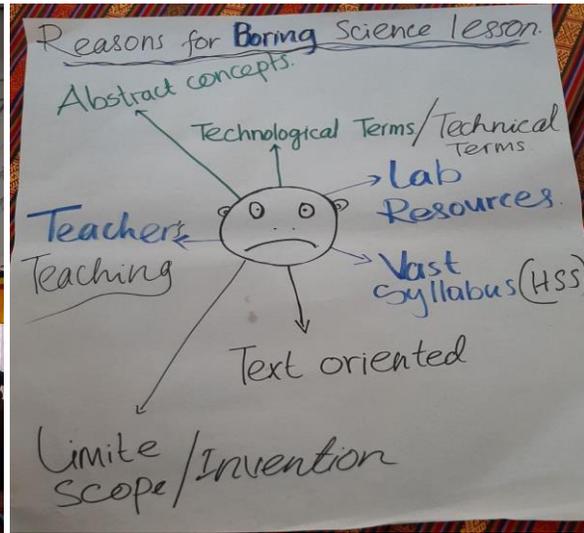
Mr. Prem presenting the Science result analysis for Tsirang Dzongkhag

Day I, Session II: Activity

The second session began with brainstorming activity on the topic ‘What makes a Science lesson Boring/interesting’, followed by presentation by the participants with some discussions. The participants also voted through slido.com whether they heard about Thinking Maps before. He deputy chief DEO graced the PD and encouraged teachers to use technology wherever possible. He mentioned that use of telegram perhaps during PD might help minimize the use of papers and charts.



Deputy chief DEO gracing the opening of PD



Participants brainstorming on the activity assigned

Day I, session III: Introduction to thinking maps

In the third session Chief DEO presented the overview of the PD program and showed the result analysis for 2019. He mentioned that the quality of students are not judged based on the pass percentage but depends on the proportion of students scoring more than 60% in exam. Followed by introduction of thinking maps and benefits of using in the classroom.



Chief DEO presenting overview of PD to the participants

Day I, session IV: Circle map

From the eight types of thinking maps, the first circle map was introduced and activity was assigned to the groups for discussion in the next session.



Mr Khaganath introducing the circle map



Participants working on circle map activity

Day II, session I: Energizing activity and presentation on circle map

The second day session began with energizing activity by Mrs. Leki Wangmo, followed by the presentation and discussion of circle map activity assigned to the group on the previous day.



Presentation on circle map

Day II, session II: Bubble map

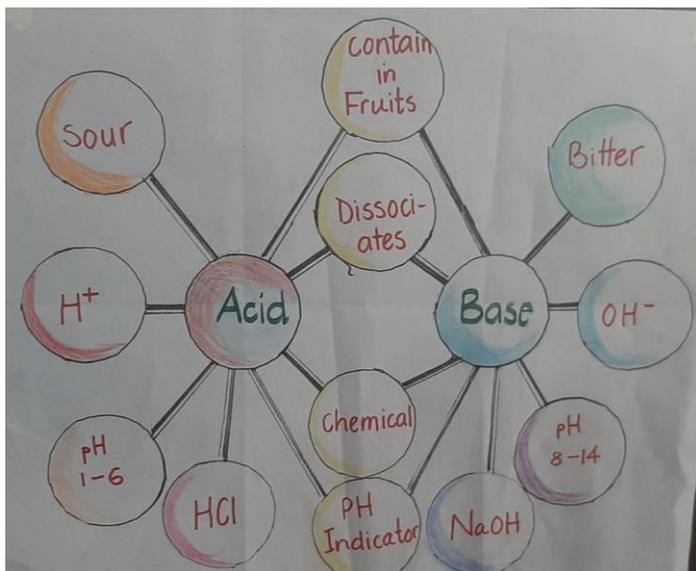
The second session began with Mr. Prem sharing the story of bubble boy and connecting with the second thinking map. The participants were assigned an activity and sharing and feedback session followed.



Presentation on bubble map

Day II, session III: Double bubble map

On the third session, a quiz was conducted using KAHOOT! as brain break to the participants. The winner was awarded the prize. The double bubble map was introduced and activity was assigned to the participants.



A beautiful work by the participants on double bubble map

Day II, session IV: Tree map

On the fourth session, the participants did gallery walk for the double bubble map activity assigned. The fourth thinking map was introduced and a challenging activity was assigned for Tree map to be discussed the next day.



Participants providing feedbacks during gallery walk

Day III, session I: Salt and light conversation

Mrs Leki took through Salt and Light conversation, a connection activity for self-reflection for teachers. Followed by presentation of tree map by the group. Brace map was also introduced by Mr. Prem and activity was assigned.



Mrs Leki doing the connection activity



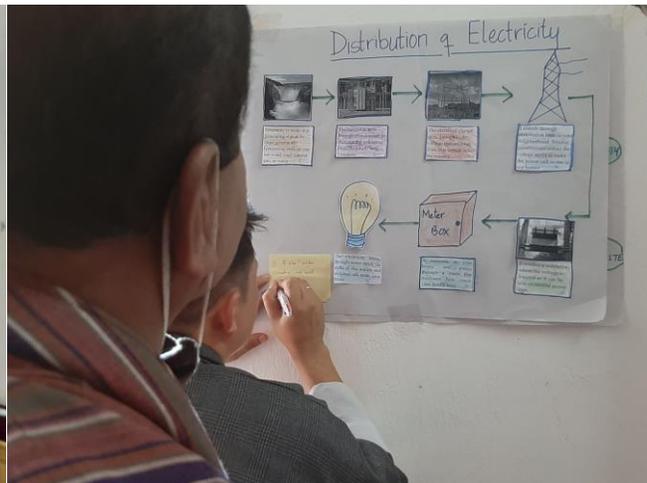
Presentation on tree map by one of the participants

Day III, Session II: Brace map

The participants presented their work on Brace map and discussions were done. Followed by introduction of Flow map and activity was assigned for flow map. The participants did gallery walk and provided feedbacks on the work assigned.



Brace map presentation by senior teacher



Participants providing feedback on flow map

Day III, session III: Multi flow map and bridge map

In the third session, participants were introduced to Multi Flow map and Bridge map. The participants were assigned activity and discussed on the task assigned. Finally a quiz was conducted based on the thinking maps using KAHOOT!



Mr. Khaganath introducing multi flow map



Participant presenting their work on bridge map

Closing ceremony at Damphu Central School for Science and Maths teachers

In the closing ceremony for Science and Maths teachers, the chief DEO was present as the chief guest. Principals of Damphu central school and Damphu Middle Secondary School were also present. The facilitators of both Science and Maths presented the three days report on the PD, followed by sharing of impression and feedback by the participant. Mr. Prem Kumar presented a short report on all the activities done during Science PD and thanked the chief DEO and others involved to make this PD a successful one. Karma Wangda on sharing his impression on Science PD mentioned that the PD was timely and the PD was really enriching. He recommended the PD on thinking maps reach out to all teachers irrespective of which subject the teachers teach as it could be applied to all disciplines.

Finally, chief DEO urged the teachers to go back and implement all that they have learnt and **MAKE A DIFFERENCE!** He mentioned that even if a teacher makes a difference to one child, the purpose of PD is served and concluded by asking the teachers to always teach with **ENTHUSIASM!** A photo session with the facilitators and participants was done before everyone dispersed.



Pictures from left to right

i. Mr. Prem presenting the Science report

ii. Chief DEO closing the PD

iii. Photo session with Science participants with chief DEO and principals

2nd -4th November, 2020

VENUE: Damphu MSS

ATTENDANCE REPORT

Sl	Name	School	Employee ID	Subject
1	Panna Prasad Timsina	Damphu MSS	8607044	Science
2	Karma Wangmo	Damphu MSS	9507285	Science
3	Balkrishna Pokhrel	Damphu MSS	200901555	Science
4	Sangay Chophel	Damphu MSS	200901550	Science
5	Pema Wangdi	Damphu MSS	20130101698	Science
6	Karma Wangda	Damphu MSS	201101499	Science
7	Chhophela	Damphu CS	200901559	Science
8	Gajendra Rai	Damphu CS	20140303697	Science
9	Bhim Kumar Sharma	Damphu CS	9006012	Science
10	Dendup Zangmo	Damphu CS	20170107608	Science
11	Tshewang Zangmo	Damphu CS	20200317286	Science
12	Dechen Dema	Damphu CS	20160106583	Science
13	Tshering Penjore	Damphu CS	20170107611	Science
14	Chandra Man Rai	Damphu CS	20130201629	Science
15	Sonam Dorji	Damphu CS	201001563	Science
16	Yeshi Wangdi	Mendrelgang CS	201001532	Science
17	Sangay Jamtsho	Tsholingkhar PS	201101491	Science
18	Pema Rinchen	Tsholingkhar PS	201202136	Science
19	Tshering Dorji	Tsholingkhar PS	200501302	Science
20	Chencho	Doonglagang PS	20150305415	Science
21	Leki Wangmo (RP)	Mendrelgang CS	20170107638	Science
22	Khaganath Gajmer (RP)	Damphu CS	200801208	Science
23	Prem Kumar Ghalley (RP)	Damphu MSS	201001216	Science
24	Rinchen Gyeltshen (CDEO)	Education Sector	9108071	Science

Report compiled by;

1. Leki Wangmo (MCS)

2. Prem Kumar Ghalley (DMSS)

3. Khaganath Gajmer (DCS)