



# CREATIVE & CRITICAL THINKING CAMP 2019

**REPORT**

# Creative and Critical Thinking Camp 2019 Report

Compiled, Produced & Printed by:

ASTI R&D Department

WORKING GROUP COMMITTEE OF CCT 2019

PROJECT DIRECTOR

Dr.Mohamed Yunus Yasin

SECRETARIAT REPRESENTATIVE

Ms.Yugeswari Krishnan

# Table of Content

Executive Summary.....	2
1.0 INTRODUCTION.....	3
1.1 Aims & Objectives.....	4
1.2 Target Groups.....	4
1.3 Type of Camps and Workshops.....	5
2.0 CREATIVE AND CRITICAL THINKING CAMP	
2.1 Camp Summary.....	7
2.2 Camp Agenda.....	9
2.3 Trainers .....	11
2.4 Facilitators .....	11
2.5 Camp Evaluation (Survey and Feedback).....	12
2.6 Funding.....	19
3.0 CREATIVE AND CRITICAL THINKING WORKSHOP	
3.1 CCT SCIENCE IMMERSION PROGRAM	
3.1.1 Workshop Summary.....	22
3.1.2 Workshop Agenda.....	23
3.1.3 Trainers .....	24
3.1.4 Facilitators.....	24
3.1.5 Workshop Evaluation (Survey and Feedback).....	25
3.1.6 Funding.....	36
3.2 CCT-SJKT EFFINGHAM	
3.2.1 Workshop Summary.....	38
3.2.2 Workshop Agenda.....	40
3.2.3 Trainers.....	40
3.2 CCT-SJKT JENJAROM	
3.2.1 Workshop Summary.....	42
3.2.2 Workshop Agenda.....	43
3.2.3 Trainers.....	43
4.0 CCT CAMP MODULES.....	45
5.0 CONCLUSION.....	54

# Executive Summary

Creative and Critical Thinking (CCT) Camp has been an annual program for the Association of Science, Technology and Innovation since 2013. The main aim of the CCT camp is to help develop the creative and critical thinking skills of our younger generation. The camp also encourages participants to use logical and empirical reasoning to solve problems, as well as employ competitive and collaborative methods, while making choices in their daily lives. CCT camp is also able to make the younger generation realise that learning can be fun and is not just a memorisation of facts and figures.

CCT Camp 2019 was held at Green View Farm, Negeri Sembilan from 6th December 2019 (Friday) to 8th December 2019 (Sunday) for primary school students. The survey results show that CCT camp has a positive effect on the participants and improves their skills in various aspects.

ASTI has also collaborated with UMCares, University of Malaya, Kuala Lumpur to organise the Science Immersion Program (SIP) for students of the Philippine Science High School-CARC. SIP was held for 12 days, in which ASTI organised a two-day Creative and Critical Thinking (CCT) Camp for the participants. The CCT modules were customised to meet the objectives of SIP.

Additionally, ASTI had arranged a two-day workshop for 30 students in SJKT Effingham, Petaling Jaya, and another one in SJKT Jenjarom, for 50 students.

In summary, for 2019, ASTI successfully organised one camp-based project and three workshops.

# 1.0 INTRODUCTION

Over the past year, the younger generations have become more spectators than getting involved in their individual 'learning journey'. This situation may be induced by flooding them with theories and "facts & figures" that they only memorise for assessment purpose and then forget shortly afterwards. It has made them fail to put into perspective the importance of the lessons learnt.

The right curriculum needs to help students to awaken and develop their creative and critical minds. It should also allow the learners to take responsibility for their understanding of the world around them. Subjects matters should nurture an independent thinking mind among students. Thus, if adequately 'delivered' any subject, be it science or arts, must be able to achieve this ultimate aim.

With this in mind, the Creative and Critical Thinking (CCT) camp/workshop was initiated, and led by a team of experts who have extensive experience in the field of Science, Technology and Innovation as well as Youth Engagement. CCT camp aims to introduce the concepts of thinking creatively and critically, using logical & empirical reasoning to solve problems and using competitive & collaborative methods to produce an outcome when making choices in any aspect of the participants' lives. These principles are communicated through indoor and outdoor lessons and fun activities to participants in the 'camp' concept environment.

In November 2013, a pre-pilot programme was held in De Palma Hotel, Kuala Selangor for 36 students who completed their UPSR examination. It was an all-inclusive 3-day 2-night event. Based on its overwhelming success, CCT has become an annual program for ASTI, targeting all age groups, focusing on primary and secondary students.

## 1.1 Aims & Objectives

- To empower the young to think in both creative and critical manner. It consists of presentations that emphasise activities and a 'hands-on' method to help the young build this capacity.
- To build effective resources, guides, and know-how to make this a recurring camp for young people across the country.
- To train the young to produce positive outcomes when making choices by using competitive and collaborative methods.
- To help the young realize that learning is fun, not just memorizing facts but by understanding what they learn.

## 1.2 Target Groups

Three different levels of target groups:

- Primary School
- Secondary School
- University Students

## 1.3 Type of Camps & Workshops

We focus on two different types of camps/workshops:

### 1. Project camp/workshop

Students are required to submit an application, and the CCT Committee selects the participants based on the eligibility requirements. ASTI-CCT will organise accommodation and food for the participants.

### 2. Exclusive camp/workshop

On request from the organisers, ASTI will provide the training modules, camp materials and trainers. The organisers are responsible for participants' selection and logistics arrangements.

**2.0**

**CREATIVE AND  
CRITICAL THINKING  
CAMP 2019**





## 2.1 Camp Summary

Creative and Critical Thinking (CCT) Camp 2019 was held for three days and two nights in Green View Farm, Negeri Sembilan, from Friday evening, December 6, 2019, to Sunday afternoon, December 8 2019.

### Day 1 - 6th December 2019

The participants arrived on December 6, 2019, at the Green View Farm at 2.30 pm. Upon registration, participants received name tag, group number, camp schedule, safety outlines, and camp T-shirt. The participants were then briefed on the safety, rules & regulations of the camp, as well as on the Day 1 programme.

The programme started at about 4.45 pm after the participants sat according to the group assigned to them during registration. Day 1 activity began with *Ice-breaking* session that set the tone for the camp to think out of the box. The ice-breaking session succeeded in offering the taste of what would come for the next two days. It followed by a short tea and prayer break before the second session, *Boosting Your 5 Senses* began. The participants were then given time to freshen up, and dinner was served at 8.00 pm. After dinner, the participants took part in session 3, *Mind Mapping & Brainstorming*. Day one sessions were thus over, and the participants had their supper and bedtime off. The Event Committee continued with the postmortem of Day 1, followed by preparations for the activities of the next day.

## 2.1 Camp Summary

### Day 2 - 7th December 2019

The activities of the day began at 6.30 am, with morning prayers, followed by exercise and breakfast. The first session of the day was *Healthy Body and Healthy Mind*, followed by *Boosting Your 10 Intelligence*. After lunch and a quick warm-up game, the program continued with *5 Reasons Why Humans Are Capable of Genius* and *Short Term Memory Tips* before tea and prayers break. That evening, we continued with *Problem Solving (CSI)* session that the participants enjoyed a lot. The participants then went back to the hostel for a short break after dinner at about 8.00 pm. We ended the Day 2 program with the *Lateral Thinking* module. The participants were then off for bed after having their supper at 10.30 pm.

### Day 3 - 8th December 2019

Day 3 started with a yoga session after prayers and exercises. After such an exciting start to the day, the participants were given a break before the next session *Relaxation and Concentration* began. The last module, *Expressing Your Creativity* was started at 10.30 am.

With the Closing Ceremony, the CCT Camp 2019 ended at 1.30 pm. Each participant was presented with a Certificate of Participation and souvenirs during the closing ceremony.

## 2.2 Camp Agenda

### Day 1: 6th December 2019, Friday

TIME	ITINERARY
2.30pm - 4.00 pm	Parents Drop-off
4.00 pm - 4.45 pm	Introduction & Do and Don'ts
4.45 pm - 6.00 pm	Ice-Breaking
6.00pm - 6.15 pm	Tea Break
06.15pm - 07.45pm	Boosting Your 5 Senses
07.45pm - 08.45pm	Refreshing, Prayers & Dinner (Check-in Hostel)
08.45pm - 09.00pm	Warm Up Game
09.00pm - 10.30pm	Mind Mapping & Brainstorming
10.30pm - 10.45pm	Wrap up the day
10.45 pm	Supper, Prayers and Bed Time

### Day 2: 7th December 2019, Saturday

TIME	ITINERARY
06.30 am	Rise & Morning Prayers
07.00am - 07.30am	Morning Exercise
07.30am - 08.00am	Breakfast
08.00am - 11.00am	Healthy Body and Healthy Mind
11.00am - 12.30pm	Boosting Your 10 Intelligences
12.30pm - 02.00pm	Lunch & Prayers
02.00pm - 03.30pm	5 Reasons Why Humans Are Capable of Genius
03.30pm - 04.45pm	Short-Term Memory Tips
04.45pm - 05.15pm	Tea Break & Prayers
05.15pm - 8.00pm	Problem Solving (CSI)
08.00pm - 09.00pm	Refreshing, Prayers & Dinner
09.00pm - 10.15pm	Lateral Thinking
10.15pm - 10.30pm	Wrap up the day
10.30 pm	Supper, Prayers and Bed Time

## 2.2 Camp Agenda

### Day 3: 8th December 2019, Sunday

TIME	ITINERARY
06.30 am	Rise & Morning Prayers
07.00am - 07.30am	Morning Exercise
07.30am - 08.00am	Breakfast
08.00am - 10.30am	Relaxation & Concentration
10.30am - 12.30pm	Creativity & Expressing Your Creativity
12.30pm - 01.30pm	Closing Ceremony, Survey & Photography
01.30 pm - 02.00 pm	Lunch & Parents Pick-Up

## 2.3 Trainers

- LT.KOL.DR.VIKNESWARAN
- MR.KUMARESAN RAMAKRISHNAN
- DR. ARCHINAA BUTHIYAPPAN
- DR. NOORUL HUDA BINTI ABDUL JABAR
- MR. SAKTHIVEL GANESON
- MR. SURENDER GUNALAN
- MR. RAJESWARA RAO

## 2.4 Facilitators

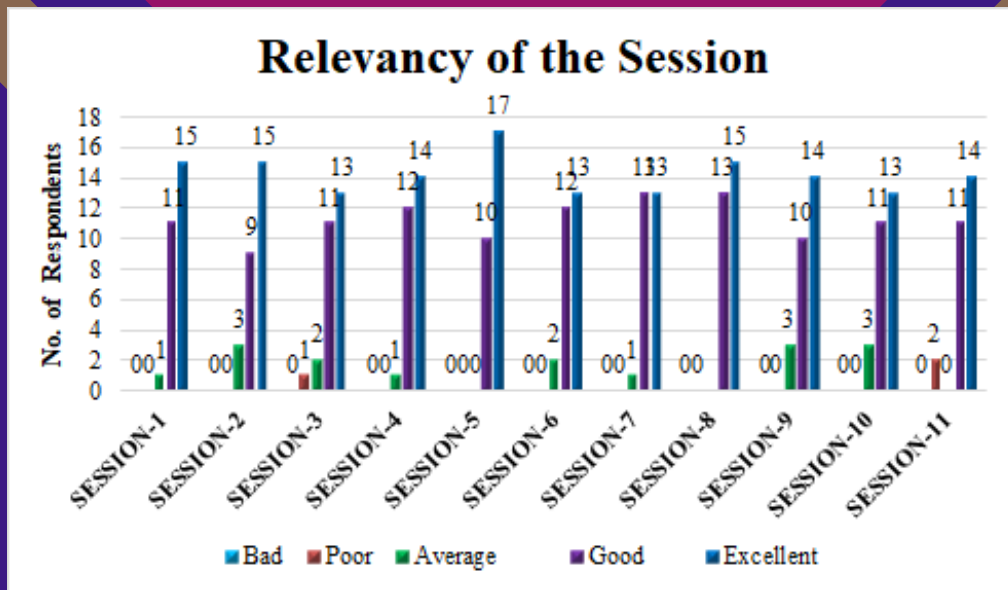
- MS.VANITHA VASU
- MS.UMAHSANKARIAH MUTHUNAIKAR
- MR.RAGAVAN PANDIAN
- MS.GAYATRI RAMAKRISHNAN
- MS.YUGESWARI KRISHNAN
- MR.LOGAN TAMILARASU
- MS.ABBHIRAMY S.ANANDAN

## 2.5 Camp Evaluation

A survey was distributed to all the 27 participants to evaluate the effectiveness of the CCT camp, particularly in terms of the modules and activities conducted. Survey analysis was conducted and tabulated. The CCT organizers assessed all the modules and activities based on suitability, duration length and comprehension.

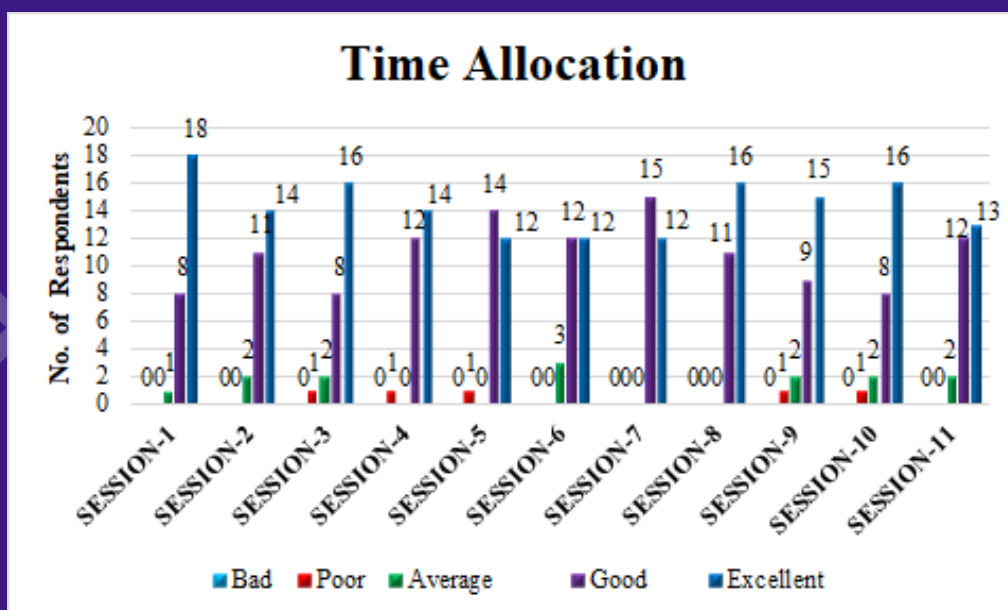
### Legend for S1-S11 for Figure 1, 2, 3, 4, 5 and 17

Label	Explanation	Modules
S1	Session 1	Ice-Breaking
S2	Session 2	Boosting Your 5 Senses
S3	Session 3	Mind Mapping & Brainstorming
S4	Session 4	Healthy Body and Healthy Mind
S5	Session 5	Boosting Your 10 Intelligences
S6	Session 6	5 Reasons Why Humans Are Capable of Genius
S7	Session 7	Short-Term Memory Tips
S8	Session 8	Problem Solving (CSI)
S9	Session 9	Lateral Thinking
S10	Session 10	Relaxation & Concentration
S11	Session 11	Creativity & Expressing Your Creativity



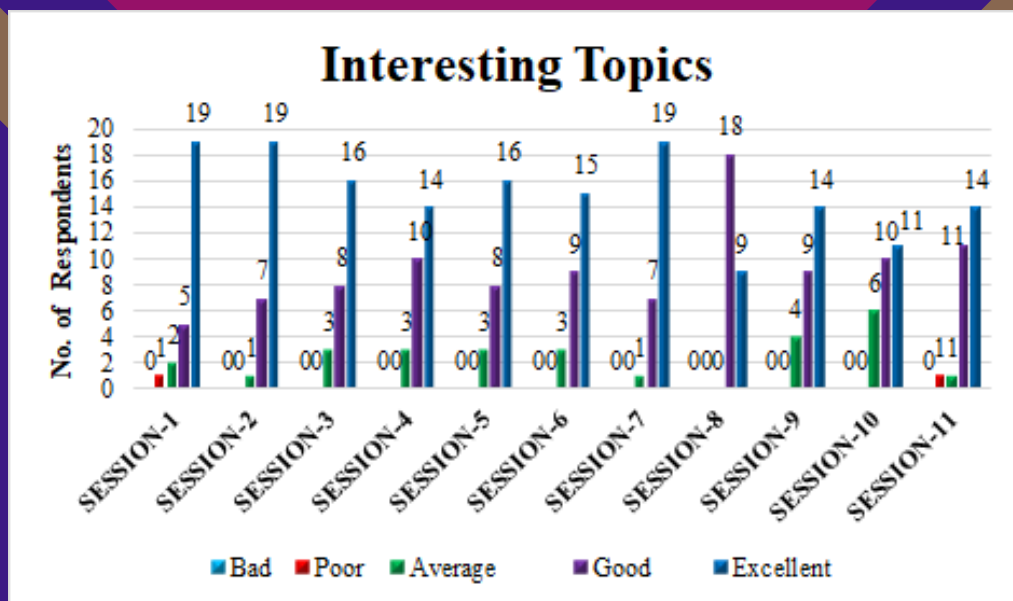
**Figure 1: Relevancy of the Session**

The analysis shows that most participants agree all the sessions in CCT Camp are relevant to the objectives of the camp.



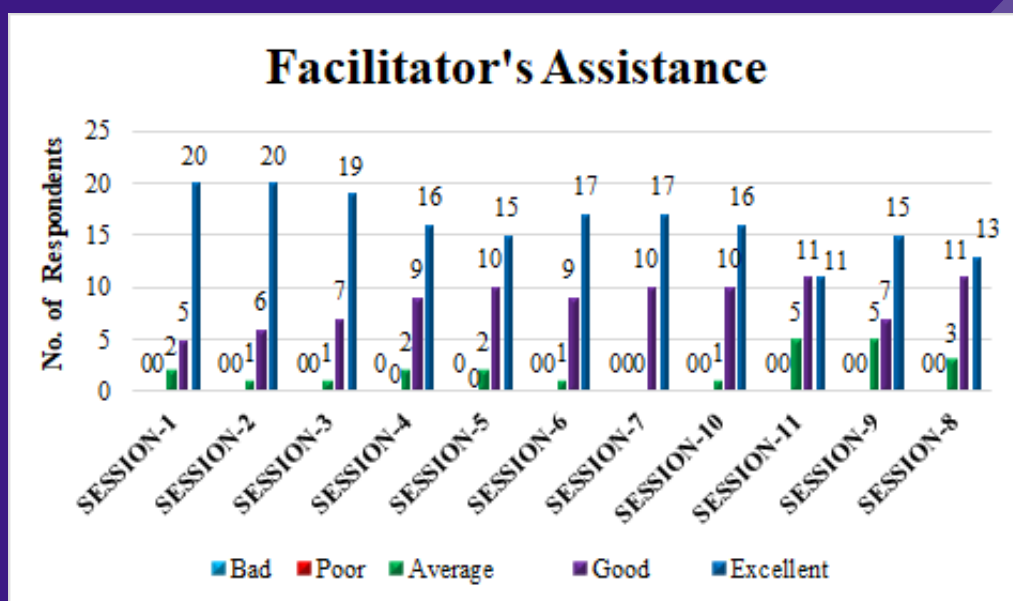
**Figure 2: Time Allocation**

The participants rated excellent for the time allocation for all the sessions. Only 5 participants rated poor for Session 3, 4, 5, 9 and 10.



**Figure 3: Interesting Topic**

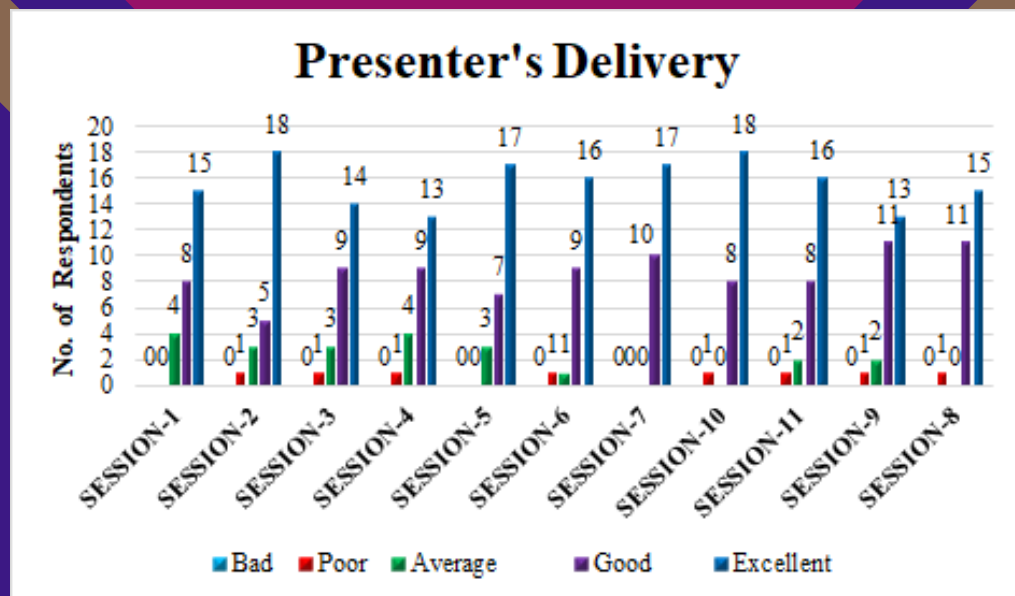
The analysis shows that all the 11 sessions were found to be interesting for participants as the majority of them have rated excellent or good.



**Figure 4: Facilitator's Assistance**

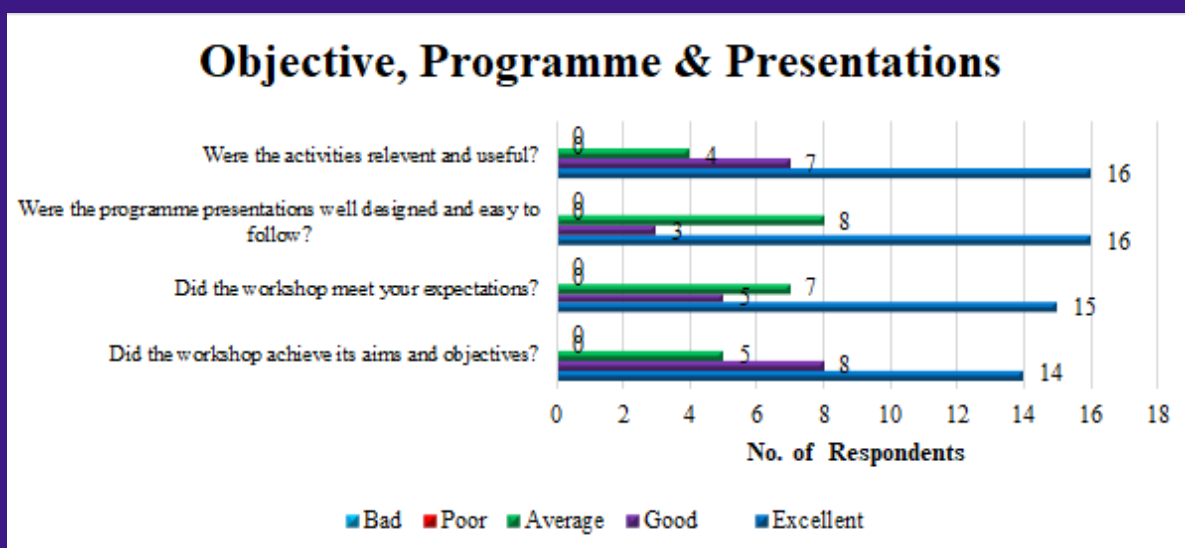
Most participants have rated the facilitators as very helpful. With the assistance of the facilitators, students managed to understand better and participate better in some activities.





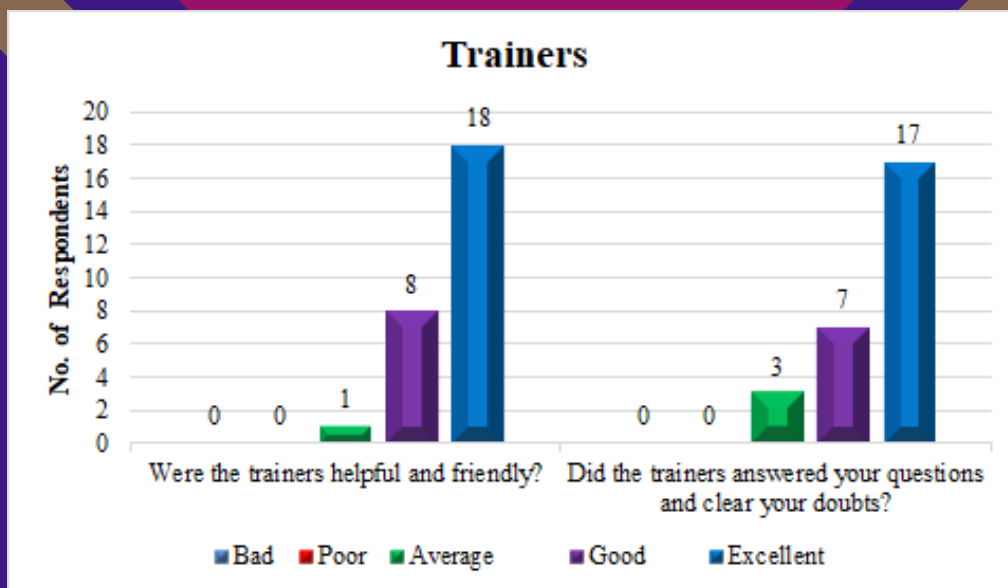
**Figure 5: Presenter's Delivery**

Overall, all the presenters were well received and liked by the participants as the majority of them rated excellent or good.



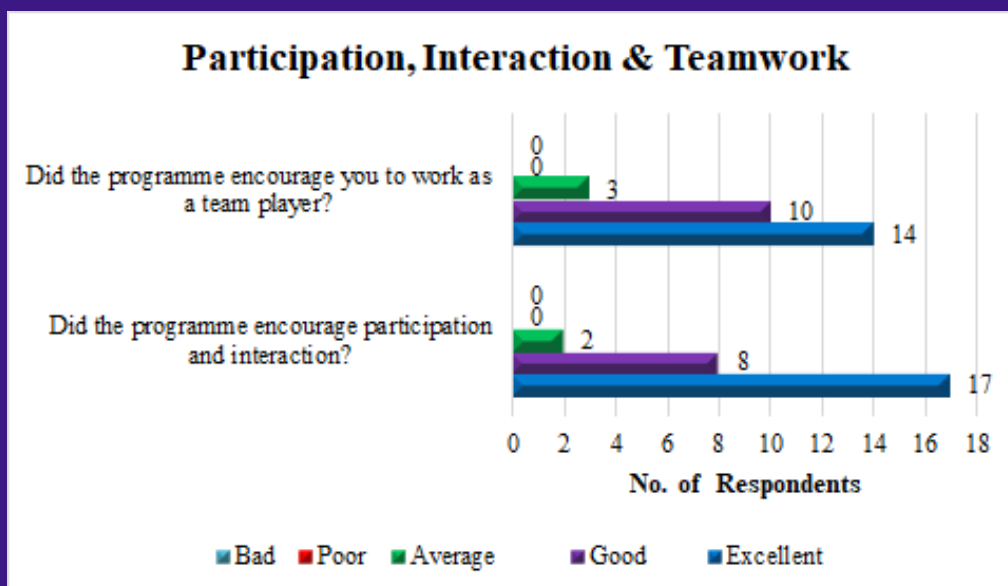
**Figure 6: Objective, Programme & Presentations**

Figure 6 shows that almost all the participants felt that the camp achieved its objective, which was to empower the young to think in both creative and critical manner.



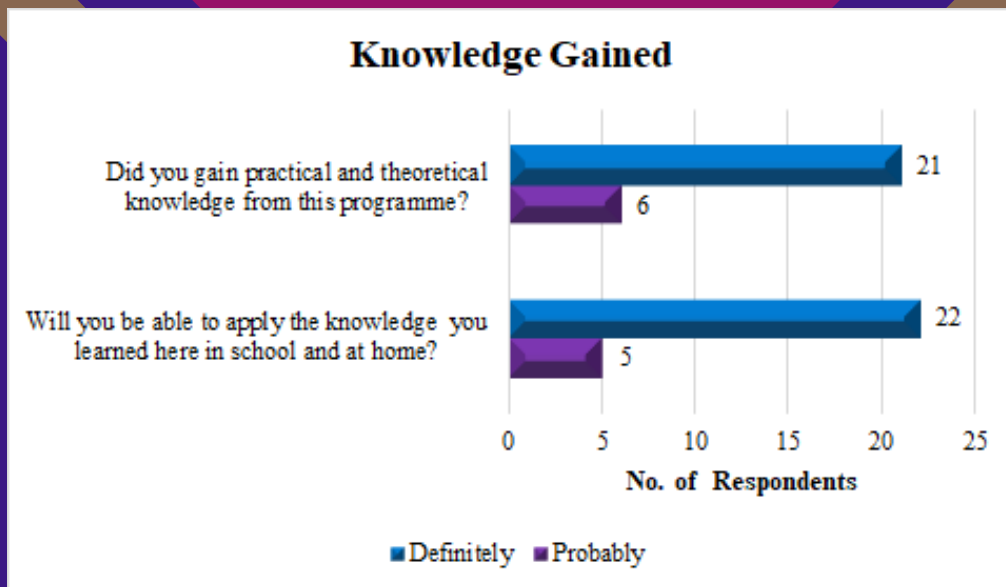
**Figure 7: Opinion about Trainers**

All the trainers were found to be competent and professional with the majority of participants rating them as excellent. In general, the trainers were well received and thought well.



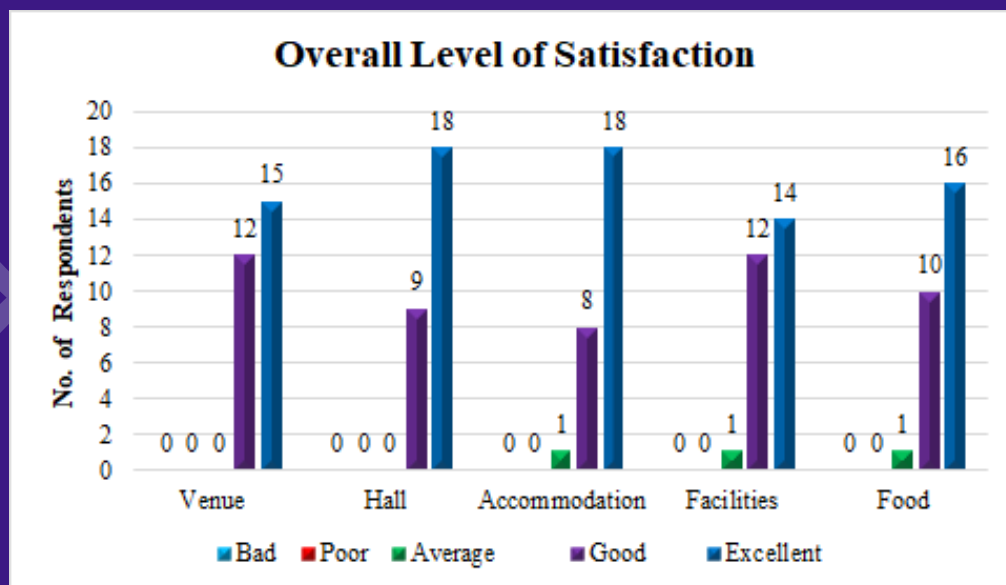
**Figure 8: Participation, Interaction & Teamwork**

Figure 8 shows that participants found that the camp encouraged their participation and improved teamwork and communication skills.



**Figure 9: Knowledge Gained**

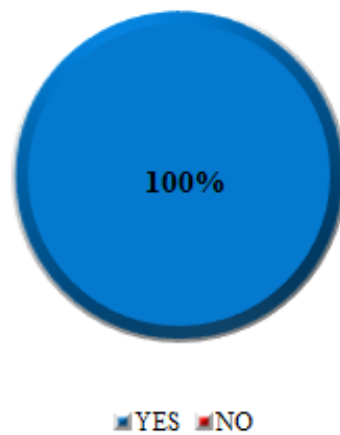
As can be seen above in figure 9, participants gained both practical and applicable knowledge during this camp.



**Figure 10: Overall Level of Satisfaction**

As per figure 10, most of the participants found the facilities and catering provided to be most excellent.

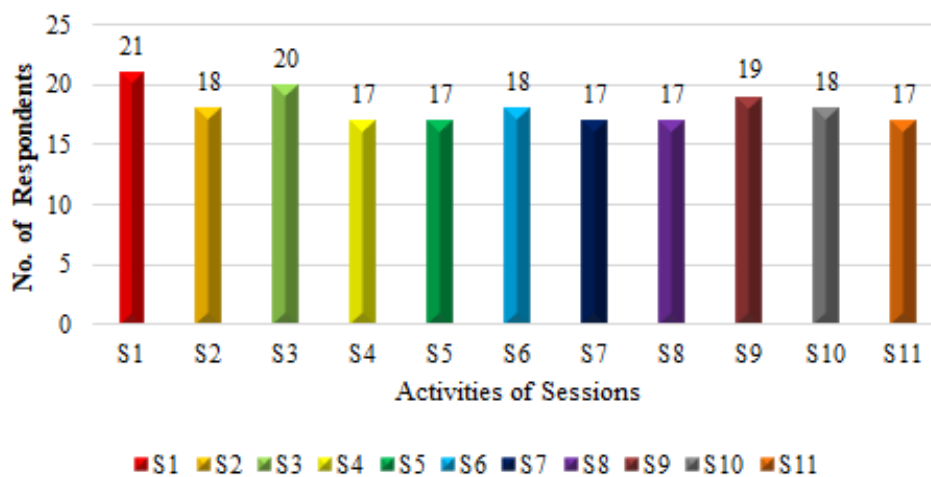
### Recommendation of CCT camp



**Figure 11: Recommendation of CCT Camp**

Figure 11 shows that 100% of the respondents would recommend this camp to their friends. This highlights the success of this camp and shows that the participants thoroughly enjoyed the camp.

### Favourite Activities Rating



**Figure 12: Favourite Activities Rating**

As can be seen from Figure 12, Ice-Breaking, Mind Mapping & Brainstorming and Lateral Thinking sessions were selected as their favourite sessions by most participants.

## 2.6 FUNDING

**PERTUBUHAN SAINS, TEKNOLOGI DAN INOVASI (ASTI)**  
**STATEMENT OF INCOME AND EXPENDITURE ACCOUNT**  
**FOR THE YEAR ENDED 31ST OCTOBER 2019**

	NOTES TO ACCOUNT	2019 RM
INCOME		10,800.00
<b><u>TOTAL INCOME</u></b>		<b><u>10,800.00</u></b>
<b><u>LESS: EXPENDITURE</u></b>		
VENUE RENTAL		2,820.00
INSURANCE		270.00
DESIGN & PRINTING		182.00
FOOD & BEVERAGES		3,842.05
TRAINER ALLOWANCE		1,173.00
MATERIALS COST		1,027.55
TRAVELLING & TRANSPORTATION		1,441.00
EVALUATION AND MONITORING		1,000.00
ADMIN COST		3,617.00
<b><u>TOTAL EXPENDITURE</u></b>		<b><u>15,372.60</u></b>
EXCESS OF INCOME / (EXPENDITURE)		<u>(4,572.60)</u>
<b><u>INCOME AND EXPENDITURE ACCOUNT</u></b>		
TOTAL INCOME		10,800.00
TOTAL EXPENDITURE		15,372.60
<b><u>SURPLUS / (DEFICIT)</u></b>		<b><u>(4,572.60)</u></b>



# **3.0**

## **CREATIVE AND CRITICAL THINKING WORKSHOP 2019**



## **3.1 CCT- SCIENCE IMMERSION PROGRAM**

### **3.1.1 Workshop Summary**

Total of 13 participants accompanied by two teachers arrived from the Philippines at Kuala Lumpur International Airport on the 1st of July 2019 for the 12 days program. ASTI-CCT camp was scheduled to start on the next day since the participants were tired from their journey. Participants were briefed on the camp in Research Management & Innovation Complex (RMIC), UM cube meeting room, upon their arrival at Universiti Malaya.

The two days CCT camp was held from 9.00 am and ended at 10.00 pm on 2nd and 3rd July, with breakfast, lunch, tea-time and dinner breaks all included. A total of 8 modules were conducted over the two days period, and the modules were designed to help develop skills including socializing, evidence analysis, critical thinking, creative thinking, comparing, reasoning, strategizing, synthesizing, sensitivity, sensory integration, interpreting, concentrating, focusing, ability to follow instruction, hypothetical, thinking out of the box, brainstorming, competitive, cooperative, confidence, communicating, rhythmic, coordination and presentation. A survey was conducted to gather feedback from all the 13 participants of CCT at the end of each day on the effectiveness of the two days camp.



## 3.1.2 Workshop Agenda

### Day 1: 2nd July 2019, Tuesday

Time Duration	Modules
9.00 am - 11.30 am	<b>Session 1:</b> Boosting 5 Senses
11.30 am – 12.00 pm	Briefing on Crime Scene Investigation
12.00 pm - 1.30 pm	Lunch break
1.30 pm - 4.00 pm	<b>Session 2:</b> Algorithm
4.00 pm - 4.30 pm	Tea Break
4.30 pm - 7.00 pm	<b>Session 3:</b> Thinking Skills
7.00 pm - 8.00 pm	Dinner
8.00 pm - 10.00 pm	<b>Session 4:</b> Tinkering

### Day 2: 3rd July 2019, Wednesday

Time Duration	Modules
9.00 am - 12.00 pm	<b>Session 5:</b> Lateral Thinking
12.00 pm - 1.30 pm	Lunch break
1.30 pm - 4.00 pm	<b>Session 6:</b> Crime Scene Investigation - Problem-solving
4.00 pm - 4.30 pm	Tea Break
4.30 pm - 7.00 pm	<b>Session 7:</b> Brain Exercise
7.00 pm - 8.00 pm	Dinner
8.00 pm - 10.00 pm	<b>Session 8:</b> Invention Workshop

### **3.1.3 Trainers**

- Dr Mohamed Yunus Bin Mohamed Yasin
- Dr Noorul Huda Binti Abdul Jabar
- Mr Anthony Philip Fernandez
- Mr Sanmuga Thavamoorthy

### **3.1.4 Facilitators**

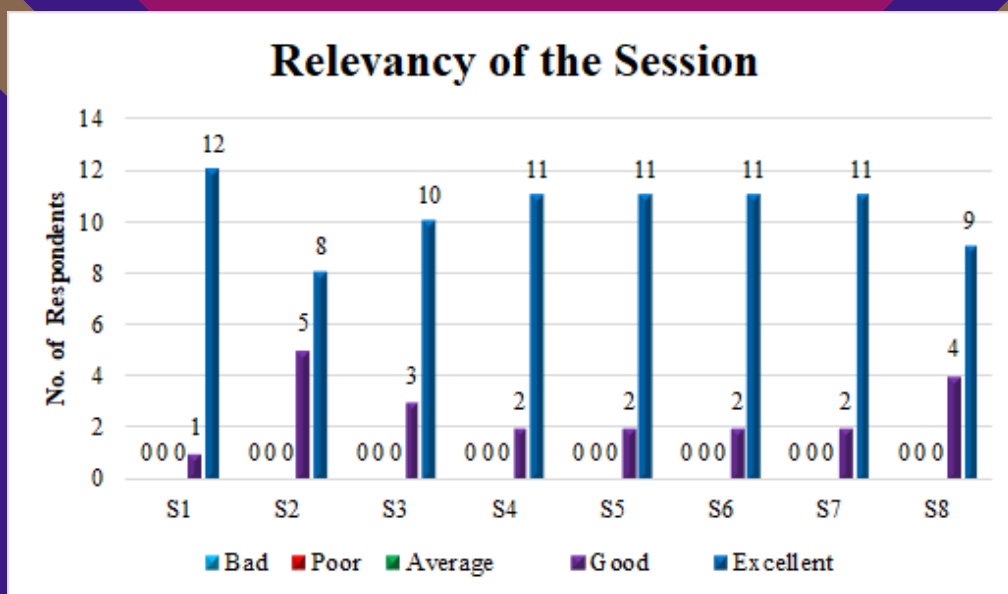
- Ms Yugeswari Krishnan
- Mr Surender Gunalan

## 3.1.5 Workshop Evaluation

A survey was conducted to gather feedback from all 13 participants about sessions conducted by ASTI. The survey was designed to evaluate the effectiveness of this two days camp, especially in terms of the modules and activities. The survey analysis was conducted and tabulated. The organisers assessed all the modules and activities for the suitability, length and comprehension.

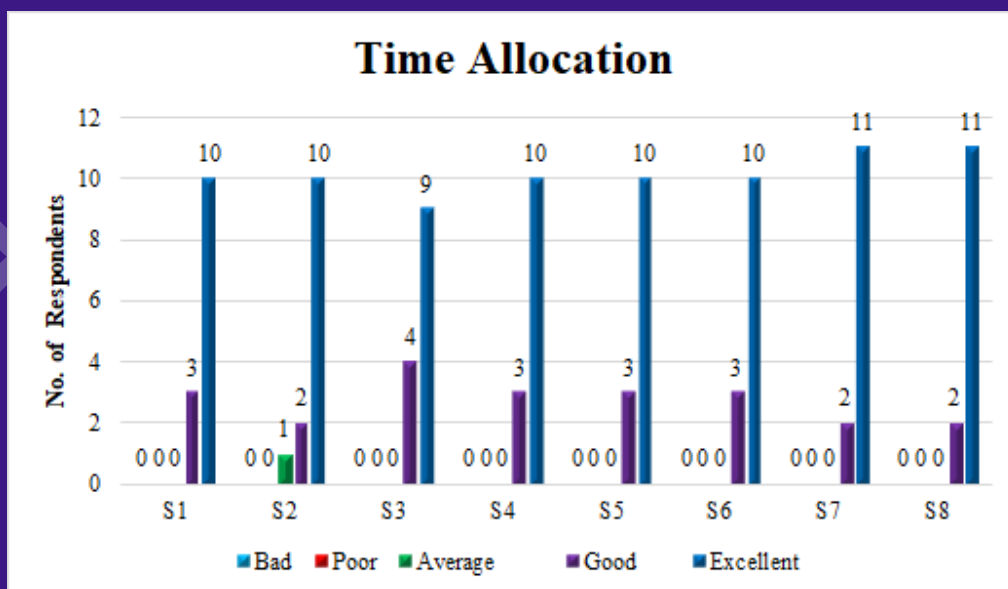
### Legend for S1-S8 for Figure 13 to 27

Label	Explanation	Modules
S1	Session 1	Boosting 5 Senses
S2	Session 2	Algorithm
S3	Session 3	Thinking Skills
S4	Session 4	Tinkering
S5	Session 5	Lateral Thinking
S6	Session 6	Crime Scene Investigation - Problem-solving
S7	Session 7	Brain Exercise
S8	Session 8	Invention Workshop



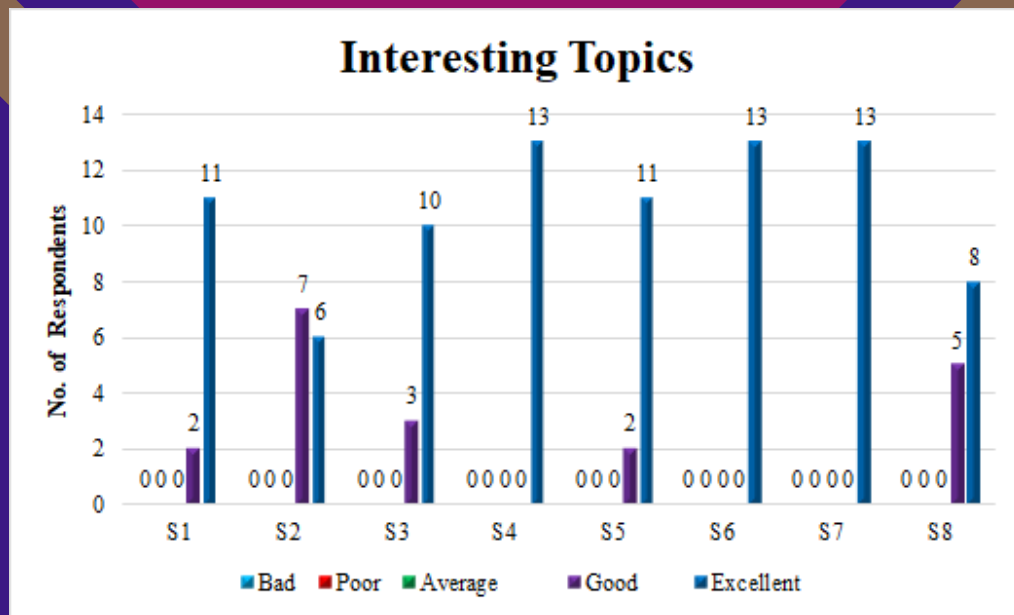
**Figure 13: Relevancy of the Session**

Figure 13 shows that most participants found all the sessions in the CCT workshop relevant to them. It, therefore, indicates that the CCT modules are suitable for this age group of participants and met the Science Immersion Program objective.



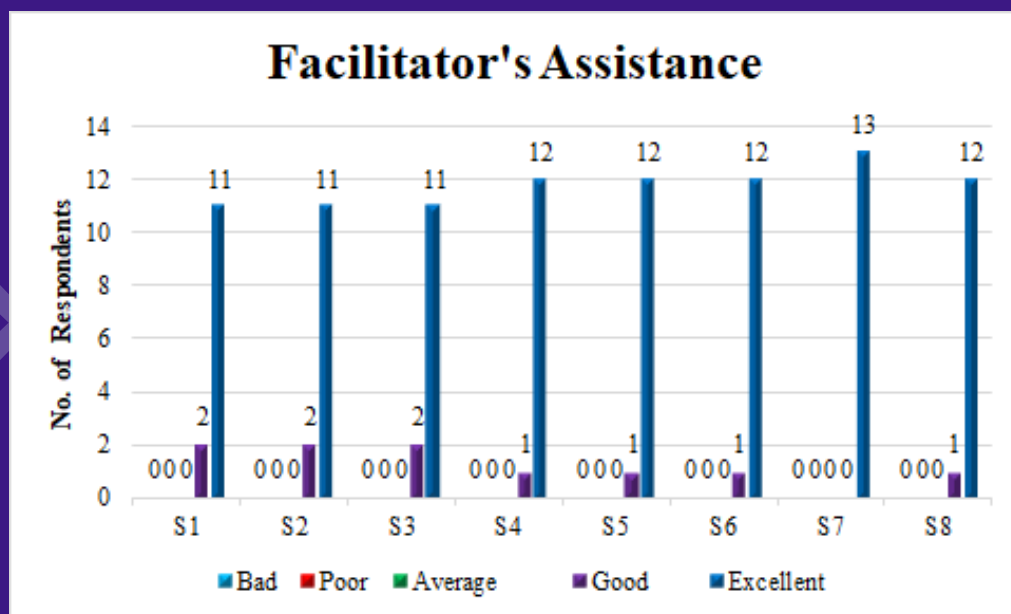
**Figure 14: Time Allocation**

Figure 14 revealed that the time allocated for all of the sessions were rated excellent by the students. On the other hand, the complexity of the activities in a few sessions may have made some students think the allocated time was insufficient.



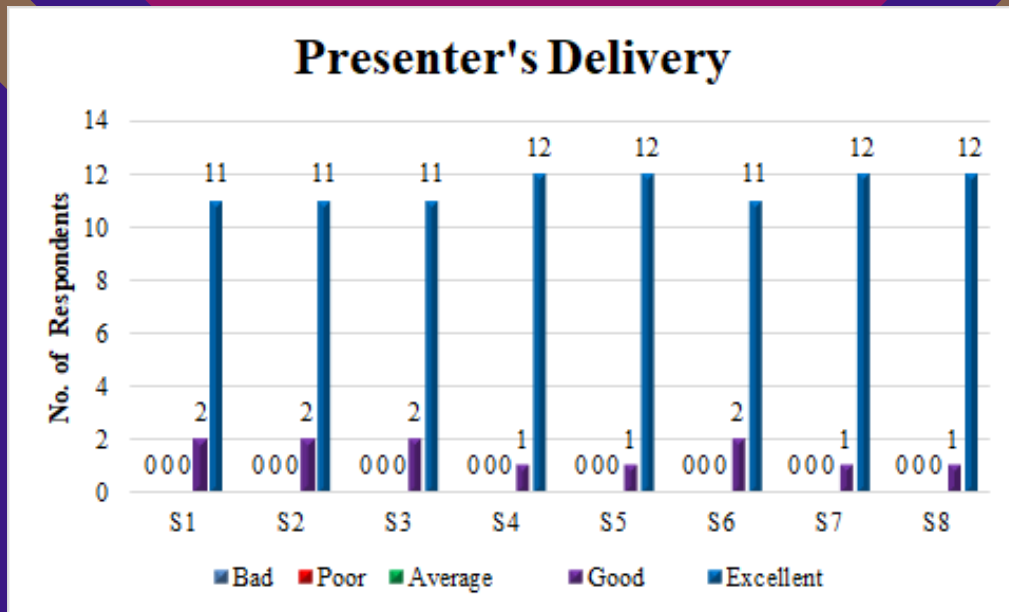
**Figure 15: Interesting Topics**

In addition, all the modules conducted were also found to be of interest to all the participants.



**Figure 16: Facilitators' Assistance**

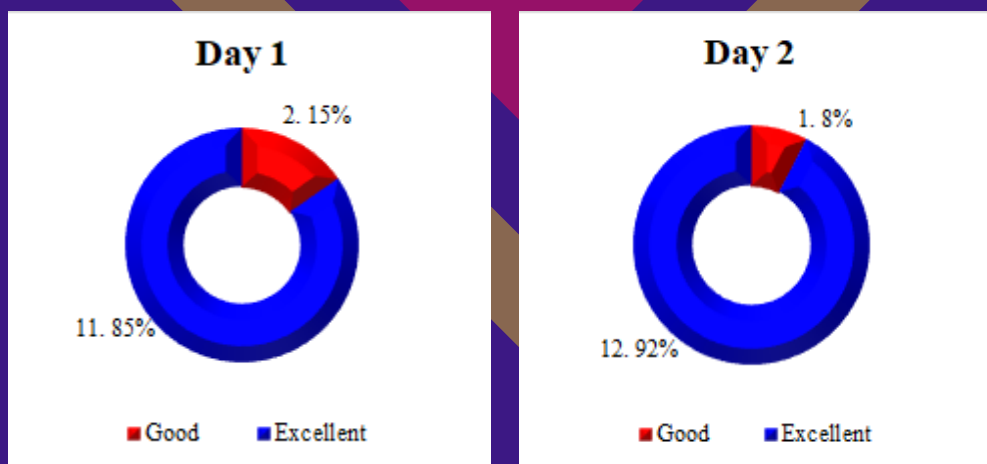
As can be seen from Figure 16, most of the students rated the facilitators as very helpful. It shows that both ASTI and UMCares facilitators have helped the participants to understand the content better and take part in activities with more eagerness.



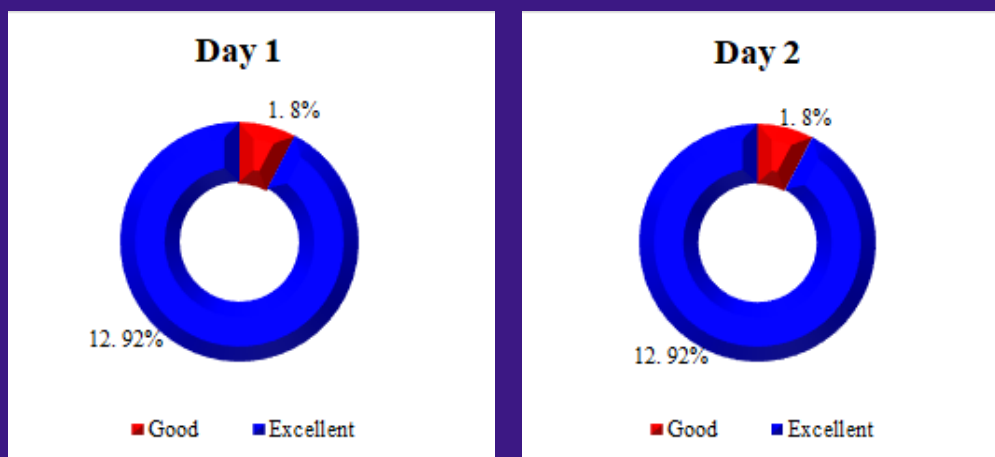
**Figure 17: Presenter's' Delivery**

The result of the survey also deduced that the presenters were able to capture the attention and curiosity of the participants in all the sessions.

## General Evaluations

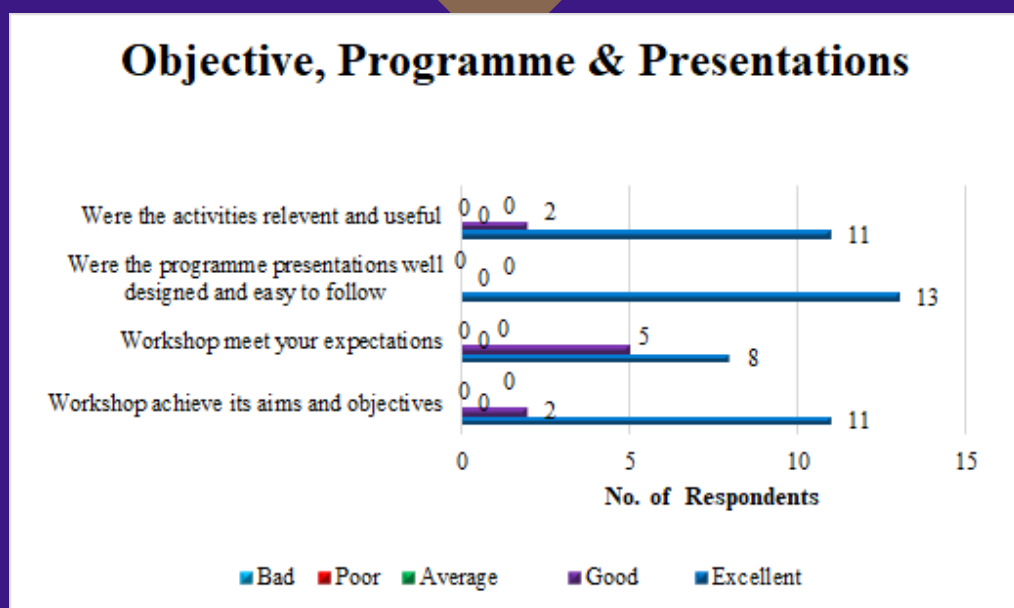


**Figure 18: Rating of the Day**



**Figure 19: Rating in Question & Answer**

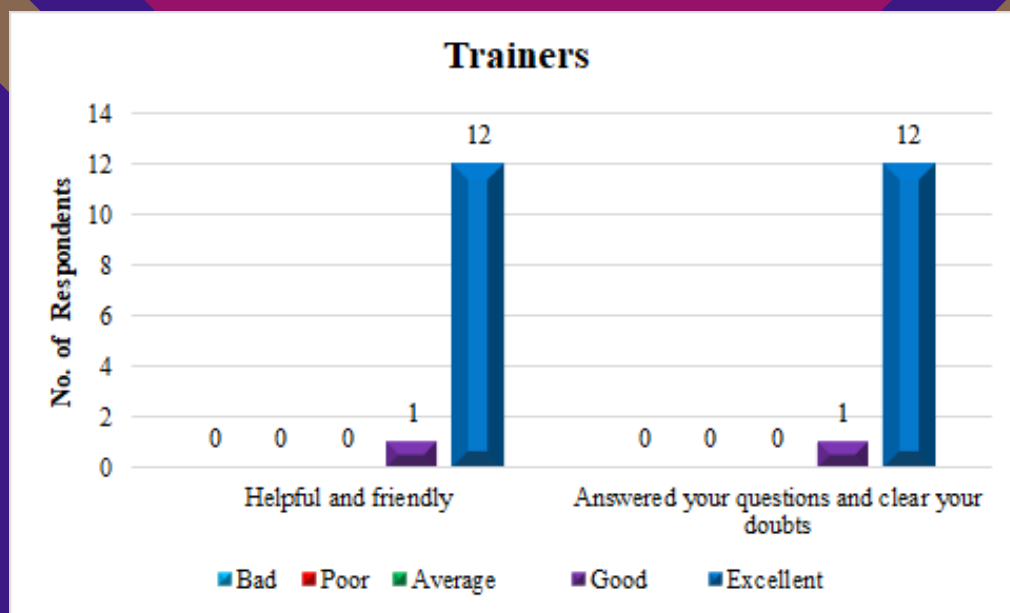
Figure 6 and 7 shows the overall rating and rating for questioning and answering for day one and day 2, respectively. For the first day, 11 out of 13 participants rated excellent. Although the participants were very tired because of the journey from Philippines, they still participated actively and enjoyed all the activities. The main focus of the activities are opportunities for exploring oneself, converse with other people and use critical thinking to find a solution to any problem. Participants' feedback shows that they learned how to think differently, feel things, and discover their ability through CCT modules and activities to solve real-life problems.



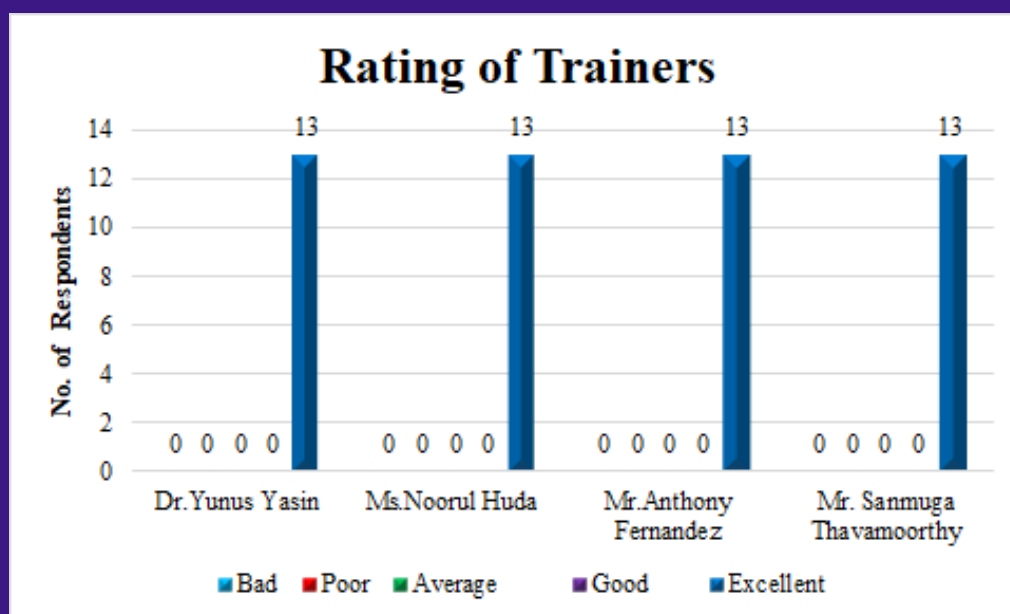
**Figure 20: Objective, Programme & Presentations**

Most of the participants rated the activities being relevant and useful. Figure 20 shows that 11 out of 13 participants identified the program as meeting their goals and achieving its objectives. All participants rated excellent for the programme outline and presentation. Figure 20 shows that most participants scored either excellent or good, suggesting that ASTI succeeded in achieving its target through this camp, although it involves a different group of participants with different levels of understanding.



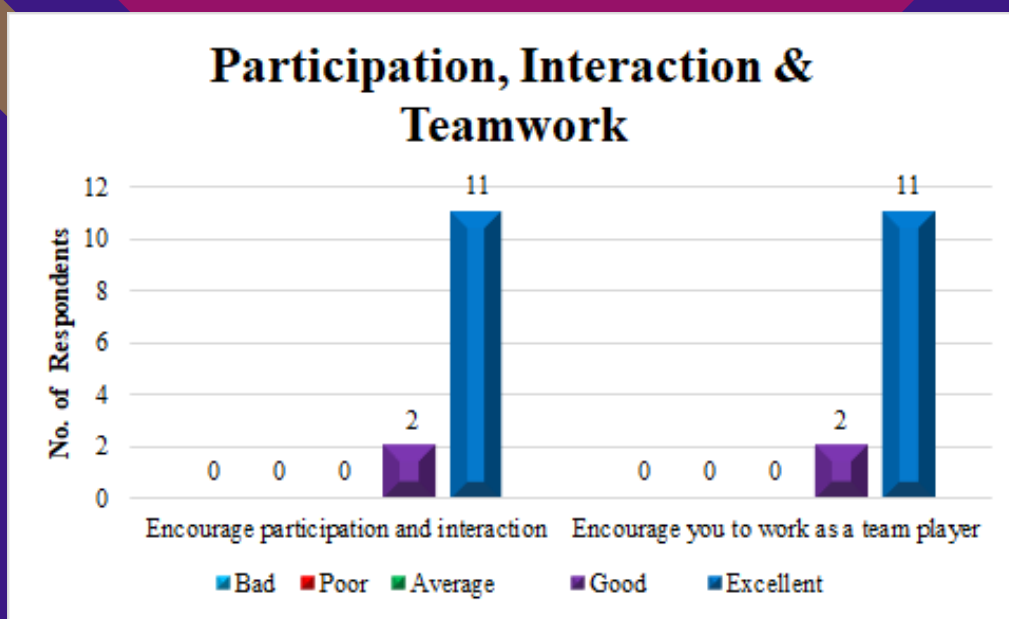


**Figure 21: Opinion about Trainers**



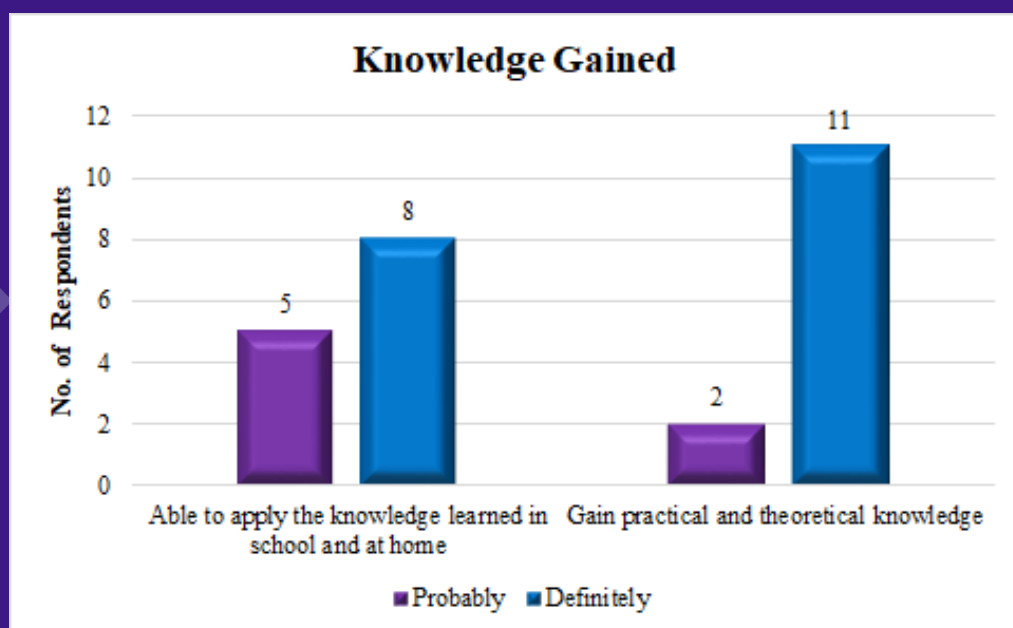
**Figure 22: Rating of Trainers**

Figure 21 and 22 shows that all trainers succeeded in delivering the chosen CCT modules to their fullest and attracted the participants



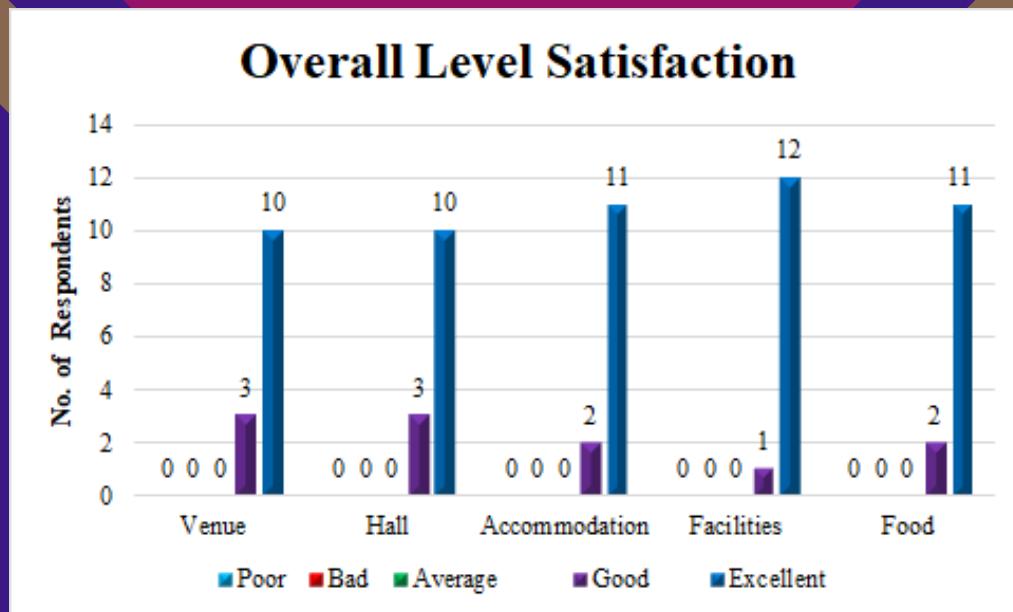
**Figure 23: Participation, Interaction & Teamwork**

Most of the participants strongly agreed that all CCT practices promote cooperation, commitment and interaction. The analysis shows that all the modules are in line with the aims of Creative and Critical Thinking as they have better understood and contributed through teamwork and interaction.



**Figure 24: Knowledge Gained**

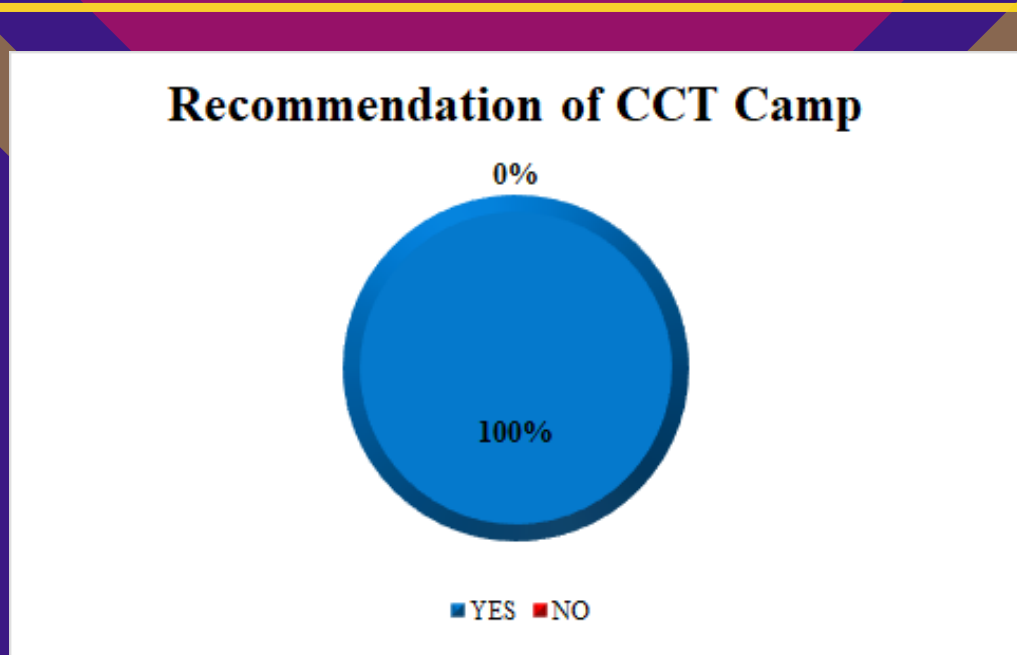
Most participants said they had acquired both practical and theoretical knowledge and were able to apply the knowledge they had learned at school and at home. It is essential since the application of acquired knowledge is a key precursor to lifelong learning.



**Figure 25: Overall Level of Satisfaction**

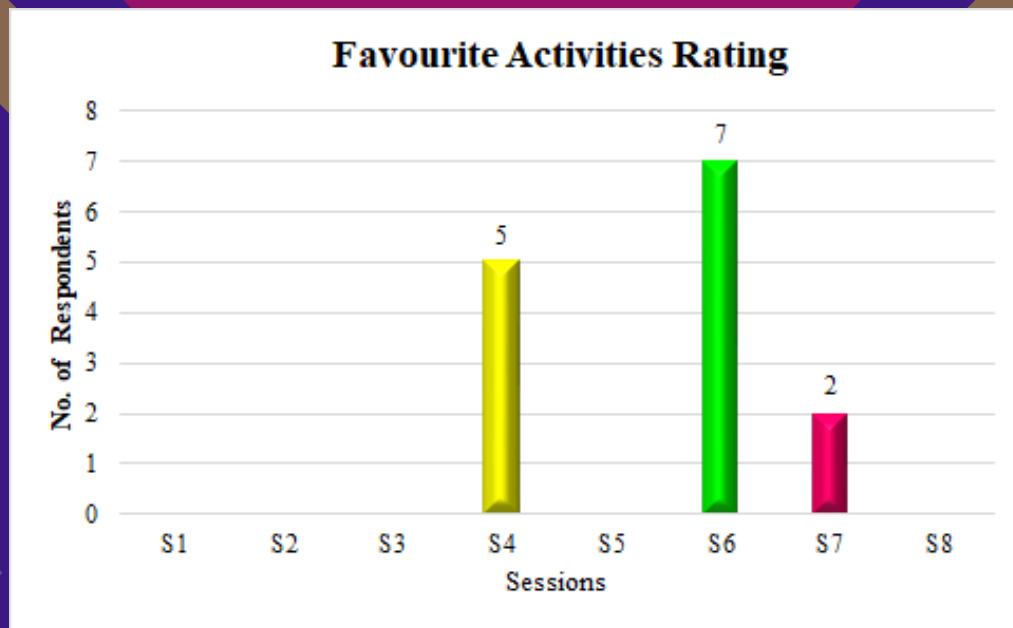
All the facilities throughout these two days CCT camp was provided by UMCares. The result of the survey shows that the venue and hall arrangement is very satisfactory. The training room and accommodation were arranged at lush greenery location of the 10th Residential College, University of Malaya. The training room was well equipped with good facilities. Apart from flip chairs, there were also bean bags provided for the participants to lay-back during rest times.

Even for some of the CCT session, the participants could sit on the bean bags for more informal sessions. The food served throughout the two-day camp was really enjoyed by all participants.



**Figure 26: Recommendation of CCT Camp**

All of the participants agreed strongly that the CCT camp had exceeded their standards and was eager to participate again in the coming years. They also promised to suggest to their friends about our CCT camp. So ASTI is keen to contribute in the near future to a wider range of participants.



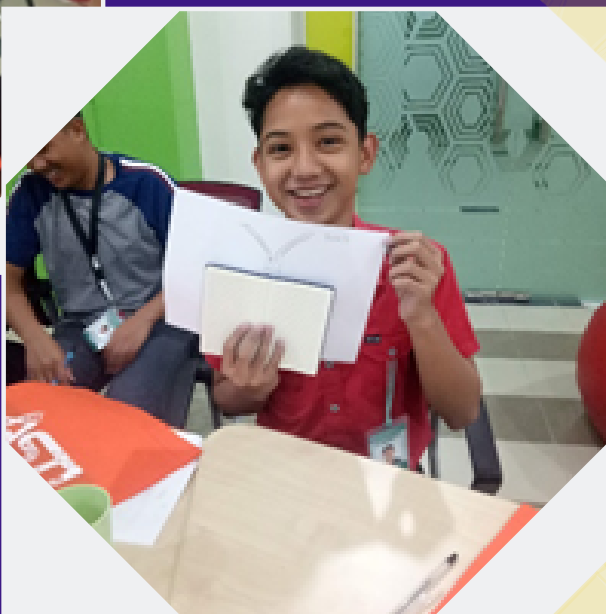
**Figure 27: Favourite activities rating**

Among all the sessions, participants have selected Tinkering, Brain Exercise and Crime Scene Investigation – Problem Solving as their favourite sessions. The participants had to build a tall and most stable tower in Forth session. The participants had done many trials to achieve the main objective of this activity. However, only one group managed to build a tower that could stand on its own, using the right base shape. Brain Exercise module trained the participants to do uncommon activities to develop a less developed part of their brain. The main aim of these activities is to make optimum use of our brain. In the Crime Scene Investigation (CSI) session, participants need to assume they were a detective to solve a given case. They are also required to narrate a possible story behind the scene that might lead to the incident.

## 3.1.6 FUNDING

**PERTUBUHAN SAINS, TEKNOLOGI DAN INOVASI (ASTI)**  
**STATEMENT OF INCOME AND EXPENDITURE ACCOUNT**  
**FOR THE YEAR ENDED 31ST OCTOBER 2019**

	NOTES TO ACCOUNT	2019 RM
INCOME		7,000.00
<b><u>TOTAL INCOME</u></b>		<b><u>7,000.00</u></b>
<b><u>LESS: EXPENDITURE</u></b>		
TRAINER ALLOWANCE		1,302.00
MATERIALS COST		379.25
SECRETARIAT UTILITIES		1,000.00
EVALUATION AND MONITORING		1,000.00
ADMIN COST		3,617.00
<b><u>TOTAL EXPENDITURE</u></b>		<b><u>7,298.25</u></b>
EXCESS OF INCOME / (EXPENDITURE)		<u>(298.25)</u>
<b><u>INCOME AND EXPENDITURE ACCOUNT</u></b>		
TOTAL INCOME		7,000.00
TOTAL EXPENDITURE		<u>7,298.25</u>
<b><u>SURPLUS / (DEFICIT)</u></b>		<b><u>(298.25)</u></b>



## 3.2 CCT- SJKT EFFINGHAM

### 3.2.1 Workshop Summary

Association of Science Technology and Innovation (ASTI) organized two days “Creative and Critical Thinking Workshop” in SJKT Effingham. The first day started at 9.00 a.m. with arrival and registration of the participants at the school hall. Before the beginning of the programme, participants were divided into 5 to 6 in a group.

Mr Logan briefed the program participants before continuing with the CCT Modules entitled "*5 Reasons Why Human Being Capable of Genius*". The purpose of this module is to gain knowledge of the human characteristic and ability to think. Each group was given a picture card and then asked to answer some tricky questions.

Ms Vanitha Vasu continued the workshop with the next session, which is "*Mind Mapping*". This session aims to guide the participants and to show them ways to develop an effective mind map. Groups were asked to come up with a mind map entitled “My School Holiday, My Favourite Person”. The basic tips on how to create a mind map were shared beforehand. The first-day session ended at 1.30 pm.



Ms Gayatri started the second-day session at 9.00 a.m. with the module *“Brainstorming”*. This session aims to initiate critical thinking based on the workshop activities. Each group were given a title to brainstorm and discuss among their partner.

Participants were encouraged to let their minds "free-wheel" so that new and original ideas could emerge. Tips on organizing a productive group discussion and brainstorming have also been explained and shared with the participants. The first session ended with the participants having their breakfast at 10.40 a.m.

Ms Vanitha Vasu conducted the second session entitled *“Boosting your five senses”*. This module aims to acquire knowledge about the five senses of the human body, which includes sight, smell, touch, taste and hearing. The second session ended at 1.30 p.m. with a note of thanks from the Principal.



## 3.2.2 Workshop Agenda

### Day 1: 20th November 2019, Wednesday

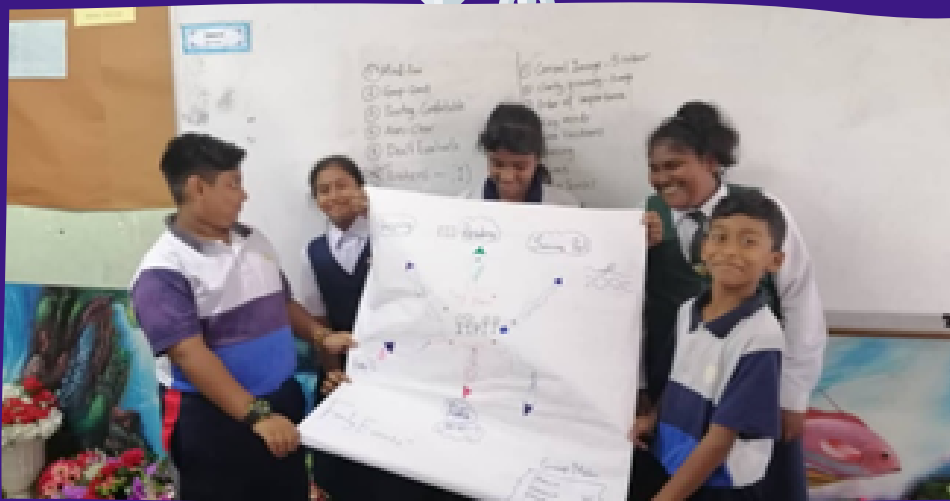
Time Duration	Modules
9.00 am - 10.40 am	Session 1: 5 Reasons Why Humans are Capable of Genius
10.40 am - 11.00 am	Breakfast
11.00 am - 1.30 pm	Session 2: Mind Mapping

### Day 2: 21st November 2019, Thursday

Time Duration	Modules
9.00 am - 10.40 am	Session 3: Brainstorming
10.40 am - 11.00 am	Breakfast
11.00 am - 1.30 pm	Session 4: Boosting Your 5 Senses

## 3.2.3 Trainers

- Ms Vanitha Vasu
- Ms Gayatri Ramakrishnan
- Mr Logan Tamilarasu



## 3.3 CCT- SJKT JENJAROM

### 3.3.1 Workshop Summary

Association of Science Technology and Innovation (ASTI) organized “Creative and Critical Thinking Workshop” on 18 November 2019. The workshop started at 9.00 a.m. with the arrival and registration of the participants at the school hall. The program started with the participants sitting according to their group.

Ms Vanita Vasu started the workshop with a briefing session followed by CCT module, “*5 Reasons why Humans are Capable of Genius*”. The aim of this module is to test participants on their thinking skills and also to encourage them to think differently. The first session ended with the participants having their breakfast at 10.30 a.m. The second session started at 11.00 a.m., with the module entitled “*Brainstorming*”. Additionally, tips on how to organize a productive group discussion and brainstorming were also explained and shared with the participants.



## 3.3.2 Workshop Agenda

### Day 1: 18th November 2019, Monday

Time Duration	Modules
9.00 am - 10.40 am	Session 1: 5 Reasons Why Humans are Capable of Genius
10.40 am - 11.00 am	Breakfast
11.00 am - 1.30 pm	Session 2: Brainstorming

## 3.3.3 Trainers

- Ms Vanitha Vasu
- Ms Gayatri Ramakrishnan
- Mr Logan Tamilarasu





## **4.0 CCT MODULES**

## 1. Session: Ice Breaking

### **Aim:**

To help the participants feel at ease and set the tone for camp.

### **Areas of Skills:**

Creativity, Socialising.

This initial activity required the participants to immediately think 'out of the box' from the very beginning of the camp and to give them a taste of what was to come. The participants were not introduced to each other with their real names! Instead, they were given recyclable material and markers to build and draw their own 'Avatar' and give it a name, a mission, and a hero. Every card was illustrated with a drawing of a superhero character.

## 2. Session: Boosting 5 Senses

### **Aim:**

To acquire knowledge and skills about the five senses of the human body.

### **Areas of Skills:**

Sensory Integration, Analysing, Interpreting.

The input to our brain is coming from all our five senses: smell, sight, sound, touch and taste. Thus, to test the participants' senses, the presenter conducted activities for each category. Activities were also focused on helping participants be aware of and use their existing senses to the best of their abilities.



### **3. Session: Mind-Mapping**

#### **Aim:**

To guide and teach the participants how to develop an effective mind map.

#### **Areas of Skills:**

Brainstorming, Idea Generation, Mind-mapping, Synthesizing.

Groups were provided with different colour marker pens and mah-jong paper to create a mind map entitled "Birthday Party". Each team's themes were unique, such as Space, Animals, Scientists, Disney and Airports. Basic tips on how to create a mind map were shared prior to the activity.

### **4. Session: Healthy Body and Healthy Mind**

#### **Aim:**

To introduce healthy eating and their benefits to participants. To instill a healthy and active lifestyle.

#### **Areas of Skills:**

Sensitivity, Reasoning.

A multitude of information, activities, games, crafts and tasting challenges will be undertaken to help children make healthy choices of food. This will help them make smart choices in their diet and activities.

## **5. Session: Boosting Your 10 Intelligences**

### **Aim:**

To enhance the 10 intelligences in participants, making it conducive to release the creativity within.

### **Areas of Skills:**

Problem-Solving, Analysing, Physical Ability, Emotional Control, Alertness, Communicating, Interpretation, Hypothetical.

It is now accepted by many experts that the IQ of human beings is comprised of more than one area of intelligence. This session introduced participants with ten types of intelligence which are Mathematical, Practical, Visual, Physical, Social, Emotional, Linguistic, Musical, Spiritual and Environmental. For each intelligence, the presenter will conduct an activity to demonstrate and train the participants to evoke the ten types of intelligence within them.

## **6. Session: 5 Reasons Why Humans Are Capable of Genius**

### **Aim:**

To trigger the participants' creativity.

### **Areas of Skills:**

Communicating, Comparing, Synthesizing.

Creativity is a human characteristic and gives all humans genius-like capabilities. The characteristics which lead a human to be genius are; Boundless Curiosity, Abstract Thought, Unstoppable Creativity, Favourable Conditions and Creative Surges. For each criterion, the presenter conducted an activity to highlight the participants' natural ability to be creative and the ability to understand complex concepts. If they were unable to solve the activities individually, they were requested to discuss in the groups.

## 7. Session: Short Term Memory Tips

### **Aim:**

To indicate the importance of short term memory and how it can be used.

### **Areas of Skills:**

Memorizing, Quick thinking, Eliminating.

Scientists have discovered that the brain uses many ways to remember information over different lengths of time. In this module, the use of two types of activities demonstrated short-term memory. The facilitator was asked to leave the hall, and the participants were asked questions about the person, such as the colour of his/her pants, the blouse, the eye colour, the shawl colour and the look he/she used. Next, an image was shown on the screen for 3 seconds and questions were asked based on the image. The participants were then given tips on how to improve their short term memory.

## 8. Session: Problem Solving (CSI)

### **Aim:**

Instil critical thinking.

### **Areas of Skills:**

Evidence Analysis, Critical thinking, Comparison, Reasoning, Strategizing.

The students participated in detective activity. Students were exposed to some physical "crime evidence" and trained to analyze the evidence to track the suspect. All the teams were able to track down the right suspect and narrated incredibly different scenes behind the crime, both creative and critical thinking in the resolution of the crime.

## 9. Session: Lateral Thinking

### Aim:

To enhance creative and critical thinking in participants.

### Areas of Skills:

Brainstorming, Creativity, Criticality, Thinking out of the box, Competition vs Cooperation.

Lateral Thinking defined through the quote, “You cannot dig a hole in a different place by digging the same hole deeper.” Lateral thinking could be synonymous to expanding views, thinking differently, and looking at every side of the coin. Lateral thinkers find the solution from different perspectives to solve a problem. Participants were asked to think about new applications of items they use every day.

## 10. Session: Relaxation and Concentration

### Aim:

To provide brief and effective day-to-day relaxation training to participants. To make the participants realise and understand the power of thought and concentration.

### Areas of Skills:

Concentration, Focusing, 'Emptying the Mind', Ability to follow instructions.

For this module, all the participants were exposed to mood management and deep relaxation. The presenter did step-by-step movements to bring the participants to a relaxed mood. This session helps the participants to release stress after exhausting (both mind and body) activities throughout the day.

Thought power is the key to creating your reality, to become the master of your destiny, we must learn to control the nature of your dominant and habitual thoughts. It takes hard and persistent work to translate creative ideas into reality, and this work takes concentration. In this session, specific techniques were taught to the participants to help them gain better concentration and focus by using simple exercises.

## 11. Session: Expressing Your Creativity

### Aim:

To develop their creative skills through choreography.

To take participants completely out of their comfort zone.

### Areas of Skills:

Confidence, Communication, Cooperation, Rhythm, Coordination, Creativity, Presentation, Having Fun.

Each group was given 5 different dance moves and 2 directional movements and asked to create a short dance for a chosen piece of music. A video example has been shown to give them a sense of what to do. Every group had to show dance movements for 2 minutes. At the end of the session, participants managed to achieve the objective of instilling faith in themselves and gaining confidence even though it was beyond one's comfort zone.

## 12. Session: Algorithm

### Aim:

To learn a process or set of rules

### Areas of Skills:

Confidence, Communication, Coordination,

Participants were explained on how the algorithm works and useful in daily life. The algorithm can be any steps taken to achieve something. Trainer explained sample steps of the algorithm of a common daily activity with a various fun activity.

## 13. Session: Thinking Skills

### Aim:

Able to think clearly and rationally, understanding the logical connection between ideas.

### Areas of Skills:

Thinking out of the box, Critical thinking and Reasoning

The ' Thinking skills ' module explained the mental processes that we use to make sense of experience. It allows the individual to incorporate each new experience into "how things are".

## 14. Session: Tinkering

### Aim:

To improve analytical skills

### Areas of Skills:

Creativity, Thinking out of the box

Tinkering is focussed on producing a product with what is available and about trial and error. The activities were for participants to build a house using papers and a tower using straws. Participants had presented various types of houses, which were really elegant and innovative. While building the tallest tower, the participants had some problem in stabilizing the straw tower as it goes taller. The participants were always encouraged to ask "What if?", which would always keep them thinking of alternative solutions as they undertake any activity.

## 15. Session: Brain Exercise

### **Aim:**

Able learn interesting facts about the human brain.

### **Areas of Skills:**

Ability to overcome or attain a new habit

The 'Brain Exercise' module explained about the human mind and how it works to deal with our daily life, along with some mind trivia. Our daily life practices will affect how our brain works. The tasks of this session were designed to stimulate the brain in new and interesting ways. Participants were taught how a new habit can be developed or an old habit can be changed or eliminated from our everyday lives.

## 16. Session: Invention Workshop

### **Aim:**

To boost confidence to invent something new.

### **Areas of Skills:**

Creativity, Criticality, Thinking out of the box and Idea Generation

The 'Invention Workshop' explained the basic steps for an invention. 'CRAZY FELLOW' who invented a number of very useful inventions has been presented to the participants through this module.

## 5.0 Conclusion

CCT camps and workshops allow us to empower our young generations to think on their own and learn higher-level thinking skills. It also helps to further prepare them and ensure their success as they move into higher education and the world of work.

On behalf of the WGC and ASTI, we would like to extend our sincere gratitude to the generous sponsors for their contributions without which this undertaking would not have been possible. We would also like to extend our appreciation to the volunteers for their time and effort in making CCT activities a success. A special thank you goes to the media and schools that helped us to build awareness of CCT 2019.

We hope to attract more students in the years to come and achieve greater heights in our quest to instil creative and critical thinking for the next generation. All of our CCT camps and workshops have been a success, and it has once again given ASTI more confidence and pathway to working in-hand for more potential projects.



