Tokyo Tech-AYSEAS 2019

Tokyo Tech-Asia Young Scientist and Engineer

Advanced Study Program 2019

Final Report

-From Asia to the World-

ACKNOWLEDGEMENT

Tokyo Tech-AYSEAS (Tokyo Tech-Asia Young Scientist and Engineer Advanced Study Program) Administration Office and all Tokyo Tech-AYSEAS 2019 members would like to thank the following cooperating organizations, companies and universities (listed here in the order we visited them or received other cooperation) for the precious opportunity to visit them in Japan and Indonesia and for the discussions with students from partner universities in Indonesia, the Philippines, Thailand, and Vietnam.

Hitachi, Ltd. Rail Systems Business unit
Ebara Corporation Fujisawa Plant
Bandung Institute of Technology (ITB)
PT. Nomura Research Institute Indonesia
PT. GnB Accelerator Asia
PT. Shimizu Bangun Cipta Kontraktor
PT. Chemco Harapan Nusantara
PT Ajinomoto Indonesia
Japan International Cooperation Agency Indonesia Office
Shimizu-PP-BCK Joint Venture
Penta Ocean-Toa-Rinkai-PP-WIKA Consortium
PT Astra Honda Motor
De La Salle University (DLSU)
Gadjah Mada University (UGM)
Hanoi University of Science and Technology (HUST)
King Mongkut's Institute of Technology Ladkrabang (KMITL)

Special Thanks to Bandung Institute of Technology, this year’s host university in Indonesia.

Special thanks to the Tokyo Tech Fund for supporting the students’ travel expenses.

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Ⅰ. About the Program

1. Program Information

1.1 Outline

Tokyo Institute of Technology (Tokyo Tech) launched the Tokyo Tech-Asia Young Scientist and Engineer Advanced Study Program (Tokyo Tech-AYSEAS) in 2013. It is the successor to the highly successful Japan-Asia Young Scientist and Engineer Study Visit (JAYSES), which was launched in 2007 with the aim of establishing networks of promising young persons in Asia. Tokyo Tech-AYSEAS continues in the spirit of JAYSES while developing as an integral part of the Global Scientists and Engineers Course, of which it recently became a part. Tokyo Tech-AYSEAS provides opportunities for participants to broaden their horizons through collaboration with students from different backgrounds and to experience the dynamism of rapidly growing Asian industry, education and government.

This year, we visited Indonesia, and learned from many people working for manufacturers, government projects, and educational institutions. Tokyo Tech-AYSEAS 2019's main theme was "From Asia to the World." The program primarily consisted of the three parts outlined below:

(1) Pre-departure orientation sessions

The Tokyo Tech participants had Pre-departure orientation sessions in Japan to deepen their understanding of the technical visits planned in Indonesia.

- Lectures by a Tokyo Tech professor and a visiting lecturer
- A briefing on general information about Indonesia by a Tokyo Tech's international student from Indonesia
- Visit to Ebara Corporation Fujisawa Plant
- Research presentations (in English) on the companies to visit in Indonesia

(2) Activities in Indonesia from August 27 to September 6, 2019

- Technical visits to Japanese and Indonesian companies
- Group discussions and presentations
- Cultural exchange party and excursions

At the end of each day, students discussed what they learned from technical visits, and exchanged their opinions. Based on those discussions, each group chose one topic and made a presentation on the last day. The topics are indicated below:

1. Cultural difference and understanding on different culture (Understand others/Let others understand us)
2. Precise forecast of natural disasters and developing cost of forecasting methods
3. Technology transfer between countries and the effect on business growth in each

country

4. Improvement of health condition and excessive population increase
5. Economic growth and gap between the rich and the poor
6. Education and industrial management
7. Innovation and regional/global competition
8. Smart City and Privacy

(3) Debriefing session at Tokyo Tech

Tokyo Tech students delivered a Final Presentation on October 16, 2019, and completed this Final Report.

1.2 Objectives

- To learn the dynamism of rapidly growing ASEAN countries and the relationships with them.
- To experience collaboration with students from different nationalities, cultures, languages, viewpoints or fields of study.
- To brush up English as an international language.
- To develop friendship ties with students from different countries.

1.3 Participating Universities

Japan:	Tokyo Institute of Technology (Tokyo Tech)
Indonesia:	Bandung Institute of Technology* (ITB) *Host university
	Gadjah Mada University
Thailand:	King Mongkut's Institute of Technology Ladkrabang
The Philippines:	De La Salle University (DLSU)
Vietnam:	Hanoi University of Science and Technology (HUST)

1.4 Benefits for the participants

- Participants can develop an international human network.
- Participants can learn the latest technologies in Indonesian industry, as well as the relationships between ASEAN countries and Japan.
- Participants receive certificates signed by an Executive Vice President of Tokyo Tech.
- Participants can collect useful information about studying at Tokyo Tech.
- Participants can improve their English skills.

1.5 Expected Results

- More Japanese students will go to study abroad.
- More ASEAN students will come to study in Japan.
- A strong network will be established between top-ranking universities in ASEAN countries and Japan.

2. Schedule of Tokyo Tech-AYSEAS 2019

April - May, 2019	Announcement and application
May - June	Selection
June - August	Pre-departure orientation sessions*
August 27 - September 6	Activities in Indonesia**
October 16	Debriefing and presentation session at Tokyo Tech

*Schedule of Pre-departure orientation sessions

Date	Contents
June 11	Orientation by Prof. Motomu Nakashima Brieging on general information about Indonesia by Mr. Alvin Wagner Darmawan
June 18	Lecture and practical training to develop a discussion skill by Prof. Motomu Nakashima
June 25	Lecture on global leadership by Dr. Takashi Teramoto from Hitachi, Ltd.
July 2	Lecture and practical training to develop a presentation skill by Prof. Motomu Nakashima
July 9	
July 17	Factory tour to Ebara Corporation Fujisawa Plant
July 23	Presentations by students

**Schedule of Activities in Indonesia

Date	Activities
August 27	Arrival in Jakarta, Indonesia followed by ice-breaking session
August 28	Presentation of NRI Indonesia's business Presentation on GnB Accelerator's business; symposium featuring presentations by founders of successful start-ups Site visit to MPP Office Building Project
August 29	Arrival in Bandung by train; AYSEAS opening ceremony and campus tour of ITB
August 30	Factory tour at Chemco Harapan Nusantara and Ajinomoto Indonesia
August 31	Excursion to Kopi Luwak Cikole and Floating Market Lembang
September 1	Day excursion to Saung Angklung Udjo, etc.
September 2	Cultural Exchange Party
September 3	Site visit to Patimban Port Development Project (toll road and new port)
September 4	Factory tour at Astra Honda Motor, and seminar introducing Tokyo Tech's study programs for international students
September 5	Final presentations and closing ceremony at ITB
September 6	Return to Japan

3. Selection

3.1 Tokyo Tech students

(1) Announcement at Tokyo Tech

The Tokyo Tech-AYSEAS administration office announced the program through its website, posters and flyers in April. A briefing session was held at the Study Abroad Fair on May 8, 2019.

(2) Application

Applicants submitted an essay with their application titled “What is your purpose for joining Tokyo Tech-AYSEAS and what are your expectations for the program?” approximately 500 words in English by 20 May 2019.

(3) Interviews

Tokyo Tech-AYSEAS panel meeting members interviewed the applicants in May 29 and 30, 2019. The applicants were divided into three groups of 3-4 persons. They were asked to have a discussion for 20 minutes and to give a presentation about their conclusions.
The topic was as follows.

> *In 2015, Sustainable Development Goals (SDGs) were adopted by the United Nations. The 17 goals, listed on a separate page, are intended to be achieved on a global basis by 2030. Discuss the following:*
> *Choose one SDG, discuss how science and technology can contribute to the achievement of the goal, and clarify why your group decided to focus on that particular goal.*

(4) Criteria for Selection

The essays were scored based on the applicant's English ability, logical composition, and eagerness. In group discussions, applicants were appraised by assertiveness, cooperativeness, logicality, calmness, and attitude by Tokyo Tech-AYSEAS panel meeting members. After the selection, 11 Tokyo Tech students were approved to participate in AYSEAS 2019.

Participants from Tokyo Tech (by nationality and gender)

Nationality	Female	Male	Total
Japan	3	8	11

Participants from Tokyo Tech

Course	Year of Study	Female	Male	Total
Undergraduate	B1	1	2	3
	B2	2	3	5
	B3	0	2	2
	B4	0	1	1
Total of Undergraduate		3	8	11
Graduate	M1	0	0	0
	M2	0	0	0
Total of Graduates		0	0	0
Total		3	8	11

3.2. Students from partner universities

Students from partner universities sent their applications to Tokyo Tech. The applications were sent for selection to the applicants' home universities, and 13 students were approved to participate in AYSEAS 2019.

Participants from member universities

Country	**Female**	**Male**	**Total**
Indonesia	3	7	10
Thailand	0	1	1
The Philippines	1	0	1
Vietnam	0	1	1
Total	4	9	13

Ⅱ. Participant Lists

Students

	Name	Nickname	Sex	Year	School / Faculty / Department
Tokyo Institute of Technology (Tokyo Tech)					
1	Hirofumi Matsue	Hiro	M	B4	School of Materials and Chemical Technology/Material Science
2	Takumi Akiyama	Takumi	M	B3	School of Materials and Chemical Technology/Material Science
3	Harunari Soeda	Hal	M	B3	School of Environment and Society / Department of Transdisciplinary Science and Engineering
4	Juna Uchida	Junabow	F	B2	School of Life Science and Technology / Department of Life Science and Technology
5	Akiyoshi Okubo	Yoshiki	M	B2	School of Materials and Chemical Technology / Materials Science and Technology
6	Kenta Kubota	Kenta	M	B2	School of Engineering / Department of Mechanical Engineering
7	Yasuyuki Matsukawa	Yasu	M	B2	School of Engineering / Department of Industrial Engineering and Economics
8	Yuki Washi	Yuki	F	B2	School of Engineering / Department of Mechanical Engineering
9	Yuto Fukui	Yuto	M	B1	School of Engieering
10	Rio Tatami	Rio	F	B1	School of Life Science and Technology
11	Hayato Mitsudome	Hayato	M	B1	School of Life Science and Technology
Bandung Institute of Technology (ITB)					
12	Millenia Nur Puspita Ciptoputri	Millenia	F	B2	School of Business and Management

13	Wildan Hanif	Wildan	M	B3	Faculty of Mechanical and Aerospace Engineering / Department of Material Engineering
14	David Criston H Purba	David	M	B3	Faculty of Civil and Environmental Engineering / Environmental Engineering
15	Shalahuddin Al Ayyubi	Uddin	M	B4	Electrical Engineering, School of Electrical Engineering and Informatics
16	Gigih Agung Pradipta	Gigih	M	B4	Department of Microbiology, School of Life Sciences and Technology
17	Emanuel Otchere	Nuel	M	B4	Mechanical and Aerospace Engineering
18	Elga Muhammad Nuvra Ardhenas	Elga	M	B4	Faculty of Mechanical and Aerospace Engineering
19	Aida Ulfa Faza	Aida	F	M1	School of Architecture, Planning, and Policy Development
20	Wahyu Ratnaningsih	Ratna	F	M2	Faculty of Civil and Environmental Engineering / Environmental Engineering
Gadjah Mada University (UGM)					
21	Arief Balie	Arief	M	B2	Faculty of Engineering / Department of Civil and Environmental Engineering
De La Salle University (DLSU)					
22	Marian Stephanie Reyes Lao	Marian	F	B2	College of Engineering
Hanoi University of Science and Technology (HUST)					
23	Dinh Ba Tiep	Tiep	M	B2	Transportation of engineering
King Mongkut's Institute of Technology Ladkrabang (KMITL)					
24	Thapat Pajongwong	Boat	M	B1	Faculty of Engineering / Department Of Electrical Engineering

Faculty members

	Name	Sex	Affiliation
1	Dr. Motomu Nakashima	M	Professor, School of Engineering, Tokyo Tech
2	Dr. Keiji Nagai	M	Associate Professor, Institute of Innovative Research
3	Ms. Kiyoko Yanagi	F	Support staff, International Student Exchange Division, Tokyo Tech
4	Dr. Edwan Kardena	M	Directorate of Partnership and International Relations, ITB
5	Dra. Ayi Rohayati, M.A.	F	Head of Mobility Program and Global Education, Directorate of Partnership and International Relations, ITB
6	Ferryanto, ST. MT.	M	Assistant professor, Instructor of Faculty of Mechanical and Aerospace Engineering, ITB
7	Achmad Rofi Irsyad, M.Eng	M	Lecturer, Faculty of Mechanical and Aerospace Engineering, ITB
8	Fathatus Sania Noer, S.S	F	Officer, Directorate of Partnership and International Relations, ITB

Ⅲ. Pre-departure orientation sessions

Outline

Editer: Kenta

We took 6 lectures before we went to Indonesia. In lectures, we learned basics of group discussion and how to give a presentation. Prof. Nakashima taught us it. Also, Mr. Alvin told us about Indonesia and Mr. Teramoto, who was a senior student of Prof. Nakashima in his laboratory and works for Hitachi company, told us what the global leadership is and how to be a leader who can succeed in the world.

1)
Introduction (by Prof. Nakashima & Mr. Alvin)
Date & Time: 16:50-18:20, June 11th, 2019
Summary of the lecture: Orientation of the program. We met each other for the first time, and Mr. Alvin told us about Indonesia.

2)
Theme: Practice of group discussion in English (by Prof. Nakashima)
Date & Time: 16:50-18:20, June 18th, 2019
Summary of the lecture: We learned foundation of how to make good group discussion.

3)
Theme: Lecture by visiting lecturer (by Mr. Teramoto)
Date & Time: 16:50-18:20, June 25th, 2019
Summary of the lecture: We learned what the global leadership is and how to be a leader who can succeed in the world. Mr.Teramoto is an actual global leader, and it was a really good experience for us to listen to such a person.

4)
Theme: Practice of presentation in English part 1 (by Prof. Nakashima)
Date & Time: 16:50-18:20, July 2nd, 2019
Summary of the lecture: We learned foundation of how to make good presentation.

5)
Theme: Practice of presentation in English part 2 (by Prof. Nakashima)
Date & Time: 16:50-18:20, July 9th, 2019
Summary of the lecture: We made a presentation about a technology in front of AYSEAS participants, Prof. Nakashima, and Ms. Yanagi.

6)
Theme: Visit to EBARA CORPORATION Fujisawa District
Date & Time: July 17th, 2019
Summary of the lecture: We studied about pump and visited plants.

7)
Theme: Pre-trip Presentation
Date & Time: 16:50-18:20, July 23th, 2019
Summary of the lecture: We shared roles and made a presentation about Indonesia in front of AYSEAS participants, Prof. Nakashima, and Ms. Yanagi.

Figure 1

Figure 2

1. General information about Indonesia, Overview of Indonesia

Reporter: Yuki

Indonesia is located in Southeast Asia and consist of thousands of volcanic islands. The total land area is around 1.9 million km^2 (Indonesia is the world largest island country) and the population is over 264 million (2017, 4^{th} most populous country). More than 300 different ethnic groups and more than 500 different languages exist in Indonesia. 87% of the people are Muslim, 7% are Protestant Christian, 2.9% are Catholic Christian and others are Hindu, Buddhist, Confucianist etc…(figure3). Indonesia has the world's largest Muslim population.

The capital city is Jakarta, however, Indonesian President Joko Widodo announced a plan to relocate the capital to East Kalimantan, this is part of a strategy of reducing developmental inequality between Java Island and other islands of Indonesia.

The climate is tropical and its average temperature is around 28.5 ℃. The variable of Indonesia's climate is its rainfall. There are mainly two seasons, rainy and dry season. In rainy season, unpredictable fierce rain called squall often occurs. Squall is only a temporary phenomenon so it doesn't last long. It can be said that rainy season in Indonesia and that in Japan are obviously different from each other even both of them are called by the same name "rainy season".

The national flag (figure4) of Indonesia consists of two equal horizontal red and white parts. Each color has its own meaning, red stands for courage and white stands for purity.

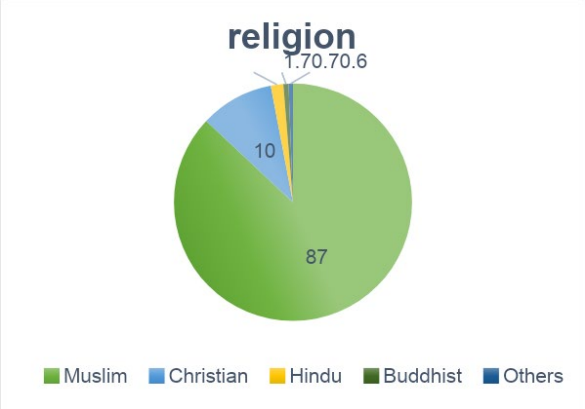


Figure 3

Figure 4

1.1 History

In 1602, the Dutch established Dutch East India Company and it started colonize Indonesia little by little.

In 1942, Japan invaded Southeast Asian countries including Indonesia to secure national resources which were needed for World War II. Japan was welcomed defeating the Dutch force because Japan encouraged the spread of Indonesian nationalist sentiment.

Actually Japan did this for Japan's political advantage but this support created new Indonesian institutions and elevated political leaders such as Soekarno, the first president of Indonesia. In 1945, Japan was on the brink of defeat and the Dutch tried to re-establish their authority in Indonesia, however, the Dutch failed to do that and on 17th August 1945, Soekarno declared Indonesia's independence.

1.2 Society

About economy: Indonesia has the largest economy in Southeast Asia and is one of the emerging market economies of the world. By nominal GDP, Indonesia has the 16th largest economy in the world and in terms of purchasing power parity (PPP), Indonesia has the 7th largest economy in the world. The GDP growth rate of Indonesia is around 5% so it can be said that its economy is growing, however, there are some issues to be solved for economic growth in future generation. For example, Indonesia depends on natural resources like oil or natural gas too much so Indonesia has to reduce economic dependence by industrialize. Still it's clear that Indonesian economy is very promising because it has a large consumption.

About cuisine: Indonesian cuisine varies greatly by religion and has many different influences, for example, Sumatran cuisine often has Middle Eastern and Indian influences and Javanese cuisine is mostly indigenous but it still has Chinese influence a little. Also, Eastern Indonesian cuisine are similar to Polynesian and Malaysian cuisine. Indonesian dishes have rich flavors, mostly described as savory, hot and spicy. Although most of Indonesian dishes are tasty but they are usually too spicy for Japanese people.

About culture: The culture of Indonesia has been shaped by long interaction between original indigenous customs and multiple foreign influences. Indonesia is located among Middle East, South Asia and Far East, resulting in many cultural practices being strongly influenced by a multitude of religions. The result is a complex cultural mixture very different from the original indigenous cultures.

Figure 5 Indonesian cuisine

Figure 6 Indonesian culture

About traffic: Traffic jams in Indonesia are said to be the heaviest in the world. Traffic congestion is accompanied by an increasing number of traffic accidents. There are dominated by motorcycle accidents, which also account for the highest portion of fatalities and major injuries. In general, Indonesia's traffic congestion is caused by a growth in the number of vehicles, of course, this was predicted due to the rapid increase of its population but the growth in the number of vehicles has outpaced the development of roads.

Figure 7 Traffic jam in Indonesia

Present president Joko Widodo announced a plan to relocate the capital to East Kalimantan because he thinks that two problems can be solved by doing capital relocation. The two problems are subsidence and traffic problem.

The island Java is sinking in the ocean so by conducting capital relocation, government of Indonesia try to avoid its capital city's subsidence in the ocean. Also, the government want to solve traffic problem by reducing population inequality between Java island and other islands of Indonesia.

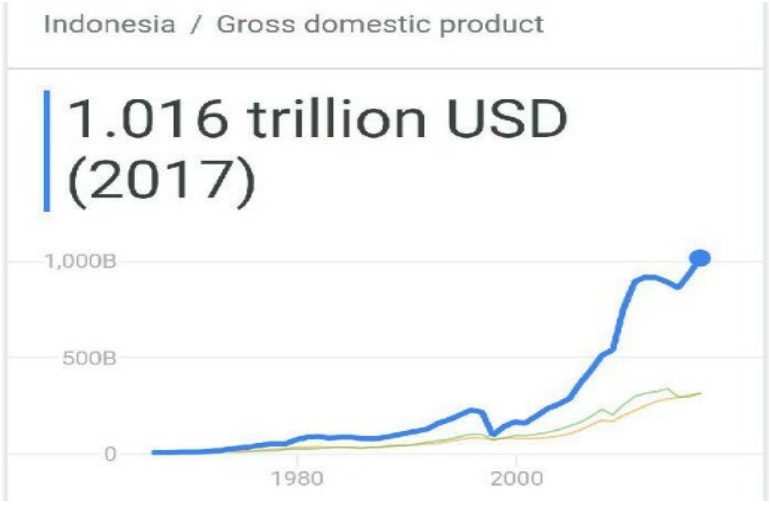


Figure 8 GDP of Indonesia (World Bank)

In Indonesia, there exist lots of religions, tribes and cultures. Even if all of the people who live in Indonesia are called by only one word, “Indonesian”, they have very complex, mixed and special culture. And this must be true that the culture of Indonesia can’t be expressed in just one or two words.

2. Lectures

Reporter: Kenta

We learned basics of group discussion and how to give a presentation. Prof. Nakashima taught us it. Also, Mr. Alvin told us about Indonesia and Mr. Teramoto, who was a senior student in of Prof. Nakashima in his laboratory and works for Hitachi company, told us what the global leadership is and how to be a leader who can succeed in the world. I am going to focus on Mr. Teramoto's lecture here.

Summary of the lecture: We learned what the global leadership is and how to be a leader who can succeed in the world. Mr.Teramoto is an actual global leader, and it was a really good experience for us to listen to such a person.

Personally, I especially learned that the courage of going abroad is more important than English skills by him. I remember the story well that he said to Englishman "Your English is difficult to understand!" though he is a native speaker of English! It was so funny and gave me courage! I realized that English is the only tool for communicating foreign people.
The following list of books were recommended by him. If you are interested in them, try to read. (I am sorry that they are all Japanese books.)

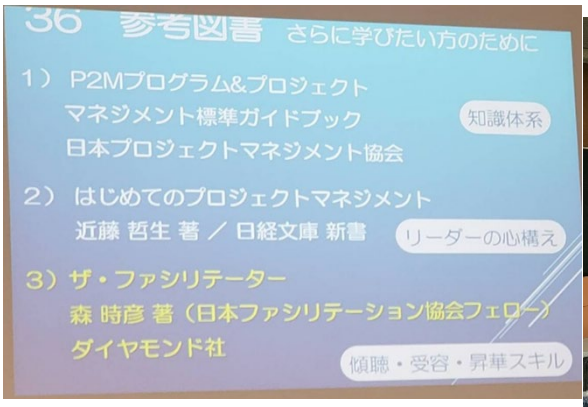


Figure 9 List of books recommended by Mr. Teramoto

Figure 10 Lecture by Mr.Teramoto

3. Visit to EBARA CORPORATION Fujisawa District

Reporter: Yuto

At 7th July, we visit EBARA CORPORATION Fujisawa District. We had a lecture about outline of EBARA CORPORATION Fujisawa District and principle of pump and visit plants.

3.1 Outline of EBARA CORPORATION Fujisawa District

EBARA CORPORATION was founded in 1912 and established in 1920. At first, EBARA CORPORATION was manufacturing pumps. Now, EBARA CORPORATION has three departments. Those are fluid machinery which means pumps, compressors, turbines and chillers, environmental plants, and precision and electronic machine. EBARA CORPORATION has a lot of plant and Fujisawa District is relatively small, but this plant manufactures many kinds of small products. Fujisawa District has plant for ready-made products which has assembly line and made-to-order. We had a lecture about outline of EBARA CORPORATION Fujisawa District and principle of pump and visit both of plants.

3.2 Principle of pump

We had a lecture about principle of pump and I'll introduce it. First of all, there are a lot of kinds of pump. However, I'll introduce pump which uses centrifugal force. This kind of pump has some wings. Wings rotate with motor and give fluid centrifugal force. Then fluid goes up and goes out of pump with this centrifugal force. We had a lecture about principle of pump and I'll introduce it. First of all, there are a lot of kinds of pump. However, I'll introduce pump which uses centrifugal force. This kind of pump has some wings. Wings rotate with motor and give fluid centrifugal force. Then fluid goes up and goes out of pump with this centrifugal force. This is principle of pump.

Figure 11

Figure 12

We experienced this principle. At first, we used a pump with wall around the pump and table tennis balls. At this time, balls spread out. Next, we used a pump with wall and exit for fluid, and table tennis balls. At this time, accelerated balls flied out in one direction. To improve a pump, we need to adjust type of pump such as number and angle of wings and diameter of the pump. In this way EBARA CORPORATION have being met the needs.

Next, we visited a display of history of pump by EBARA CORPORATION. We saw evolution of pump. At first, pump was so big for its power. Because of evolution of skill to process, material and performance of motors, pump is improving more and more. Now, EBARA CORPORATION is supplying their products to all over the world. They also have plants all over the world.

3.3 Visit a plant

Next, we visited a plant of EBARA CORPORATION Fujisawa District. First, we visited a plant for ready-made products. This plant has assembly lines and some lines is automated. This plant makes so a lot of products, so the plant has huge warehouse. Because of its largeness, people can't handle the parts. So, this warehouse is also automated and necessary parts are sent automatically from warehouse to assembly line. Next, we visited a plant for made-to-order products. In this plant, they need to make necessary parts.

EBARA CORPORATION makes products with high quality. That means workers in this company or plant should have high skill of process. So, there are skilled labors and specialists of this kind of processing. To keep high quality of products, they also have to act very strict test. There are some kind of big products, so the plant has big space for test and too big products for this space is split to small pieces for the test.

Figure 13

Reference:

荏原製作所, (http://www.ebara.co.jp),
ポンプのお話, (http://www.sanwapump.co.jp/special/story/01_03.html)

Ⅳ. Technical Visits in Indonesia

Outline

Editer: Yuto

We visited Indonesia in August 27th ~ September 6th. In this visit, we visited some companies or projects to learn or experience their work in Indonesia.
I'll show you relationship between day and where we visited below.
Refer to each section in the chapter IV.

Day	Visit place
Aug 28th	PT. Nomura Research Institute Indonesia
	PT. GnB Accelerator Asia
	MPP Office Building Project
Aug 29th	Institute Teknologi Bandung
Aug 30th	PT. CHEMCO HARAPAN NUSANTARA
	PT Ajinomoto Indonesia
Sep 3rd	Patimban Port Development Project
Sep 4th	PT Astra Honda Motor

We mainly learned what the difference between Japanese companies and Indonesian companies is and how Japanese or people from other countries work together in Indonesia to solve Indonesian problems or expanding their business.

For example, president of NRI Indonesia and GnB Accelerator are Japanese. These companies were established to help Indonesian companies. The company persons told us how difficult and important we run s business or work in Indonesia or other foreign country. For another example, Ajinomoto and Honda in Indonesia overcame the difference between Japan and Indonesia, such as preference or environment for business.

Each section says general information about each place, contents of visiting, Q&A session and so on.

1. Institut Teknologi Bandung (ITB)

Reporter: Junabow

1.1 Contents of visiting and Reporter's comment

While we were in Bandung, we visited Institut Teknologi Bandung almost every day for group discussions. On the first day, professors welcomed us and one of the ITB students had a presentation about the university. Then we looked around the campus. I would like to report what we learned from the presentation and what we saw through the campus tour.

First of all, the university has changed its name many times throughout Indonesian history. It was established as "Technische Hogeschool" in 1920. When Japan ruled Indonesia, the name was forced to change to "Bandung Kogyo Daigaku." Since then it changed three times, and finally in 1959, it became the current name, "Institut Teknologi Bandung."

ITB is one of the top universities in Indonesia, and it has produced so many talented alumni. In the presentation we learned six alumni---Ir. Soekarno (the first president of Indonesia), Habibie (the third president of Indonesia), Arcandra Tahar (the current vice minister of Energy and Mineral Resources of Indonesia), Arief Yahya (the current minister of Tourism of Indonesia), Ridwan Kamil (the current governor of West Java) and Achmad Zaky (the founder of Bukalapak, a large e-commerce company in Indonesia). Achmad Zaky established Bukalapak with two other ITB students in 2010. The number of such startup companies from ITB students will increase according to the development of Indonesia.

There are twelve faculties and schools in ITB. Although ITB is famous for science and engineering, it also has Faculty of Art and Design, and School of Business and Management. Every year Faculty of Art and Design holds an exhibition and displays works by the students. It is one of the exciting events in the university.

In the presentation we saw some pictures of student activities. One of the unique activities is an angklung performance by the angklung student club (Fig.14). Angklung is a traditional musical instrument from Indonesia, and we played the same one on a holiday during this program. Another picture showed football supporters in a student sport championship. There is not such an event in Tokyo Tech, and it looked very exciting.

ITB has three campuses, and we looked around "Ganesha Campus," which is the main campus and has various kinds of buildings. The southern part of the campus tended to have buildings that were built in traditional architecture style, such as Fig.15. On the other hand,

the northern part had a lot of modern buildings, such as Fig.16. Furthermore, there was a building which was not only designed by students but also constructed by them.

Figure 14

Figure 15 Plaza Widya

Figure 16 Building for School of Business and Management

Ganesha Campus not only had unique buildings for lectures and research but also had some attractive spots. For example, there was a park called “Lapangan cinta (Lapcin),” where it is said that everyone will succeed if they confess their love. (“Lapangan cinta” means “love field” in English.) Besides that there was a theater where they can watch a movie made by a movie club. As we can see in Fig. 15, the campus was designed symmetrically, so just walking on the main road, we could enjoy the scenery.

Through the campus tour we felt somewhat solemn but relaxed atmosphere, and we found some differences between Ganesha Campus and our campus. For example, at the library each floor was designed for each grade, so students could easily find books suitable for their ability. I thought it was a good system because I sometimes reserved a book which was too difficult for me to understand. This tour was a good opportunity to find out good ideas by comparing the campus with ours.

1.2 Q&A

Q1: Why is the main campus named “Ganesha Campus?”

A1: Because the campus faces “Ganesha” street.

Q2: What kind of facilities are there in other campuses?

A2: Ganesha Campus is the main campus and almost all lectures are done there. Jatinangor Campus mainly focuses on agriculture and forestry, and Cirebon Campus is still under construction.

Reference:

Bayu Septyo, “Dibalik Kemeriahan KPA ITB IN CONCERT: Angklung, Roll, Action!!!,” Institut Teknologi Bandung, (https://www.itb.ac.id/news/5066.xhtml) , 17 Sep 2019

2. PT. Nomura Research Institute Indonesia

Reporter: Hal

We had a presentation from Mr. Ooka—the President Director of Nomura Research Institute Indonesia (NRI Indonesia)—about Nomura Indonesia. Also, he provided an opportunity to ask him some questions about his company, his life in Indonesia, his experiences in Indonesia and so on. His stories were interesting. However, what is Nomura Indonesia? What they do in Indonesia? I start this chapter with answering these questions.

2.1 Overview of NRI

Nomura Research Institute Indonesia is a branch of Nomura Research Institute, Ltd. (NRI, 野村総合研究所; I will mention about this in detail later) in Indonesia. It was established in 2015 and the present president of it is Mr.Ooka, he is from Tokyo Tech.

Figure 17

2.2 What is Nomura Research Institute?

Establishment of NRI was a merger of two companies—Nomura Research Institute and Nomura Computer System—in 1965. Nomura Research Institute is the first thinktank in Japan, and Nomura Computer System introduced commercial computer for the first time in Japan. Starting from New York, they have made more than 40 branches in the world. According to the University of Pennsylvania, NRI ranked in number 5 in the "Best For Profit Think Tanks"

Their motto is "Dream up the future", in Japanese, 未来創発. They explain this word as follow;

> *Dream up the future. That's the NRI corporate philosophy.*
> *Today, the world is changing so fast that no one can read the future. We have placed ourselves on the leading edge, creating and innovating for the future while keeping an eye focused on society.*

By creating new value, we will make a positive contribution to society that will benefit our world.

"Dream up the future" is about creating and innovating the future, which is how NRI continues to enhance our strength and challenge the status quo.

From *NRI CSR Integrated Report 2016*

They also put “progressive” and “trust” as their missions to their clients and society.

2.3 What they do?

Basically, their main job is “consulting” and “system integrator”. I know most of reader of this article know the meanings of “consulting” and “system integrator”, so explain them here.

2.3.1 Consulting

Consulting is one kind of business and their main job is giving “advices”. Showing in the figure 18, their clients need opinion or advice from specialists concerning their problems, for example, they want to expand their business to new fields, or they want to make their business more effective. Consultants provide them advise as professional or do research and show information. Through these processes, consultants support clients and achieve clients’ goal with them.

Figure 18

2.3.2 System integrator

When they clients want to make new business or start new service to their customer, most time they need make or build new system (especially IT or IoT system in these days). NRI also build such systems for their customer. This is the work of “System integrator”. NRI has done following cases; making new network system for Japan Post Holdings Co.,Ltd, mileage network for airline company and so on.

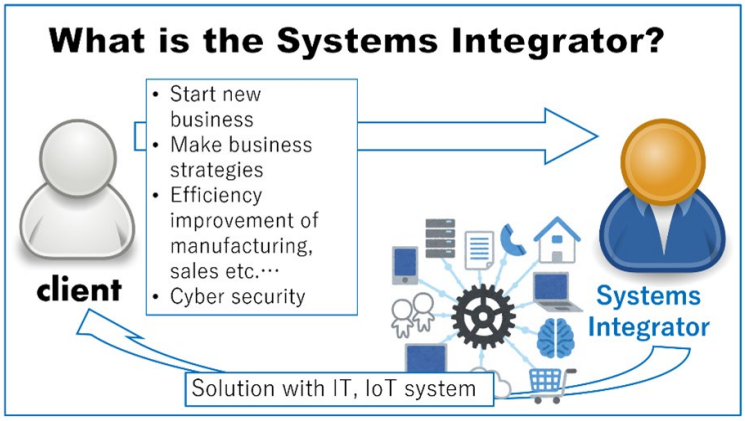


Figure 19

2.4 From Question and Answer session with Mr.Ooka

As it was mentioned in beginning of this chapter, we met Mr. Ooka at the building of GnB. At first, he gave us brief explanation of his career including research program in Tokyo Tech, working experiences in NRI in Japan, founding NRI Indonesia. After that, he gave us time to ask him questions. In that section, a lot of students asked questions and Mr. Ooka gave us answers sincerely. Here is some questions and his answers.

Q. How about stay in Indonesia?
A. Climate in Indonesia is good. It's not as hot as Japan in summer.

Q. (from his introduction) Before came to Indonesia, what did you do in Japan. And why you decided to work in Indonesia?
A. In Japan, his work was system integrator. Since he entered NRI, he considered to work in other country. This is based on his research topic in Tokyo Tech. His research topic was improving telecommunications network in a developing country.

Q. How he spends his weekend?
A. Sometimes he goes to travel in Indonesia, play golf with his friends, meet alumni of Tokyo Tech in Indonesia.

Reference:

"2015 Global Go To Think Tank Index Report" by University of Pennsylvania, (https://repository.upenn.edu/cgi/viewcontent.cgi?referer=https://ja.wikipedia.org/&httpsredir=1&article=1009&context=think_tanks),
Home page- NRI , (https://www.nri.com/jp),

NRI recruit 2019, (https://working.nri.co.jp/2019/),
NRI CSR Integrated Report 2016,
(https://www.nri.com/-/media/Corporate/jp/Files/PDF/sustinability/library/back_number/CSR_Report2016_e.pdf?la=en&hash=8D4239384C38BD26F6679E490EA4E4A54CCA7778)

3. PT. GnB Accelerator Asia

Reporter: Hayato

3.1 Overview of GnB Accelerator

GnB Accelerator is a first global accelerator in Indonesia dedicated to progress and innovation that brings together the people, the funding, and the partners that drive business velocity. GnB Accelerator invests in talented and passionate early stage startups of all backgrounds, helping them to create innovative technology companies. GnB is a collaborative program between Japanese IT company Infocom Corporation and Pegasus Tech Ventures from Silicon Valley.

3.2 Presentation and Symposium

Mr. Kentaro Hashimoto , CEO/President Director of GnB Accelerator, kindly invited us to GnB Accelerator's office and we listened to presentations and symposium there. In the presentation, he explained the difference between accelerators and consultants.

The former give money to startups. On the other hand, the latter receive money from startups. As I mentioned earlier, GnB accelerator helps startups in many ways. One of them is "demo day". They organize "demo day" for startups. In "demo day", startups do presentations in front of investors all over the world to get funding. Microsoft, Amazon, Indonesian government and a lot of other organizations support "demo day".

We also learned three important points to make successful startups.

1. You know the problem
2. You know the solution
3. The solution is implementable

People tends to forget third one because of their ambition. If you want to do something outstanding, you should think about whether you can actually do it.

3.3 Q and A

Q : Why investors can be brave enough to put a lot of money in startups?

A : Because if the startup they invested in become successful, they get huge amount of money. If they invest in 100 startups and only one of them become successful, they still get money.

Figure 1 Group photo in GnB Accelerator's office

References : "GnB ACCELERATOR" ,(https://gnb.ac/),18th September 2019

4. MPP Office Building Project

Reporter : Yoshiki

Mr. Shinya Abe from Shimizu Corporation (Construction Manager& Project Manager) guided us in this visit.

4.1 Information on The Jakarta Office Tower Project (tentative name)

This project aims to build an office tower, (which is under construction). The height of the tower will be about 266m above ground and will be the 8th tallest building in Jakarta. The size of the site area will be 8,484m^2. The total floor area will be about 190,000m^2. The building will have 58 floors above ground, a ground floor, and 4 floors underground. It is designed and constructed by Shimizu Corporation and Bangun Cipta Kontraktor. The construction started in July 2017 and is scheduled to finish on 2021.

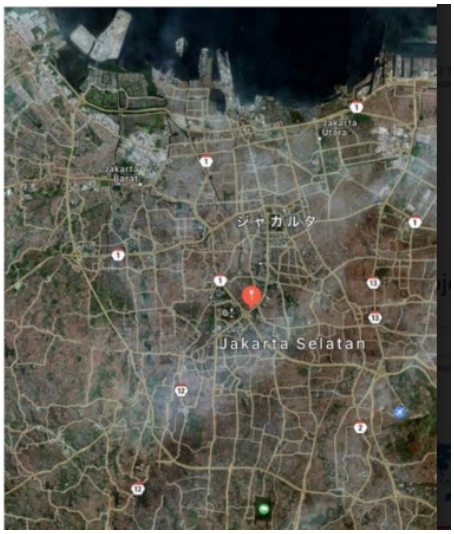


Figure 21 Location

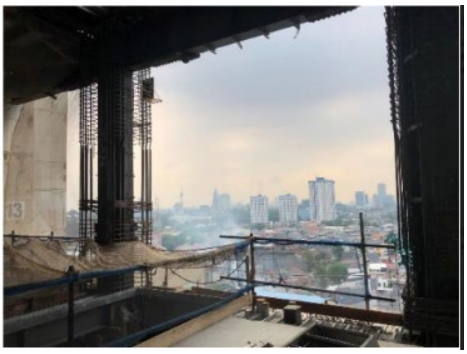


Figure 22 The state of construction

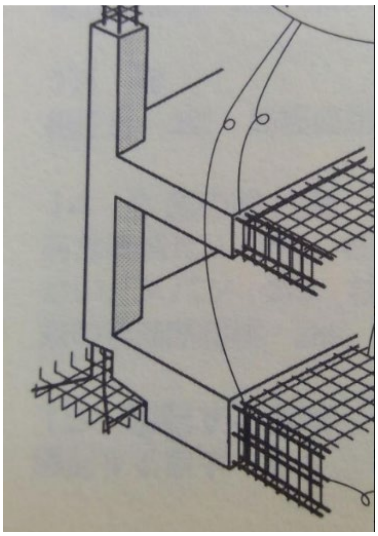


Figure 23 RC Structure

RC structure is used in the podium portion. Podium is upper-structure (except tower) of a building. RC structure stands for Reinforced Concrete structure. Concrete is a material which can resist high pressure, while elongated steel can resist high tensile. However, concrete can break easily when tensile force is given and elongated steel can bend easily in high pressure. Thus, a method that reinforcing steels strengthen concrete was conceived in the middle of the 19th century.

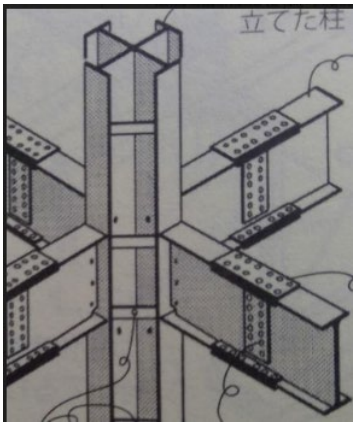


Figure 24

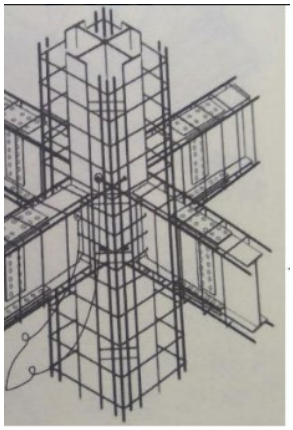


Figure 25

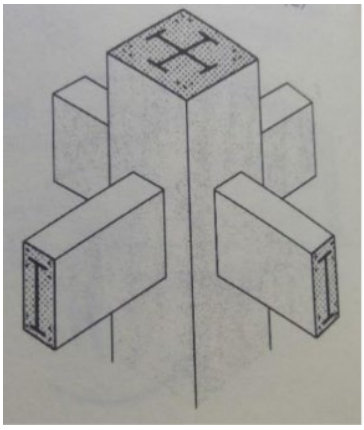


Figure 26

SRC (Only column) is used in the tower portion. SRC structure stands for Steel-frame Reinforced Concrete structure. It is the structure that Reinforced Concrete is around Steel-frames. The way to create SRC structure is shown from Fig. 24 to Fig. 26. At first you have to construct Steel-frames (Fig. 24). Next, reinforcing steels are fabricated around the steel-frames (Fig. 25). Finally, concrete is placed around steel-frames and reinforcing steels (Fig. 26). Because of Steel-frames, SRC structure has excellent fireproof, rustproof, and earthquake-proof property.

In the construction, steel called rolled steel for building structures, or SN material, is used. ASTM A572 Gr50 is used for some steel-frames. ASTM A572 Gr50 shows that the size of the ultimate tensile strength is bigger than 490N/mm^2. When an elongated test piece is pulled in a tensile test, ultimate tensile strength is defined as the value that the maximum tensile load is divided by the original cross section of the test piece (Figure 28). SN material has quantitative regulation on the carbon, silicon, manganese, phosphorus, and sulfur in steel. Carbon makes steel stronger, but undermines ductility, shock absorbency, and weldability of steel. Silicon and manganese make steel stronger and deoxidized, but diminish ductility and shock absorbency. Phosphorus and sulfur undermine shock absorbency.

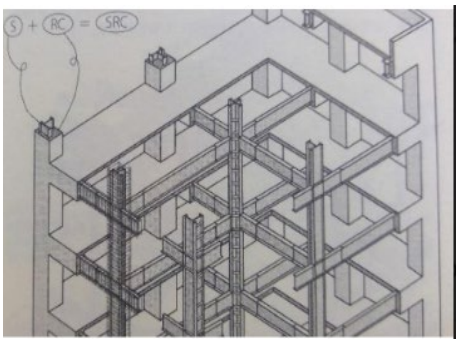


Figure 27

Figure 29

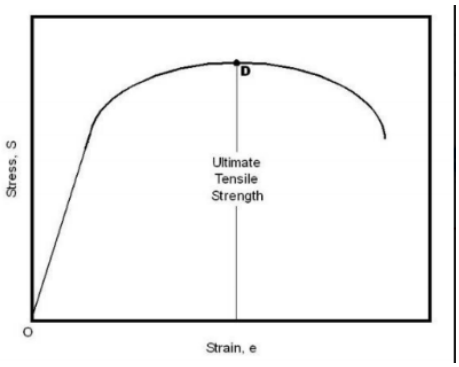


Figure 28

4.2 Shimizu Corporation

- 清水喜助(Kisuke Shimizu) founded Shimizu Corporation in 1804.
  In 1868, 二代清水喜助(Kisuke Shimizu Ⅱ) designed and constructed 築地ホテル館 (Tsukiji Hotel Building), which is the first authentic western style hotel in japan.
- It has built 国立代々木競技場(National Yoyogi Stadium)
- It has repaired 国立西洋美術館(National Museum of Western Art) in order to change the building into earthquake- proof; The design of the building was kept the same.
- 10,714 people are working in Shimizu Corporation (on April 1st in 2019).

4.3 Bangun Cipta Kontraktor

- Bangun Cipta Kontraktor or BCK was established in1977 as a subsidiary of the Bangun Tjipta Sarana Group.
- Initially its main business was in construction of infrastructure projects. It is now investing company dealing with public private partnership, real estate, office building, hotel, golf course, and palm oil plantation.

Reference:

原田秀昭『ゼロからはじめる[RC+S 構造]演習』 p8~p9, p24~p25
松村秀一,小見康夫,清家剛,平塚岳人,名取発『3D 図解による建築構法 第二 版』 p128~p129, p154

田辺雅弘, 中島宏冶『世界で一番詳しい鉄骨造 09』p108
(https://www.admet.com/wp-content/uploads/2015/07/ultimate-tensile-strength.jpg)
(http://ptbck.com/en/)
(https://www.shimz.co.jp)

(https://kotobank.jp/word/引張り強度-1581924)

5. PT. CHEMCO HARAPAN NUSANTARA

Reporter: Yasu, Takumi

5.1 Basic information

- The name of company: PT. CHEMCO HARAPAN NUSANTARA
- The year of establish: 1987
- Location: Cikarang Plant (Jl. Jababeka Raya blok F No. 19-28 Cikarang Utara 17530 Bekasi, Jawa Barat)
- What they make: brake systems, aluminium wheels, and casting parts.
- Scheduled day of visit: August 30th (Day 4).
- Location: 1st Plant in Cikaran, 2nd Plant in Karawang
- Relation between Japan and this company: joint venture of Nissin Kogyo.co

About Nissin Kogyo

Nissin Kogyo is a company in Japan which creates brake components of automobiles and motorcycles.

- Indonesia has a hard traffic jam problem, and that is especially seen in big cities like Jakarta or Bandung. Such traffic jams happen because there are not enough public transportations in Indonesia even though in such big cities. We understood that these traffic jams are mainly caused by so many motorcycles driving in roads. It seems bad to use motorcycles after reading this sentence, but it's not true. In other words, most Indonesian people can't live without motorcycles, and this company helps those people with providing so many parts of motorcycles (see Figure 30). This company contributes Indonesian society a lot.

Figure 30

5.2 Outline

(1) Presentation of general information about PT. Chemco Harapan Nusantara. The company operates 2 manufacturing facilities in Indonesia. Their products are brake system, aluminum wheels and casting parts. A lot of companies in Indonesia and around world need their product because product quality is high.

(2) Factory tour

1. Die Casting
   The process of making metal objects by forcing liquid metal into a hollow container with a particular shape, and then allowing it to become hard. Dangerous processes were almost automated, but occasionally craftsmanship was also seen.

2. Heat Treatment
   Heat treatment is to change properties and structure by applying heat to metal.

3. Quality Check
   Quality check is very strict. We could not find any defects in the product visually.

4. Warehouse
   Products were stacked up to the ceiling in the warehouse. The production time and type of products are managed with colored tags so that they can be discriminated visually.

5. Assembly room
   The room was kept clean as small trash could lead to product failure. So we could not enter the room.

6. Mold production simulation
   Using computer for calculation, they were trying to find the most efficient mold. When there was no personal computer, they made molds and modified them repeatedly. However, it is now possible to simulate by using CG etc. without actually making it. It is like the brain of a factory.

7. Mold Making
   This is the process of cutting the mold based on the simulation. The machine operation rate is displayed on the monitor, and it is devised so that it could always operate efficiently.

5.3 Comment from reporter

We learned about the motorcycle parts factory that Indonesia is proud of. There was a fusion of Japanese and Indonesian industries. I hope this company will continue to lead the world. We are grateful to the people who gave us this opportunity.
Especially Mr. Kenichi Fujii and Mr. Arie Santoso.

Figure 31 Exterior of the factory

Reference: (https://www.chemco.co.id/)

Figure 32 Aluminum wheel

6. PT Ajinomoto Indonesia

Reporter: Rio

6.1 Presentation about PT. Ajinomoto Indonesia

PT. Ajinomoto Indonesia was established in 1969 as a part of Ajinomoto Global Group which is expanding their business overseas. Their factories are located in Mojokerto, West Karawang (KIIC) and East Karawang (ABI). We visited the one in KIIC this time. In the factory, 826 people are working to make Ajinomoto Indonesia original seasonings called “Masako”, “Saori”, and “Sajiku”. This factory was built in December 2012. At first they made “Masako ayam” (chicken flavor), and they began to make “Saori” from 2014, “Masako sapi” (beef flavor) and “Sajiku” from 2017. Every year, they have increased their facility construction and the amount of those productions.

6.2 Factory tour

Figure 33

After their presentation, we were divided into two groups and looked around the factory facilities making Ajinomoto products.

First, we learned about the origin of “Ajinomoto” and the history of Ajinomoto Group. The company was founded to sell “Ajinomoto” made from glutamic acid one of amino acid. Dr. Kikunae Ikeda obtained a patent to produce Monosodium Glutaminate as an umami flavoring, and had managed to produce “Ajinomoto” with Saburosuke Suzuki. Now Ajinomoto has many related companies all over the world. (Fig. 34)

Figure 34

Secondly, we went to the inside of the factory. We could not see the processes of making seasonings, but we could see how they are packed and delivered to people. I was so surprised that many more processes were done by hands than I expected, even when workers set up cardboard boxes. They said the reason why there are less machines is said that hiring more people costs lower than introducing new machines from Japan.

6.3 Q&A session

Q1: The product name like ”Masako” and “Saori” sounds the women’s name in Japanese. Are there any relation between them?

A1: For “Masako”, the name is taken from “Masak” which means cooking in Indonesian. In addition, someone said that this name is from a wife. For “Saori”, this is from “SAuce ORIental”.

Q2: How safety are products of Ajinomoto?

A2: From the official information, Monosodium Glutaminate (MSG) is “safe” based on the results that the study of JECFA (Joint FAO/WHO Expert Committee on Food Additives) said the limitation of MSG usage is “Nothing” and FDA categories it as “GRAS (Generally Recognize As Safe)”.

Reference: https://www.ajinomoto.co.id/en (for Fig. 33)

Figure 35

7. Patimban Port Development Project

Reporter : Hiro

7.1 Background

In recent years, Indonesia has achieved a great economic growth. However, as the demand for transportation increased due to the nation's economic growth, the capacity of the entire port was considered to be insufficient. In order to solve this problem, the Indonesian government proposed a plan that the maintenance of the infrastructure must be given with the first priority. Based on a survey conducted by the Indonesian Ministry of Transport, the Patimban are in Subang Regency of West Java was selected as the best place for the new port.[1]

http://www.penta-ocean.co.jp/english/updates/2018/180717.html

Figure 36

7.2 Introduction

Patimban Port Development Project is an ODA carried out by the Japan government. The Japan government and Indonesian government came to the agreement in 2017. The amount of the loan by the Japan government extended to Indonesia through this ODA is estimated at 2,000 billion yen.

The financial support from the Japan government is based on the Development Cooperation Policy for the Republic of Indonesia. From the view of JICA analysis paper, the outline of Indonesia was the importance of the construction of a new port for additional economic growth. The Patimban Port Development Project correspond with this outline. The construction of the port will be beneficial to both Japan and Indonesia. For Indonesia, this port is essential to streamlining logistics in the entire metropolitan area. For Japan, this port is not only useful to import oil and natural rubber, but also crucial for business environment

of the local Japanese companies. From this view, the Patimban Port Development Project became more essential. This Project includes the construction of a modern port with container terminals and car terminals, and a high ways toward the port.[2]

7.3 Japanese Corporation engaged in the Project

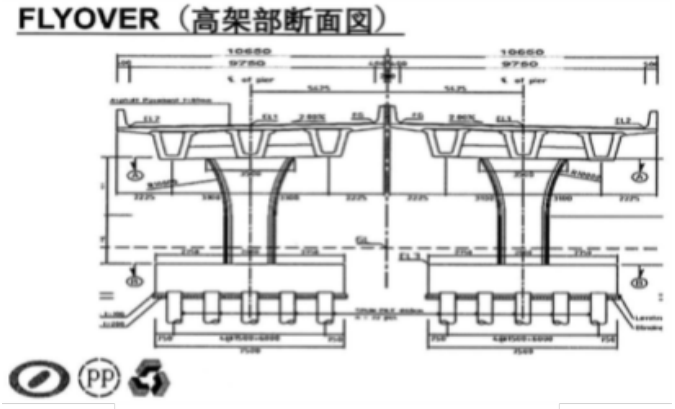
Three Japanese corporations are engaged in this project. They are Penta Ocean Construction, Toa Corporation, Rinkai Nissan Construction. The majority of the construction will be carried out by Penta-Ocean Construction. The Penta-Ocean Construction has been engaged in many ODA delivered port construction, petrochemistry and LNG plants construction and the construction of factories of Japanese corporations. The Indonesian Ministry of Transport accepted these projects. The purpose of their accepting the projects is to transfer their technology to developing countries by utilizing the advanced technology and know-how of Japan. During this project, the Penta-Ocean Construction is going to utilize its advanced technology on the construction which has advantage on the reduction of the construction period for the rapid conduction of this project. Those service includes reclamation, the improvement of the ground and the construction of the piers.[3]

7.4 Details

Access Road

This is a 8.2 km road connecting the highway with Patimban Port. The construction started on October 23, 2018 and will be accomplished in 18 months. The road has two 10.65m lanes. The road consist of two sections, which are fly over section and piled slab section.

The flyover section are used in places where original roads are laid and where people move frequently. This would reduce the impact the access road on the local people and traffics. There are 4 sections of flyover along the road. The flyover work will be processed as follows:



The structure of fly over

Figure 37

1. Drive piling and excavate the dirt around it

Figure 38

2. Cute the pile and apply a certain treatment by Guzzila Concrete crusher. After that lean concrete

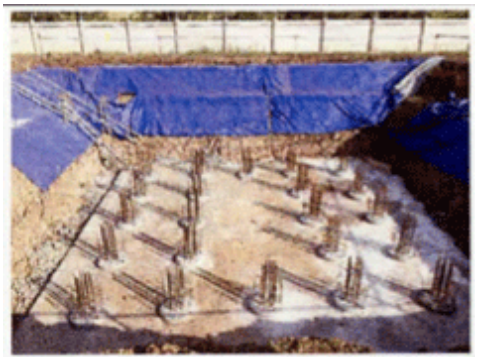


Figure 39

Figure 40

3. Put rebar at the column after side formwork, then lean concrete

Figure 41

4. Create a support for pier head and conduct side formwork for pier head

Figure 42

5. Concrete the pier head

1.Piling driving

Figure 43

2.Cut the pile and apply head treatment after level the ground

Figure 44

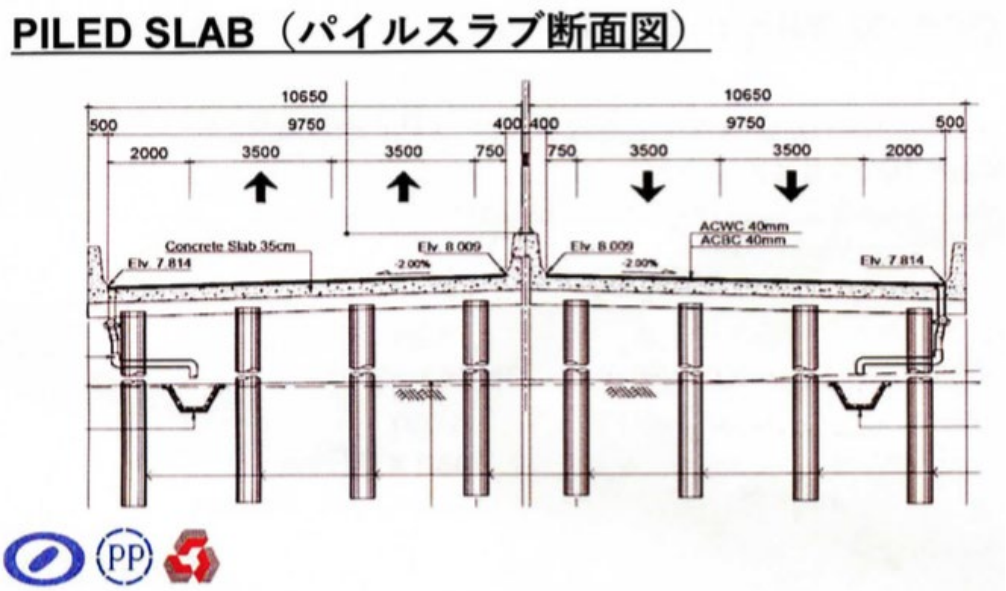


Figure 45

The rest of the road consists of piled slab section. The piled slab work will be processed in the follow:

3.Scaffold Support Erection

Figure 46

4.Soffit Formwork Installation

Figure 47

5.Side formwork and Rebar for Barrier

Figure 48

6.Concrete barrier works and flexiable pavement works

Figure 49

There are two benefits of using Guzzila Concrete Crusher. One is that this method will make the productivity increased 4 times compared with conventional method. Another is that the work will be much safer.

In addition, using MevaDec Slab also has many advantages. First, this enables formwork panel to become removable once the strength of the concrete achieve a certain value. Second, the use of MevaDec Slab requires less cleaning after formwork dismantling. Next, the durability of the piled slab will increase to 7 years. Last, the MevaDec Slab is very easy and fast to handle.

The utilization of Guzzila Concrete Crusher will both increase productivity and make the construction safer

The utilization of MevaDec Slab will both make the construction process go smother and increase the durability of the work

Figure 50

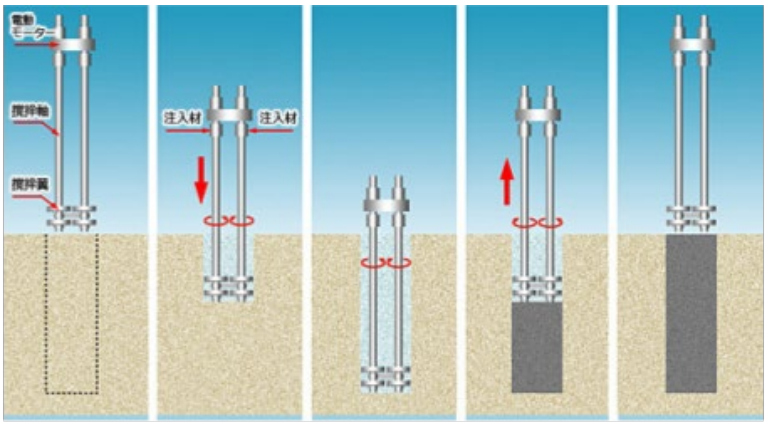
Port

The construction will be mainly done by Penta-Ocean Construction. The port consists of container terminals and car terminals. There are two method that the corporation are utilizing during the construction. One is CDM (Cement Deep Mixing) and the other is CPM (Cement Pipe Mixing).

The CDM method is a mechanical agitation type deep mixing method that involves injecting a cemented hardened slurry into soft ground, stirring and mixing with the soft ground, and solidifying chemically.

The CPM is a kind of solidification treatment method that can recycle soft soil including dredged soil. The principle is that the solidification material is added to the soft soil during pneumatic feeding, and the plug generated in the pneumatic feeding pipe Kneading soft soil

and solidified material using the turbulent flow effect. During this method, the solidification equipment can be greatly simplified, and a system can be constructed by adding a solidifying material addition device to the existing pneumatic feeding equipment since the solidified soil is kneaded during pumping.



1.Set the ground improvement device at the proper location
2.Spit out and mix the slurry from the bottomof the equipment simultaneously
3.Mix the slurry while moving the equipment up and down when reached the desired depth
4. Pull out the equipment
5. Solidify the slurry

Figure 51

Reference:

1. (https://www2.jica.go.jp/ja/evaluation/pdf/2017_IP-577_1_s.pdf),

2. (https://www.jica.go.jp/oda/project/IP-577/field.html) ,

3.(https://www.rncc.co.jp/img/news/large/info20180717_01.pdf#search='Patimban+Port+%E4%BA%94%E6%B4%8B%E5%BB%BA%E8%A8%AD'),

4. (http://www.cdm-gr.com/what/)

5. PENTA-OCEAN CONSTRUCTION CO., LTD.

8. PT Astra Honda Motor

Reporter: Yuto

8.1 General Information

PT Astra Honda Motor is joint venture with equal investment of Honda Motor Company Limited and PT Astra International Tbk. This company manufactures parts of motorcycle, assembles engine and body and sells motorcycle. Market of motorcycle in Indonesia is the third largest place after India and China.

In 2014, AHJ announced that they increase number of annual production of motorcycle at factory in Karawang (the fourth factory) by five hundred thousand and this factory manufacture only sports bikes to meet the demand of sports bikes. By this, AHJ came to produce 5.8 million motorcycles.

Now, performance of AHJ increased by year and AHJ has the top market share in Indonesian motorbike market.

8.2 Visiting factory

First, we visited a training center. New worker is trained in this training center for assembling, painting and checking. There are many processes, techniques required and parts to make motorbikes. So, they need to train to work in this factory.
Second, we visited assembly line. Factory in Karawang has some assembly lines and each assembly line has a lot of workers. They sometimes cheered each other by calling some words while working. Manufactured parts were automatically carried to next Assembly line. And some kinds of parts were made with some special machines.

Figure 52

Figure 53

In this factory, all of finished products were checked one by one by workers. They check breaking system, engine, lamps and so on. At checking point of painting, even if there are very small place unpainted, those parts aren't used. So, motorbikes by AHJ have a high quality.

This factory has introduced Japanese style. The example is "5S". This means Seiri(整理), Seiton(整頓), Seisou(清掃), Seiketsu(清潔), Shituke(躾). Moreover, there are a lot of noticeboard that says better points than last month about quality of products.

Figure 54

Reference:
Honda 丨広報発表 丨2014,(https://www.honda.co.jp/news/2014/c141211.html)
CORPORATE PROFILE | PT Astra Honda Motor,
(https://www.astra-honda.com/corporate#corporate-profile),
Honda| インドネシアでアストラグループと二輪車製造・販売の合弁会社を設立,
(https://www.honda.co.jp/news/2000/c000830.html)

Ⅴ. Discussion and Presentation

Outline

Editer: Yuto

In this trip, we made 5 group with students from Indonesia, the Philippines, Thailand and Vietnam. Then, we chose one topic from some kind of trade-off topic and discussed that problem. Our goal was making solution for each topic and presentation on September 5th. Discussion sessions were initially planned for 5 times, but, partly because of traffic trouble, discussion time shortened. So, most of groups prepared their presentations in the previous day. However, we made presentations somehow.

Most of group supposed to feel that the discussion with students from foreign countries in English was difficult. However, almost all groups could make better discussion or better solution by sharing their opinion, information or experience each other.

We came up with a solution not only from where we mentioned in chapter 4 but also from other places. So, some groups included those information, perspective, ideas or business model and proposed that they make new business. At each section, each group explains what they discussed and concluded.

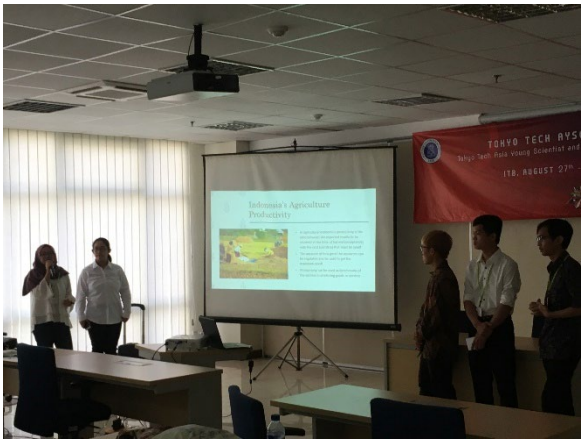


Figure 55

Figure 56

1. Group 1

Topic: The Effect of Economical Growth on the Gap Between the Rich and the Poor
Members: Hiro, Abbie, Aida, Nuel, Junabow

1.1 Background

In the last 20 years, Indonesia has been maintaining a very high economic growth rate. However, the gap between the rich and the rest of Indonesia population grew faster compared to other countries in Southeast Asia. To help solving the problem of inequality and make further economic growth, the relationship between economical growth and the gap between the rich and the poor should be clearified.

1.2 Introduction

In order to figure out the effect of economic growth on the gap between the rich and the poor, there is need to get a whole picture of the real condition of the gap between of the rich and poor. This article will focus on the inequality in education, income and health care. The comparison of Indonesia and Japan is done in order to figure out the influence of government.

1.3 Issue

According to ADB Institute, the gini ratio income of Indonesia in 2014 is 20.22% and 38.1% in 2019. But in another survey, a large inequality of opportunities in health care in Indonesia has been reported.

Table.1 the ratio of the government expenditure toward education[1]

2008	13.67
2009	19.31
2010	16.65
2011	18.01
2012	18.09
2013	17.60
2014	17.67
2015	20.52

Table 1 the ratio of the government expenditure toward education

According to ADB Institute, the gini ratio income of Japan is 32.1% in 2019. But some other researches also show that Japan is also facing the problem of considerable income inequality. On the other hand, there is no inequality until high school education due to compulsory education.

1.4 Result & Discussion

Table 1 shows the ratio of the government expenditure on education. Compared to 2008 the ratio tends to have increased, but the educational inequality has not improved so much.

Table 2 shows the GDP contribution of each region, and Table.3 shows the poverty population ratio of each region. These tables tell us that Java and Sumatra contribute to the most of the GDP growth in Indonesia, and that the regions with low GDP contribution like Papua suffer from poverty.

Island - Region	Contribution GDP - 2012
Java	57.51%
Sumatra	23.91%
Kalimantan	9.03%
Sulawesi	4.86%
Bali - Nusa Tenggara	2.55%
Maluku - Papua	2.14%

Table 2 GDP contribution of each region in 2012

Province	Poverty
Papua	30.66%
West Papua	27.04%
Maluku	20.76%
Nusa Tenggara Timur	20.41%
Aceh	16.98%
DKI Jakarta	3.70%

Table 3 poverty ratio of each region

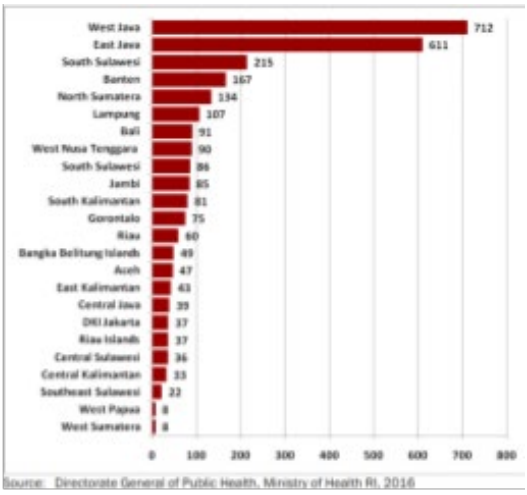


Figure 57 the number of health centers in good quality (2015)

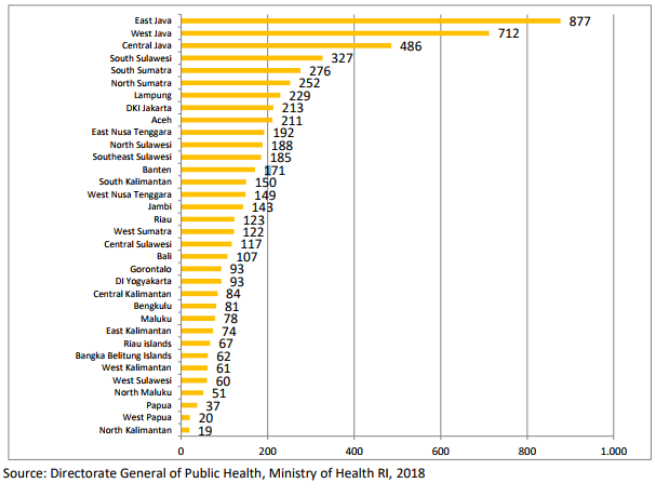


Figure 58 the number of health centers in good quality (2017)

Fig.57 and Fig.58 show the number of health centers providing occupational health service in each region. Although the number increased in every region from 2015 to 2017, new health centers concentrate in urban areas.

We discussed the causes of these problems. There seems to be mainly two reasons. Firstly, due to the lack of supportive infrastructure, price of goods is too high and facilities of health care and education are very limited. For example, Anambas, a small island in Indonesia, has

only one hospital which is still under construction, so people living there are troubled when they get sick or injured. Secondly, many economic and industrial facilities are concentrated in Java because the government invests a lot of money there and does not invest in rural areas.

To solve these problems, we searched how Japan has solved these kinds of problems. According to the MLIT (Ministry of Land, Infrastructure, Transport and Tourism), Japan has continued to invest money on infrastructures especially on transportation. Fig. 59 shows the change of time taken to transport things from Tokyo to each province. From this picture, we can find out that Japan has developed public transportation networks all around the country.

We also searched how Japan has tried to save the poor and give equal education. Firstly, especially in the 1960s, Japanese government formulated Income-Doubling Plan, and increased the number of employees by carrying out many public works. Secondly, Japan now has a lot of free educational online services and that makes opportunities to study more equal.

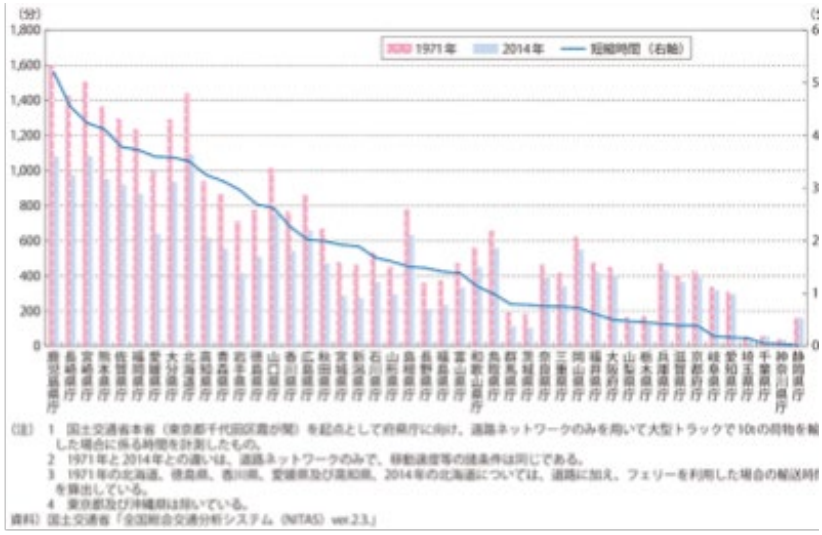


Figure 59 the change of time taken to transport things from Tokyo to each province

1.5 Conclusion

In this article, the conclusions below were obtained.

- The growth of economic growth has no directly effect on the gap between the rich and poor
- To extinguish the gap between the rich and poor, the government needs to increase the money invested on the infrastructure.

・Making sure that every area can lead the same level of economic growth is essential in shrinking the gap between the rich and poor.

Through the comparison of Indonesia and Japan, some ideas have been proposed for extinguish the gap between the rich and the poor. First of all for Indonesian government, it should take care of the whole country. If they continue to focus on the development of Java, the gap between the rich and the poor will expand. To fill the gap, the government needs to invest more money on infrastructures, and try to let every area reach the same level of economic growth. Next, the increase in the number of public enterprises also gives more opportunities for the poor to earn money. Moreover, they should utilize the Internet for equality in education because the Internet enables people in remote areas to be well-educated.

Reference:

[1]Indonesia - Public spending on education, (https://www.indexmundi.com/facts/indonesia/public-spending-on-education)
[2]The Issue of Inequality Within Indonesia's Booming Economy, (https://www.indonesia-investments.com/business/business-columns/inequality-of-the-regions-economic-significance-towards-indonesias-economy/item730)
[3](http://www.depkes.go.id/resources/download/pusdatin/profil-kesehatan-indonesia/indonesian%20health%20profile%202015.pdf)
[4](http://www.depkes.go.id/resources/download/pusdatin/profil-kesehatan-indonesia/indonesia-health-profile-2017.pdf)
[5]経済動向とインフラ整備, (http://www.mlit.go.jp/hakusyo/mlit/h27/hakusho/h28/html/n1121000.html)

2. Group 2

Topic: Improvement of health condition and excessive population increase
Members: Takumi, Kenta, Hayato, Marian, Wildan

2.1 Current situation

-Poor health condition

Figure 60 shows the share of children who die before they become 5 years old. As you see, some ASEAN countries are light blue, which means over 5% children die before 5 years old.

Thus, there are poor health conditions in some ASEAN countries. We considered the reasons why it happens, and they are as below:

- Inadequate access to clean water
- Inadequate access and knowledge to nutritious food
- Little or no access to livelihood or jobs
- Conflict
- Inequality due to gender
- Inequality due to poverty
- Poor education
- Climate change
- Lack of infrastructure
- Limited capacity of the governmen

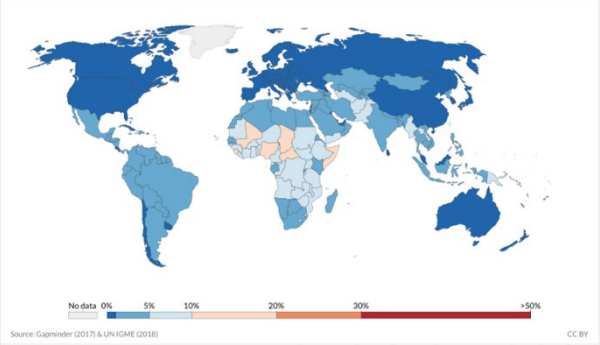


Figure 60

-Overpopulation in some ASEAN countries

Figure 61 shows population growth in the world. Global warming and something like that is considered as more serious problem than this, but it's not true. Actually, it causes serious problems like lack of food, lack of energy and so on. We have to solve this problem right now! Then we considered the reasons why it happens, and they are as below:

- Technological advancement in fertility treatment

- Lack of family planning
- Lack of Sex Education
- More hands to overcome poverty
- The decline in the death rate

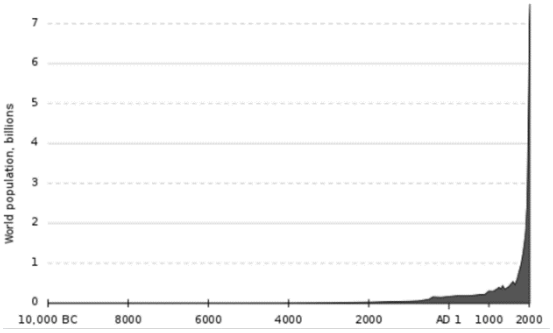


Figure 61

2.2 How we reach our solution

At first, we discussed how to resolve overpopulation. In order to develop a solution, we tried to find the reason for overpopulation. We thought one of the reason is poverty. If they are poor, they may have to have a lot of children who can work for their family. We thought poor knowledge of family planning is also causing overpopulation. If more people know about how to avoid getting pregnant against their will and think seriously how many children they want, the overpopulation problem will be solved.

After we determine the reason of overpopulation, we tried to come up with a solution. Initially, we thought it would be a good idea to make an organization which helps people get over poverty and also spread the concepts of family planning.

However, we realized that it is not a good idea because there are already a lot of similar organizations and overpopulation is not solved. We looked into why those organizations have difficulty solving the problem. It looks like they have difficulty because they do not get enough money and advice from experts.
At that moment, one of the organizations we visited crossed our mind. “GnB Accelerator”

GnB Accelerator is an organization which helps startups with mentorship, advices, workshop with experts, network with investors and office space. We thought an organization that helps other organizations for the poor in the same way as GnB Accelerator could be a solution. We named the organization “Link” because it links other organizations to funding and mentors.

2.3 Countermeasure

At first, our organization is a non-profit organization. There are many non-profit organizations in the world and they are working every day to solve social problems. However, social problems will not go away.

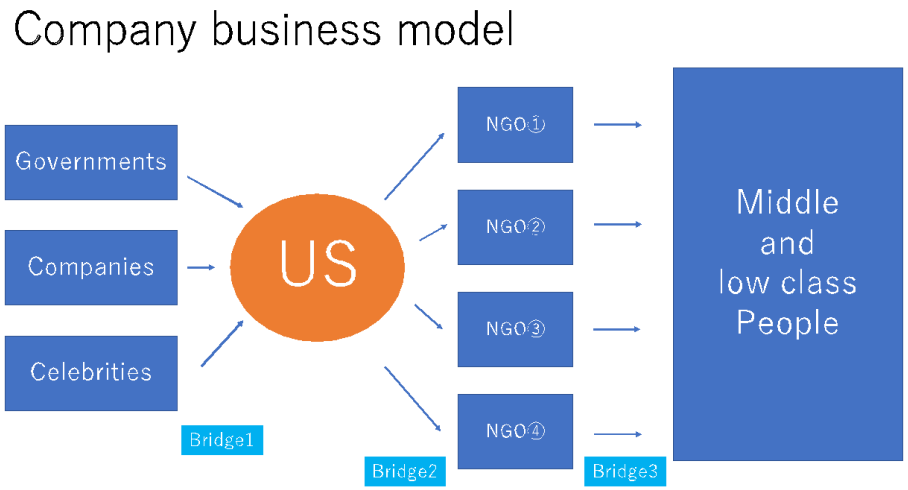


Figure 62

So, we decided to become an organization that strengthens NGOs. The specific company business model is as follows.

Our job is to connect people who have never met before. They can be broadly divided into three. It is funders, NPOs and middle and low class people. The first is the relationship between the funder and ours. We will introduce existing NPOs and raise funds. I think that collecting funds is realistic because the existing NPO's funding sources may be made up of donations. They should make use of gatherings and the Internet. Personally, I think that the most effective means is to use SNS that can attract young people's attention.

Next is our relationship with NGOs. This is the main part. We not only provide funds to NGOs but also help NGOs. It is a proposal for mentorship, provision of free space, and cooperation between NGOs.

Finally, the relationship between NGOs and the poor. Existing NGOs will have their work done on a larger scale.

Figure 63

3. Group 3

Topic: Technology transfer between countries and the effect on business growth in each country

Members: Hal, Yuki, Elga, David

3.1 Overview

Technology transfer is the process of transferring technology from the person or organization that owns or holds it to another person or organization. And business growth can be achieved either by boosting the top line or revenue of the business with greater product sales or service income, or by increasing the bottom line or profitability of the operation by minimizing costs. The first thing we had to do was to make clear how technology transfer effect on business growth. Then we thought how to make developed country wants to transfer their technologies to developing country, thinking about this, we found that to find best partner in technology transfer is the most important thing. So that we discussed how to help countries or organizations to find the best partner for them.

3.2 What is "Technology transfer"

The first discussion topics were "What is technology transfer?" and "What the relation between Technology Transfer and Business Growth?" We considered that the word "technology transfer" is vague in itself, so we defined the meaning of "technology transfer" then we shared same image of it. (the definition was in Overview)

Our discussion converted to "What the relation between Technology Transfer and Business Growth?". To think about this also meant that we think about the advantages and disadvantages of technology transfer. After our research, we understand and shared the advantages/disadvantages of technology transfer. Sometime, technology transfer makes good effects to both organizations/companies, provider (which provide technology) and receiver (which receive technology). On the other hand, sometimes technology transfer doesn't work well, make great loss. In our final presentation, Elga—student of ITB—talked about this, and fortunately, I have script of his part. So, I put it below. (I hope readers get both "what is technology transfer" and how our presentation looked like)

Technology transfer, also called transfer of technology (TOT), Technology transfer usually involves some source of technology, group which posses specialized technical skills, which transfers the technology to a target group of receptors who do not possess those specialized technical skills, and who therefore cannot create the tool by themselves.
Wall street journal have discussed there is several variety of transfer technology such as

International technology transfer: the transfer of technologies developed in one country to firms or other organizations in another country. In the U.S., this issue is often associated with the undesired transfer of weapons technology to "hostile" nations.
North-South technology transfer: activities for the transfer of technologies from industrial nations (the North) to less-developed countries (the South), usually for the purpose of accelerating economic and industrial development in the poor nations of the world

Transfer technology 1.0. In 1.0 there is only focusing on patenting and licensing. There is not much effort on market research and marketing
2.0
Advancing technologies for a greater commercial value, protecting non patentable materials and developing targeted communications to stakeholders 3.0
In 3.0 is more like the transfer technology is also focusing on developing business and economic sector of the technology itself
4.0
Has seen a tremendous focus on on clinical translational research
5.0
more focusing in long term university collaboration

ADVANTAGES
Companies look to transfer technologies from other organizations because it may be cheaper, faster, and easier to develop products or processes based on a technology someone else has invented rather than to start from scratch. Transferring technology may also be necessary to avoid a patent infringement lawsuit, to make that technology available as an option for future technology development, or to acquire a technology that is necessary for successfully commercializing a technology the company already possesses. Companies look to transfer technologies to other organizations as a potential source of revenue, to create a new industry standard, or to partner with a firm that has the resources or complementary assets needed to commercialize the technology.
⇒ EXAMPLE
Ajinomoto is a Japanese food and biotechnology corporation which produces seasonings, cooking oils, and frozen foods. because they already found the taste that liked by everyone, they can sell it anywhere around the world just by adjusting their product a bit. so in order to expand their company they make several company around the world which of course profitable for them because their market becomes bigger. then it also good for countries which have ajinomoto company in it because they can make a lot of jobs for the native people.

DISADVANTAGES

Transfer technology activity into developing country resulting quite a lot of unsuccessful story because many people in developing country didn't know how to operate the technology itself, even worse the people is actually didn't need that new technology because it just not fit with their behaviour.

⇒ *EXAMPLE*

USA Nuclear power plant that built in Philippine by Westinghouse worth USD 2.3 Billion is never used because it was built in the earthquake area, and until now the philippine government still pay off the loan.

Another example, there is a highway built in Somalia by Italian contractor worth USD 100 Million in 1983 which cannot be used after 5 years even though it needs 40 years for government in order to pay off the cost.

Those example shows us that "help" that given by developed country to developing country only profitable by the developed country, while actually what developing country needed is small scale technology,cheap, easy to be adopted.

From presentation script made by Elga

3.3 Our notion

From discussion I mentioned above, we interpreted the meaning of “Technology transfer between countries and the effect on business growth in each country.” We understood this sentence as “How to make good technology transfer?”. “Good technology transfer” as “which make profit—like business growth or technology advance—both sides of provider and receiver”, also we defined.

Through case studies of technology transfer, we also found that good technology transfer is almost the same meaning as “to have good partner in technology transfer”. In successful technology transfer, demand and supply of both sides matched. What provider could provide was what receiver wanted to—mostly, this was technology or equipment. What receiver could provide was what prover wanted to—mostly this was resource or manpower. Based on this idea, our solution was made. It was to make the platform where organizations/companies which want to provide technology, and which want to receive technology can exchange their information. They show what they can provide, what kind of technology they can provide, what they need, budget and so on. Also, we install machine learning to find the best match for each company. Like Google, we gather and input data of good/bad technology transfer cases and try to show their best partner. When we did our final presentation, we put some other functions, but basic concept was not changed.

4. Group 4

Topic: Innovation and regional/global competition
Members:Yoshiki, Boat, Uddin, Ratna, Yuto

4.1 Relationship between innovation and competition

At first, we want to define the meaning of "innovation" and "competition". Innovation means the transformation of an idea and developing products or services. Competition means the existence of competing organization, company and so on.

If there are competing companies for us, we invent new products or services. Because customers want better products or services and we need to invent new things to win others. So, competition drives for innovation initiative.

Moreover, innovation supports competition. Because, when we invent something new and useful, customers want them and other companies will try to new things that is better than our products or services. In this way, innovation and competition support and enhance each other.

4.2 Problem

In discussion, we noticed that there were different problems in Japan (developed country) and in Indonesia (developing country). So, we decided to discuss each problem.

4.2.1 Problem in Japan

Figure 64 is made by "Innovation statistics and indicators" by OECD. The graph shows percentage of new-to-market product innovators. So, this means how innovative the countries are. As you can see, Japan is a less innovative country in developed countries. According to Tetsuro Sakamaki, Japan invest a lot of money in R&D and has high proportion of researchers in company. However, there are few companies that achieved innovation.

4.2.2 Problem in Indonesia

According to Global Innovation Index 2019, Indonesia ranked 85th and this is lowest level in ASEAN. And According to Innovation Policy in ASEAN, one of cause is weakness in R&D (Research and Development) sector. As shown in Fig. 65, Indonesia has weakness in R&D.

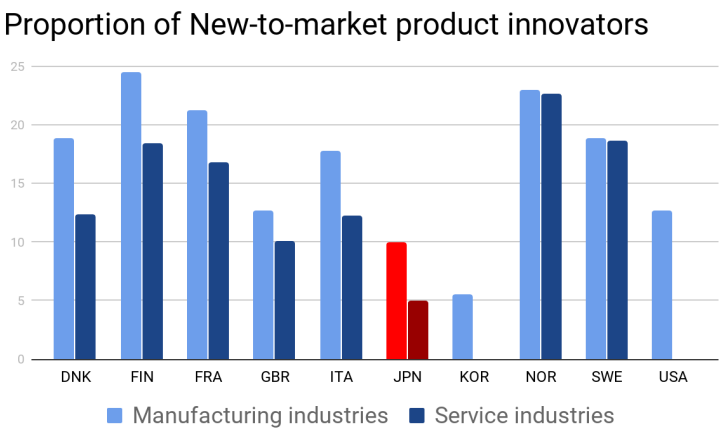


Figure 64

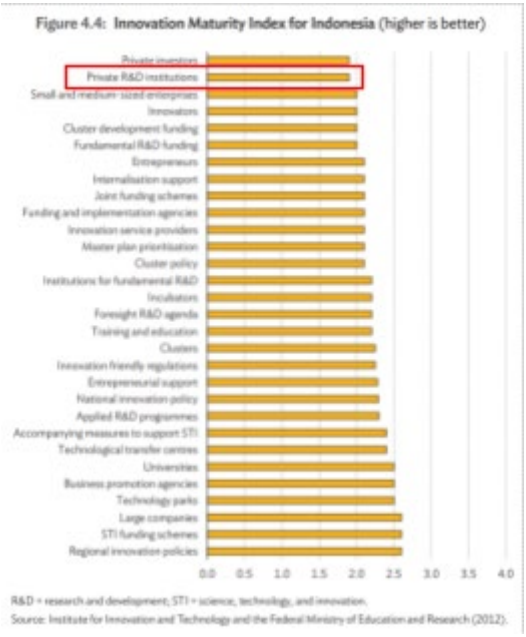


Figure 65

4.2.3 Summary

We made a table of what we need for innovation.

"×" means lack of that things, and "◯" means abundant.

	Developed countries	Developing countries
Problem to solve	×	◯
Fair competition	×	◯
Human factor	◯	×

Table 1

4.3 Solution

As the same as the problem, we made a table and each cell corresponds to each cell in the table of problem.

	Developed countries	Developing countries
Problem to solve	Find potential customer Collaboration	
Fair competition	Government's control	
Human factor		Education Management Collaboration

Table 2

Now we want to talk about each solution.

4.3.1 Find problems for potential customers

We want to introduce example of Mercari. Mercari is the company of auction. However, when Mercari started their business, there are Yahoo auction which is the biggest company in auction site of Japan. So, Mercari set the young women as target of business. Because they had wanted to use auction site by their smart phones. By using this statics, Mercari became a so big company. In this way, we should find potential customers, in other words, what customers really want.

4.3.2 Collaboration

Collaboration means two or more organizations or companies work together or share the information. At this time, this means developed countries and developing countries work together to solve problem in developing countries. For developed countries, making a local solution for a local problem means innovation. For developing countries, importing skill of management and technology make the countries more innovative.

4.3.3 Government's control

At this time, government's control means proper government's control on patent. We will introduce one example of steam streamer. When James Watt invented steam streamer, Watt made a patent and other engineers could not use this technique. As a result, steam streamer didn't develop. After that, Richard Treithick invented another kind of steam streamer, although there was no patent for it. So, other engineers could improve steam streamer and steam streamer developed more and more. By this example, we can know how important fair competition is. We think government should minimize the power of patent.

4.3.4 Education

Indonesia and Thailand are the overall low level of education partly because the government spends too little of its annual budget on research and development. For example, Singapore spend much money than Indonesia, and become the most innovative country in ASEAN countries.

4.3.5 Management

As we said before, Indonesia and other developing countries don't have enough skill for Research and Development. So, they need to improve management skill.

4.4 Conclusion

Innovation and competition support and enhance each other and we can be more innovative by five our solution. And there become more innovation and competition. This is our conclusion.

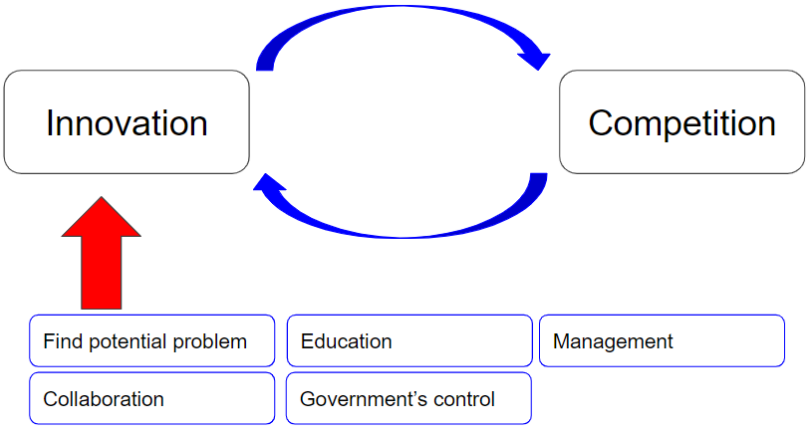


Figure 66

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『＜反＞知的独占　特許と著作権の経済学』,

5. Group 5

Topic: Economic growth and gap between the rich and the poor
Members: Yasu, Rio, Gigih, Millenia, Tiep

5.1 Introduction

Today, Indonesia's GDP has been growing rapidly. It is ranked 16th in the world by IMF in 2018. And agriculture plays a very important role in Indonesia as the second largest contributor for Indonesian GDP. Based on the GDP of agricultural sector, U.N. reported Indonesia is ranked the fourth biggest amount in the world in the same year. (1st: China, 2nd: India, 3rd: U.S.A.) There are around 32 million people that have jobs related to agriculture. But most of farmers are still living on low income. This is one of the problems that we cannot go through without filling in the gap between the rich and the poor.

5.2 Discussion

5.2.1 Focus the topic

First, we discussed what kind of poverty problems can be found in Indonesia. Some topics were picked up, for example, "There are so many people live in poor houses" and "There are some stands on the street selling foods in low price but not hygienically." We decided to focus on the problem of first one mentioned above.

Next, we searched the reason why the problem happens. Through the discussion, we realized that too many people from rural area overflowed in major cities to get a job with better payment. It causes to make many people live in poor area. Then we came up to the solution that "increasing the quality of life in rural area". This idea can be a key to solve the poverty not only in rural area but also in urban area like we wrote before.

5.2.2 Current situation of agriculture

Then we talk about the current problems that agriculture in Indonesia is facing. There are "lack of technological advancement", "lack of educated farmers (this causes farmers rather to take easy way out)", and "lack of younger generation's interest to work in agriculture". To solve these problems, we propose (1) Increase the productivity of farming, (2) Implementation of 4.0 technology in Indonesian agriculture, (3) Innovate agriculture to attract younger generations and (4) Cut the middleman in distribution.

5.3 Our suggestion

We discussed and came to these suggestions for each problem we mentioned above.

1."Increase the productivity of farming"

We can't ignore this topic when we focus on rises of farmers' income. We researched and understood that the important thing is to increase productivities to make doing agriculture more efficiently. This connects to the next topic.

2. "Implementation of 4.0 technology in Indonesian agriculture"
It is indispensable to introduce current technology to do agriculture more efficiently. This may rise farmers income and useful to attract younger generations (we will mention later). We found 4.0 technology. This technology enables us to see the data of products in our smart phones or control tractors from remote places. Such technologies have already been introduced in not only European countries but also some Asian countries.

3. "Innovate agriculture to attract younger generations"
Younger generations tend to have negative images for agriculture: not cool or old. We thought that it was important to remove such prejudices. We suggest these 2: promoting farming with hi-tech and planning tours which introduce young people agriculture, in other words, they actually come and see cool agriculture.

4. "Cut the middleman in distribution".
Middleman between farmers and supply chain take so much money today, so we sought the way to lose such existences. We researched and found that applications which cut the middleman in distribution truly exist, so introducing farmers such applications will increase their income.

Figure 67

5.4 Conclusion
1.Agriculture is one of the sectors in Indonesia that has a lot of inefficiencies.
2.By adapting 4.0 technologies, farmer can gain information that can affect their harvest.
3.Attracting younger generations requires a combination of multiple subjects to make them interesting. In Indonesia, combining agriculture and tourism worked well.

4.Agricultural startups in Indonesia are growing. Most of them are competing in shortening the supply chain and FinTech.

Figure 68

Ⅵ. Epilogue

Through the 11days. I could know the difference between Japanese people and people in South East Asia. Japanese people are very friendly to familiar people, but they seldom talk to someone they don’t know. People in South East Asia do not hesitate to speak to strangers. Actually, the communication style in the Indonesia was more comfortable for me.
by Yoshiki

I had a great experience through this program, and learned difficulty of how to make a presentation and discuss globally. I sincerely feel I need to learn more.
by Yasu

I think my AYSEAS project has greatly improved my communication skills. I understood that it is more important to know and accept the culture of the other party than to know English grammar and language. At the company we visited, Indonesian and Japanese people cooperated and did a big job. I would like to continue to challenge like AYSEAS so that I can launch a big project with a foreigner in the future.
by Takumi

Through this program I realized that how useful it was to be able to speak English. Thanks to English skills we could become friends with foreign students, and could listen to stories from global leaders in Indonesia, where English is not a native language. I was encouraged to learn English more in order to broaden my career horizons.
by Junabow

I had great 11days spending with cheerful students. Through the companies visiting, discussions and presentation, we learned the current situation of Indonesia and how to develop our global awareness. I am deeply grateful to all members of this tour. I am hoping to brush up these in future.
by Rio

I had life-changing experience in the AYSEAS program. It was awesome. I made friends with a lot of people and I had really good time with them. The experience I had in this program helps me find out what kinds of person I want to be in the future. I want to thank all the people involved for giving me such a great experience.
by Hayato

This was the first time to study abroad, so I was really nervous before I went to Bandung (the city of Indonesia), but finally I could made a lot of friends in Indonesia, Thailand, Philipine, and Vietnam!! I am so glad to have met them!!
by Kenta

In GSEC class which I took when I was a first grade student, my group discussed the problem that are happening in Indonesia. Thanks to the class, I got interested in Southeast Asian countries. This was my third time to visit Southeast Asia and I found there are always new discoveries no matter how many times I visit there. Happy to have had this great opportunity to join ayseas program, get friends from not only one country.
by Yuki

In this trip, I felt two kind of surprise. One of them is “Common things in Japan is uncommon in Indonesia” such as no traffic lights. The other is “What I thought is uncommon in Indonesia is common”. To say honest, I underestimated city in Indonesia. Jakarta and Bandung are so urbanized city. This was so precious experience.
by Yuto

In this program, ASEAS, I was so grad that I could inspect many places and could meet, get close, discuss with Indonesians. Although we had many interesting and grateful event, but sometimes we faced some difficulties. The biggest one is to decide topic of our group. Our group included Indonesian and Japanese students. Sometimes, it was difficult to share experiences, sometimes it was hard to define a word. Through that, however, I could learn how to communicate with students from overseas, from another culture. It made me to learn so many things.
by Hal

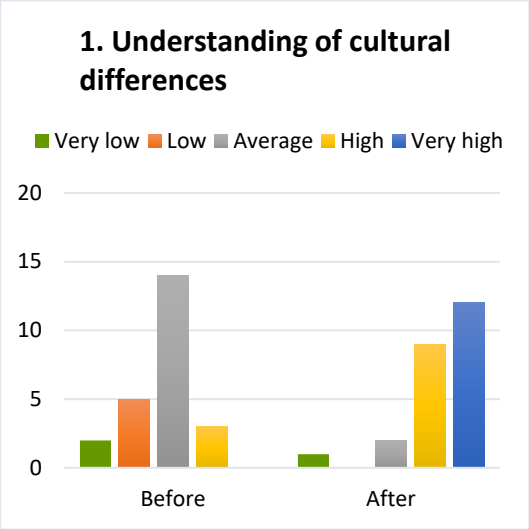
This was the first study abroad program I participated in as a university student. Tokyo Tech -AYSEAS included many activities full of diversity. The interaction of members from various countries is one of the distinguishing features of Tokyo Tech -AYSEAS. While visiting various companies, I was able to see people dedicated to the development of developing countries.In addition, I gained the sense of accomplishment because what I learned through the open campuses and the curriculum at the lab helped me search for references and create slides for the final day presentation. In Tokyo Tech -AYSEAS 2019, the best thing I thought as a leader is that all 24 people became good friends.
by Hiro

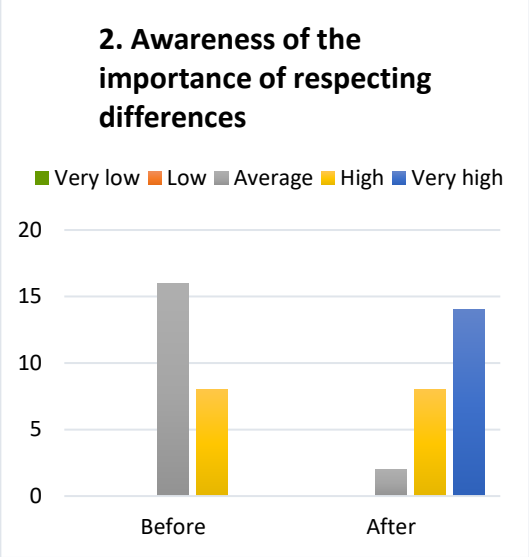
APPENDIX: Evaluation of Tokyo Tech-AYSEAS 2019

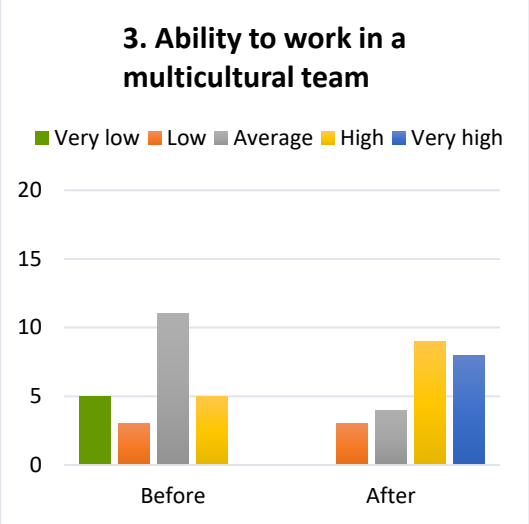
All 24 participants in Tokyo Tech-AYSEAS 2019 were given a questionnaire about the program. The following evaluation was based on the answers to the questionnaire.

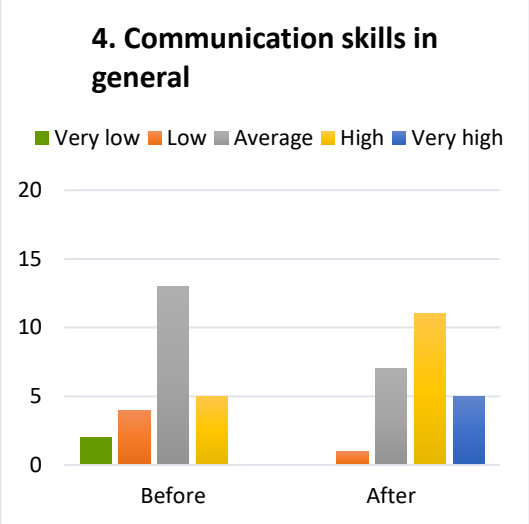
Part 1: Global awareness

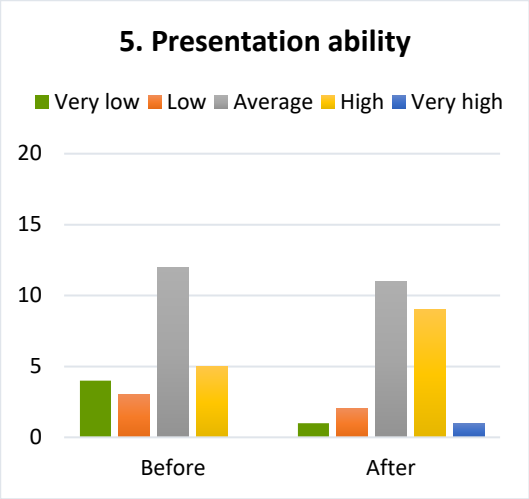
For each item, please select the answers that best describes your level of interest or awareness or ability level before and after participating in AYSEAS 2019.

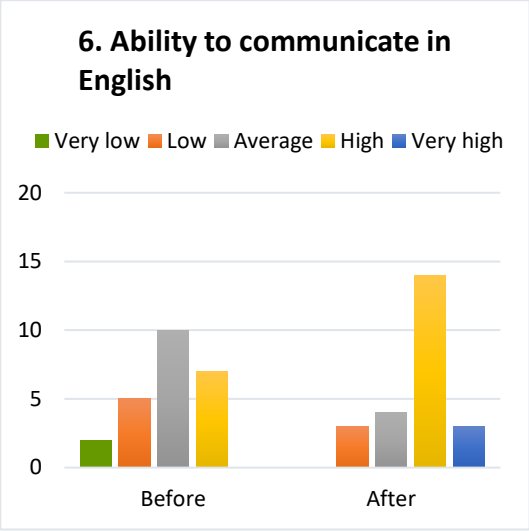


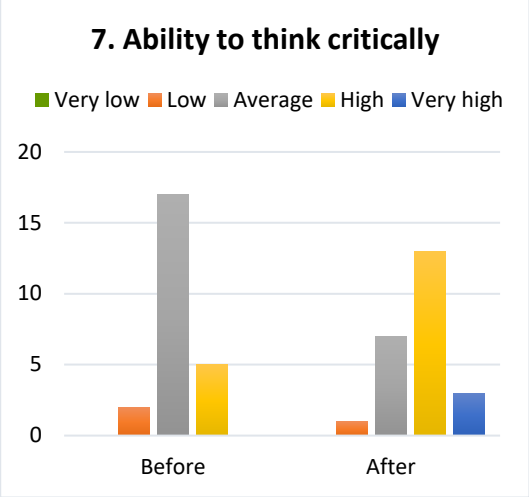


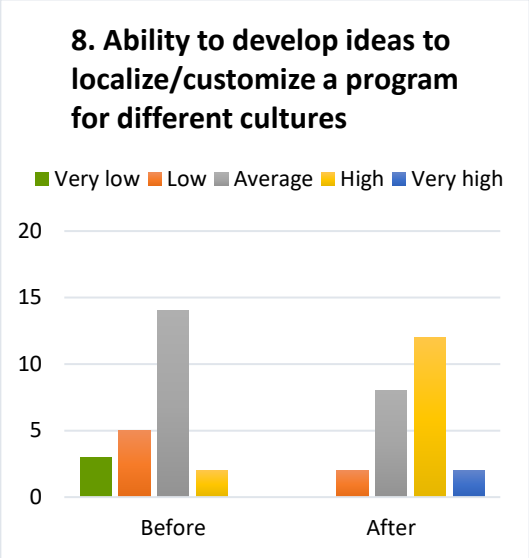


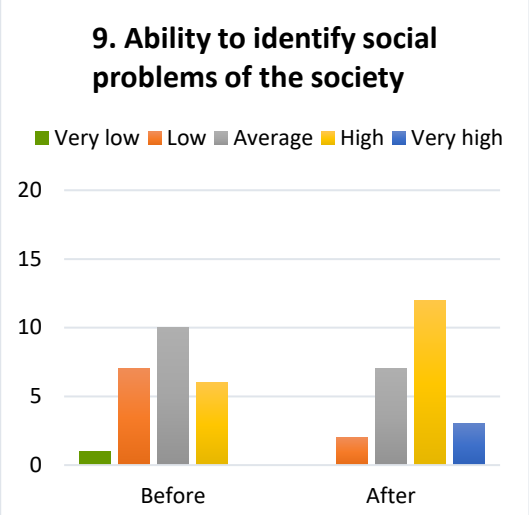



5. Presentation ability
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After

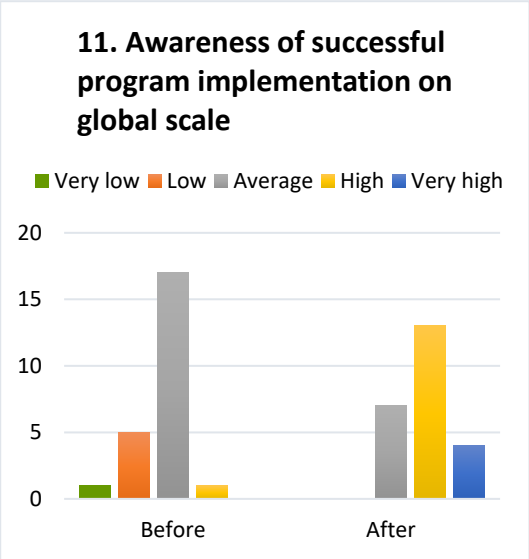

6. Ability to communicate in English
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After

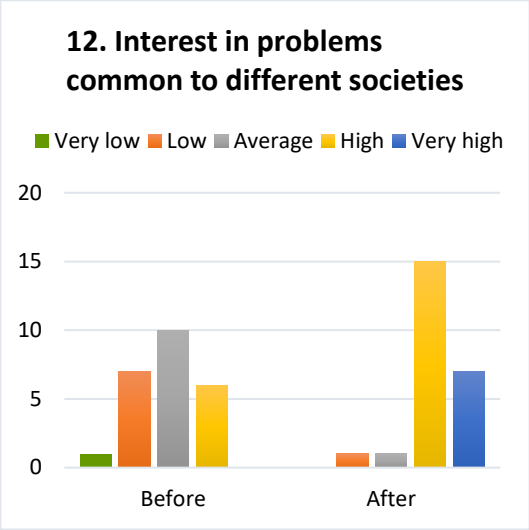

7. Ability to think critically
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After


8. Ability to develop ideas to localize/customize a program for different cultures
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After

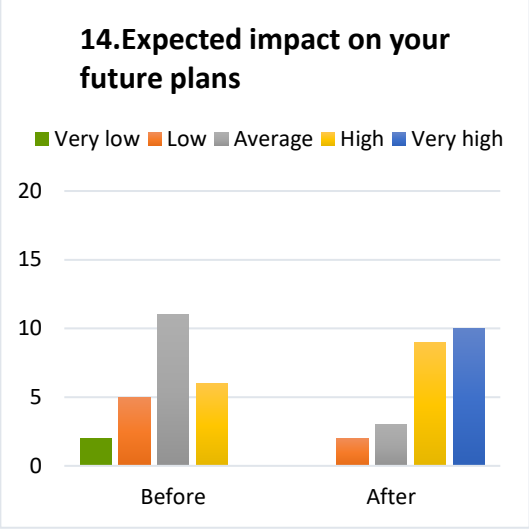

9. Ability to identify social problems of the society
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After

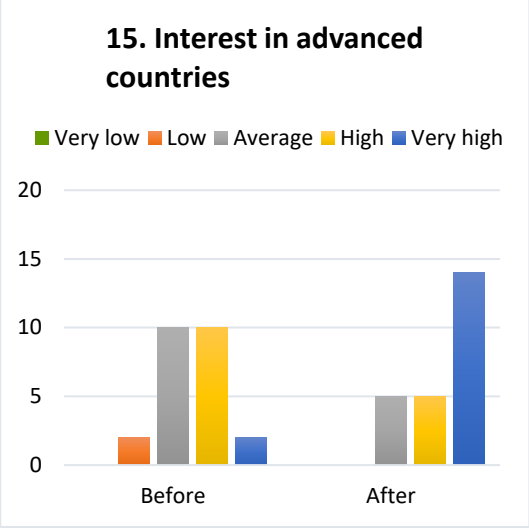

10. Ability to find solutions for social issues you have identified
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After

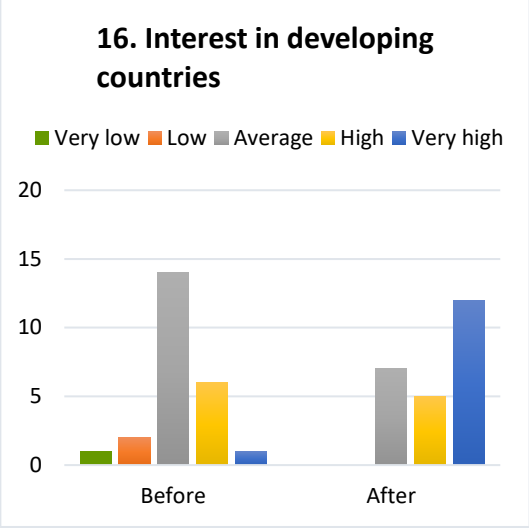

11. Awareness of successful program implementation on global scale
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After

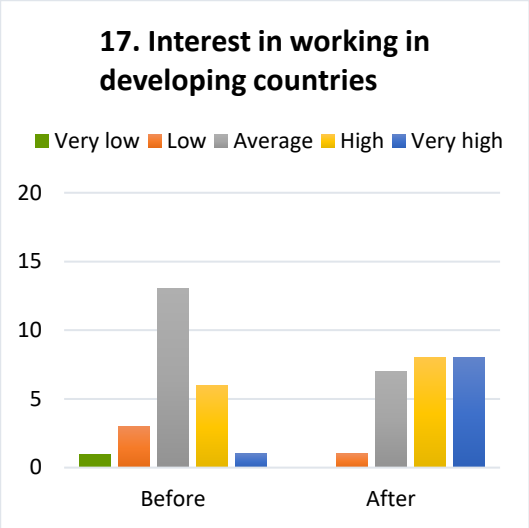

12. Interest in problems common to different societies
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After

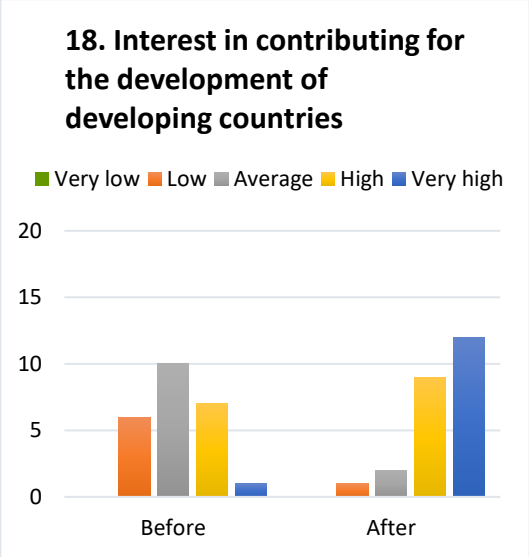

13. Confidence in becoming someone who can utilize his/her expertise and skills
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After

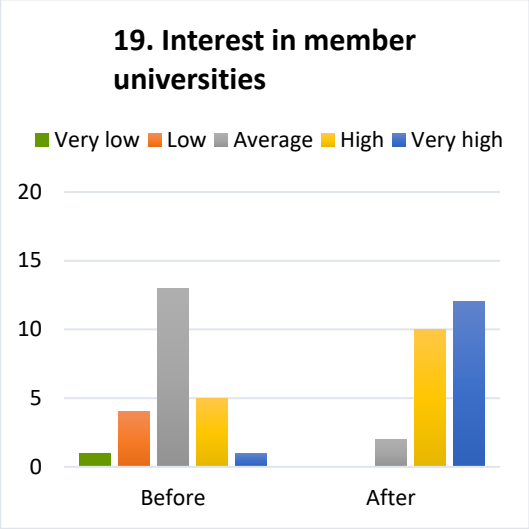

14.Expected impact on your future plans
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After

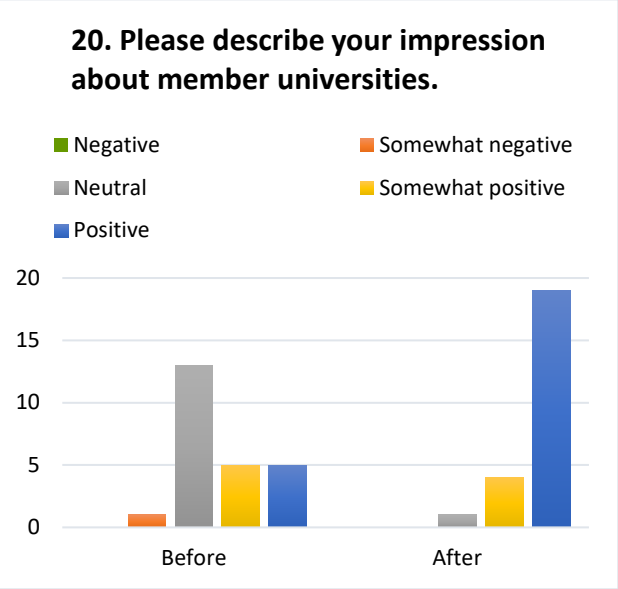

15. Interest in advanced countries
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After

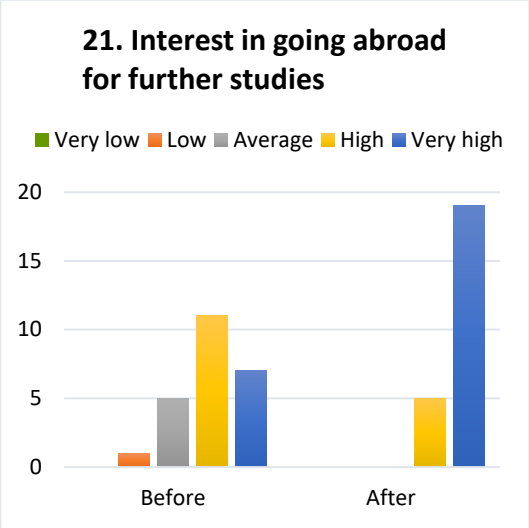

16. Interest in developing countries
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After

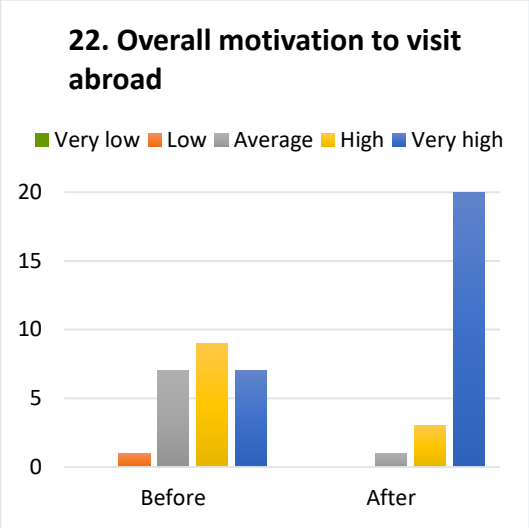

17. Interest in working in developing countries
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After

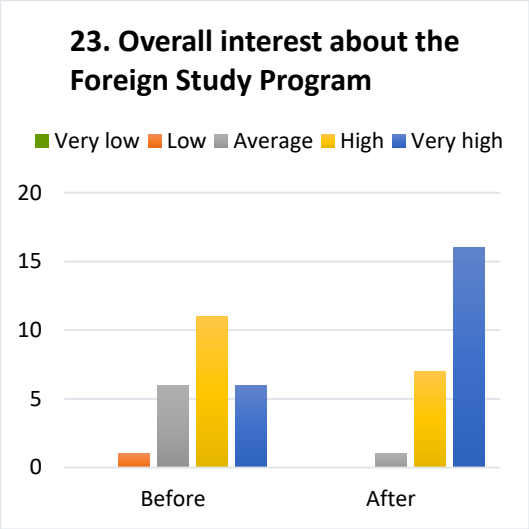

18. Interest in contributing for the development of developing countries
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After

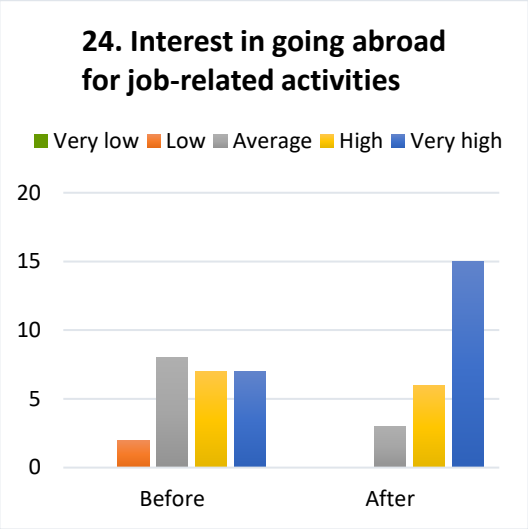

19. Interest in member universities
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After


20. Please describe your impression about member universities.
Negative
Somewhat negative
Neutral
Somewhat positive
Positive
20
15
10
5
0
Before
After

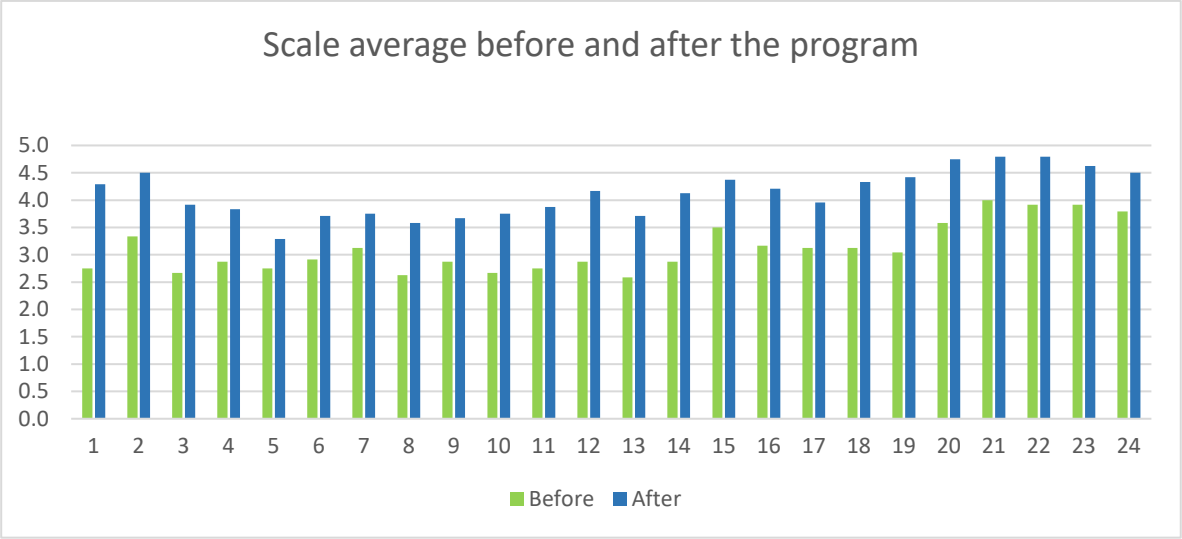

21. Interest in going abroad for further studies
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After


22. Overall motivation to visit abroad
Very low
Low
Average
High
Very high
20
15
10
5
0
Before
After





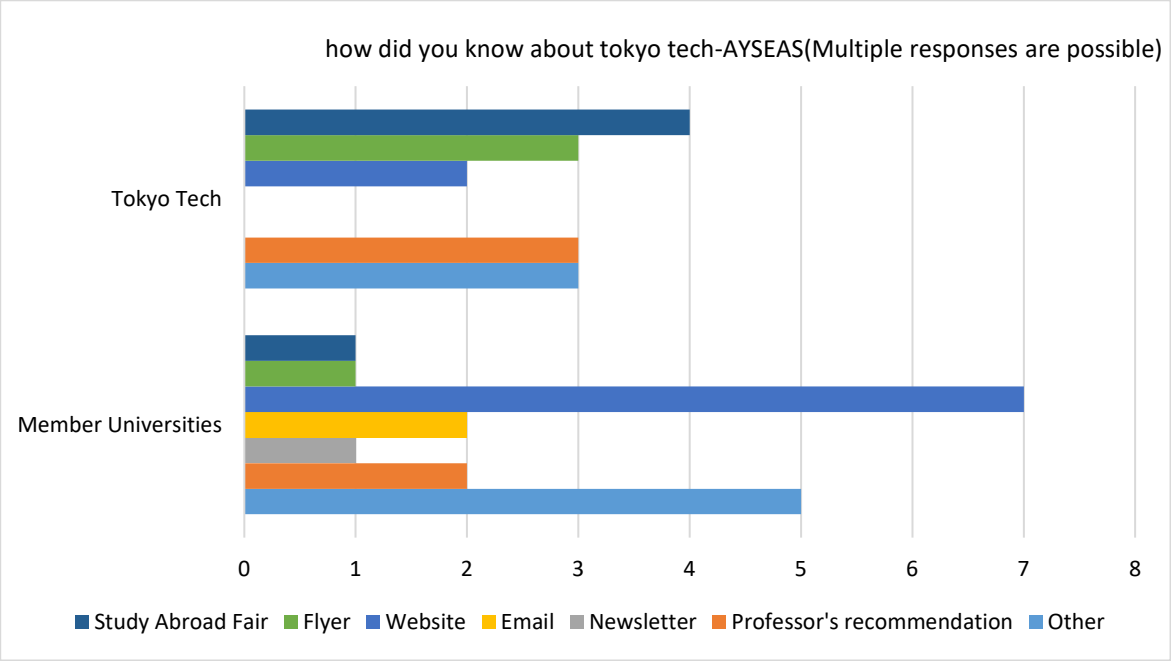
Rating Scale	Very low Negative				Very high Positive
	1	2	3	4	5



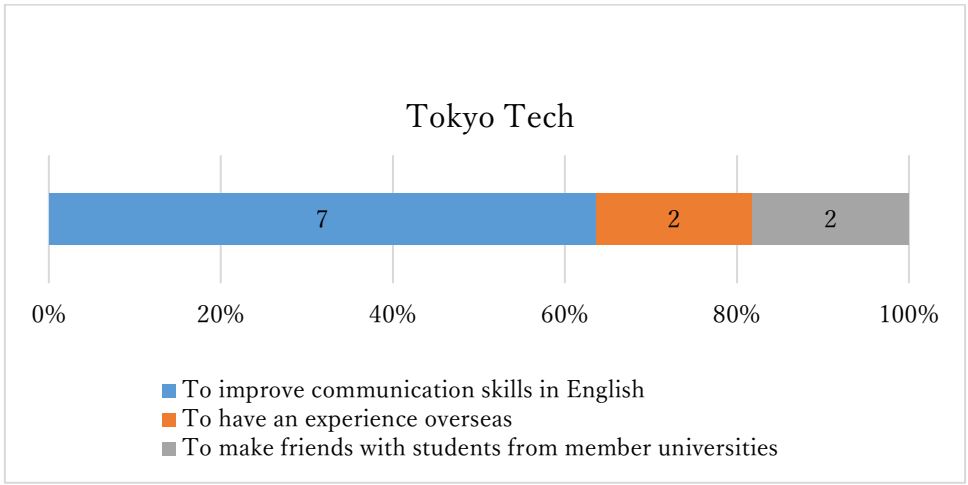
Questions	Scale average	
	Before	After
1. Understanding of cultural differences	2.8	4.3
2. Awareness of the importance of respecting differences	3.3	4.5
3. Ability to work in a multicultural team	2.7	3.9
4. Communication skills in general	2.9	3.8
5. Presentation ability	2.8	3.3
6. Ability to communicate in English	2.9	3.7
7. Ability to think critically	3.1	3.8
8. Ability to develop ideas to localize/customize a program for different cultures	2.6	3.6
9. Ability to identify social problems of the society	2.9	3.7
10. Ability to find solutions for social issues you have identified	2.7	3.8
11. Awareness of successful program implementation on global scale	2.8	3.9
12. Interest in problems common to different societies	2.9	4.2
13. Confidence in becoming someone who can utilize his/her expertise and skills in a professional capacity in global society	2.6	3.7
14.Expected impact on your future plans	2.9	4.1
15. Interest in advanced countries	3.5	4.4
16. Interest in developing countries	3.2	4.2
17. Interest in working in developing countries	3.1	4.0
18. Interest in contributing for the development of developing countries	3.1	4.3
19. Interest in member universities	3.0	4.4
20. Please describe your impression about member universities before and after the program.	3.6	4.8
21. Interest in going abroad for further studies	4.0	4.8
22. Overall motivation to visit abroad	3.9	4.8
23. Overall interest about the Foreign Study Program	3.9	4.6
24. Interest in going abroad for job-related activities	3.8	4.5

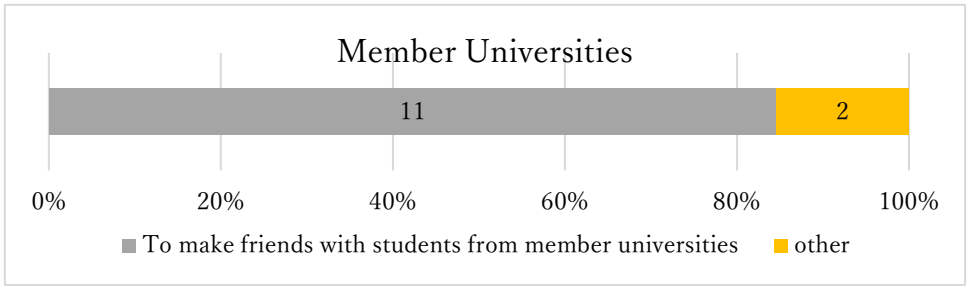
Part 2: Tokyo Tech-AYSEAS

Q-1. How did you know about Tokyo Tech-AYSEAS?



Q-2-1. Please specify your initial motivation joining Tokyo Tech-AYSEAS 2019.

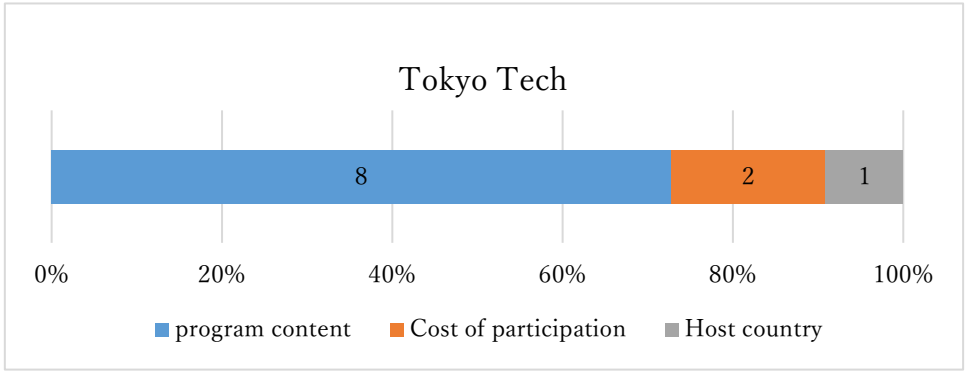


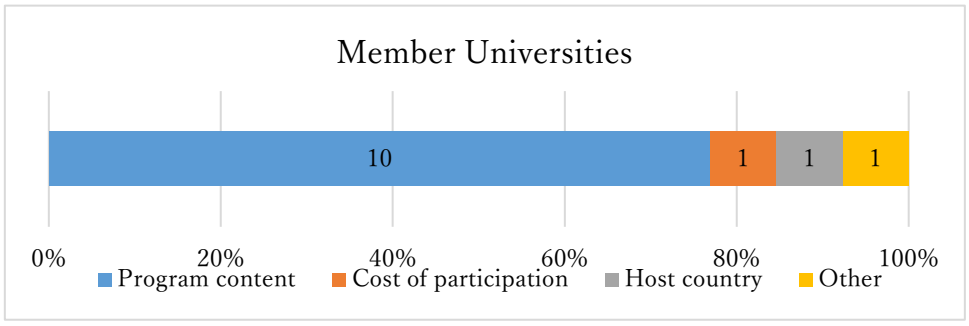


Q-2-2. If you chose "other", please describe a specific answer.

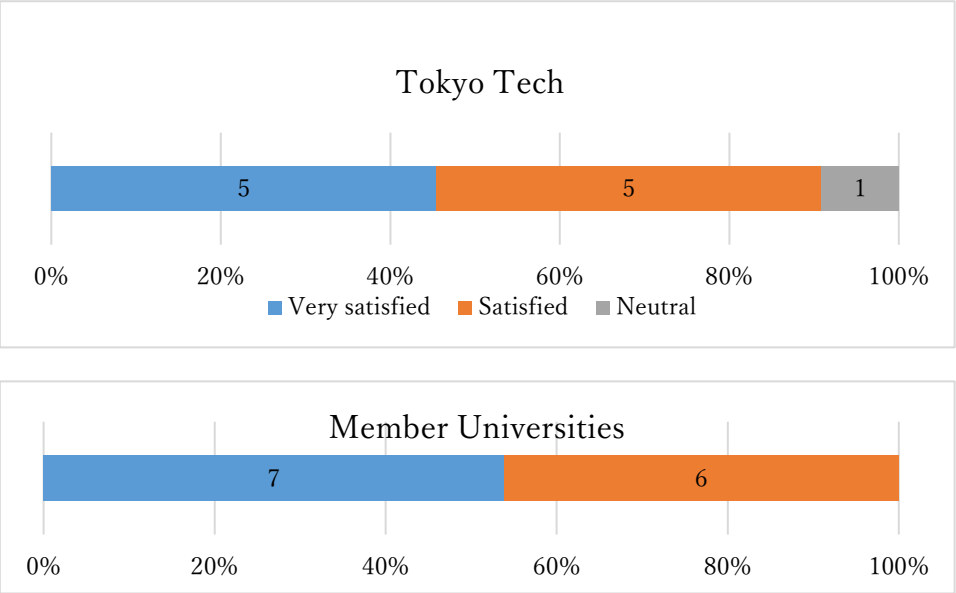
- Study abroad consultant
- Learn many thing about developed country, Japan.
- ITB International Relations Office Twitter
- It was my dream ever since to be an exchange student. In addition to that, I've been longing for an opportunity for me to gain more practical knowledge and a hands-on experience on the engineering life. I also like how this program has no grade requirement unlike other study programs, especially in abroad. This has motivated me more to fulfil my dream to be a future civil engineer. This program ultimately empowered me as a leader not just in my university and country but also on a global-scale.

Q-3. Please specify the main reason why you ultimately decided to join AYSEAS 2019.





Q-4-1. Please indicate your overall satisfaction with Tokyo Tech-AYSEAS 2019.



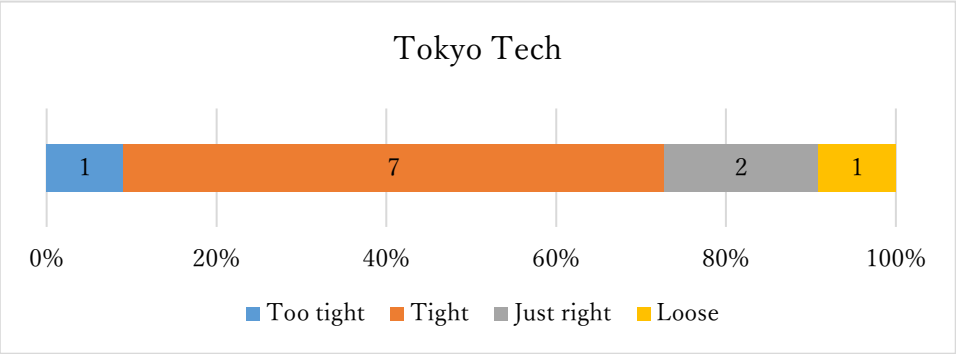
Q-4-2. Please describe why you chose the above answer.

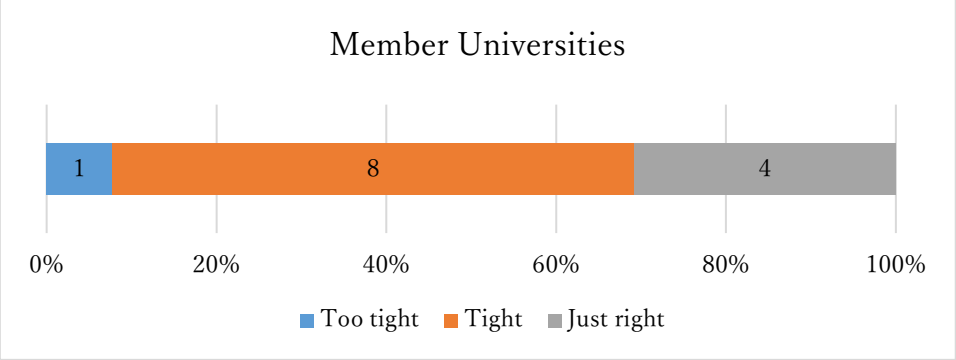
- Able to form solid friendship within just 10 days
- Actually I'm very satisfied but I hope the program is last more than 10 days.
- As I answered, my biggest purpose of my visit was making friends with overseas students. I achieved this goal, and furthermore I really enjoyed this trip.
- Because I could make foreign close friends for the first time.
- Because I made friends with a lot of people through this program.
- Because it was first experience to go to developing countries and communicate in English all times.
- Because its beyond expectations and I got so many experience.
- Because the program in Tokyo Tech AYSEAS is what expect, and the program conducted very well.
- I can make friends with foreign student.
- I could learn the particularities of Japanese.
- I got many experiences from factory visit and also learnt about monozukuri.
- I got many great experiences on many industries, English communication skill and friends.
- I have learned so much during this program.
- I learned several things better or even new concepts within my field and even outside my engineering major. All the companies that Tokyo Tech partnered with this year were all so kind enough to teach us the ins and outs of their companies specifically how engineering and Science works in their companies. Also, the companies that we visited and our locals were also very hospitable and helpful throughout our study program. More

than that, my AYSEAS friends and I built a healthy learning and working environment which ultimately empowered each one of us from our first discussion session down to our final report. I also appreciate how each member in this batch tried to bring out the best in them to create a wide-array of ideas and solutions for our respective final reports.

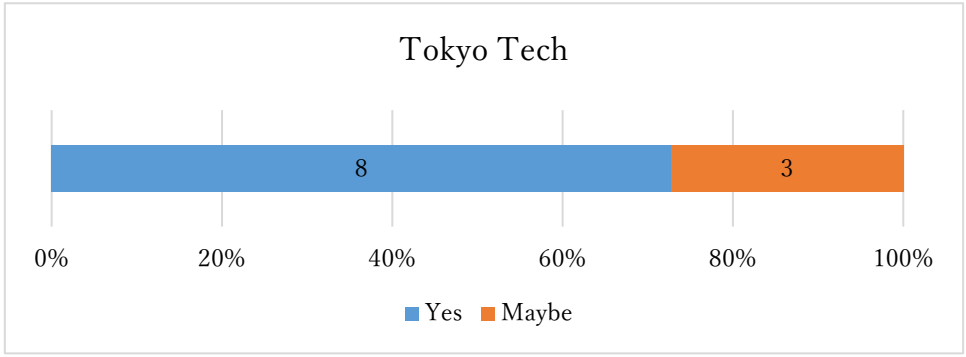
- I reach the purpose which I made when I apply to this program. This program also brings the good old day 3 years ago where at that time I join an International program in both Japan and Indonesia. The last thing, I didn't expect this program would make me cry because of goodbye with other participants.
- I really got a lot of things through this program and I'm satisfied with it but the food I ate caused my stomachache and my stomach is still in pain... That's why I chose satisfied instead of very satisfied.
- My purpose was fulfilled.
- Not so hot as Tokyo in Indonesia
- The content of the program very useful
- The show ended well. I had a lot of practical experience in the factory area. Besides that, I also made many friends from many different countries.

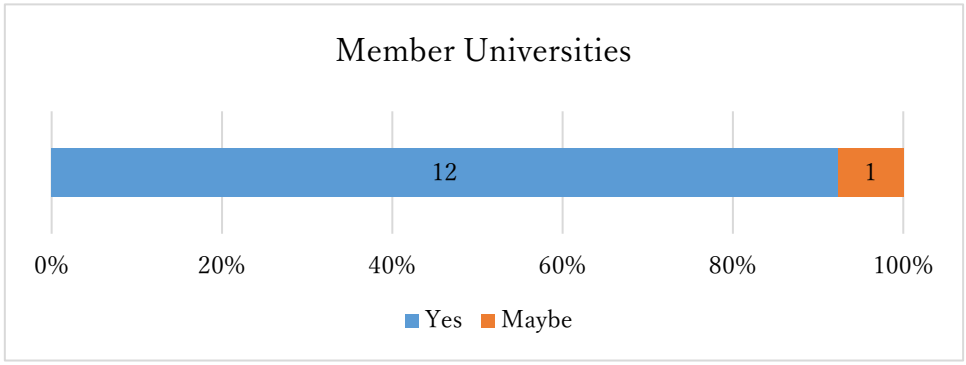
Q-5. How would you rate the overall activity schedule of Tokyo Tech-AYSEAS 2019?



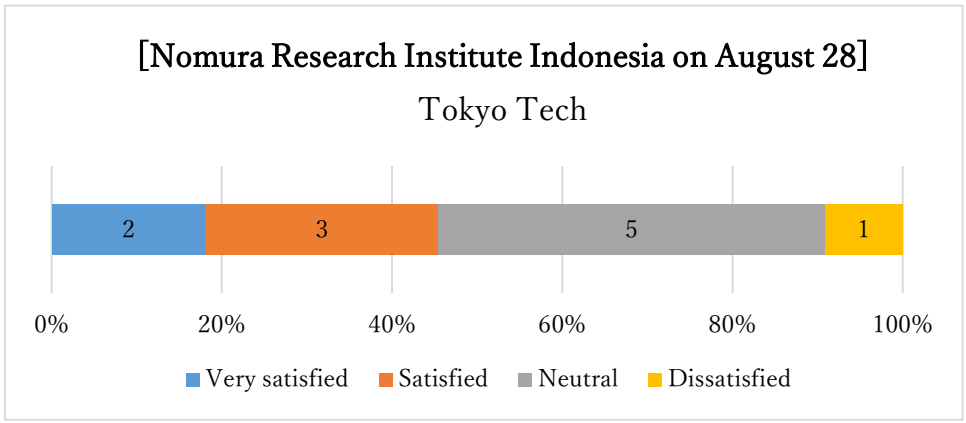


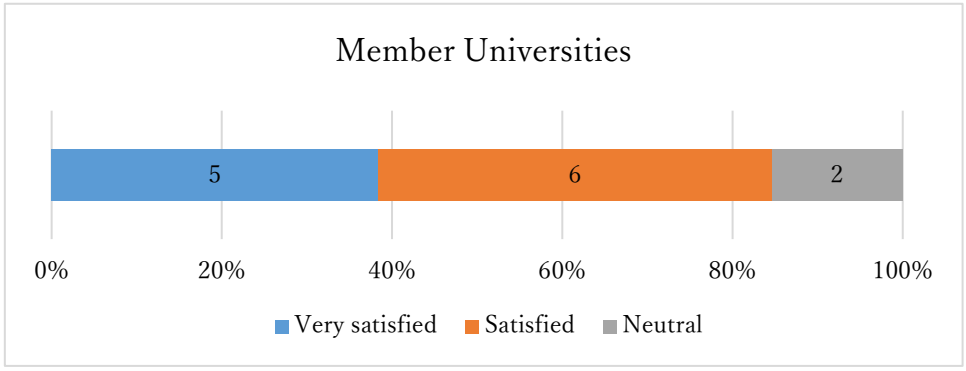
Q-6. Would you recommend Tokyo Tech-AYSEAS to others?

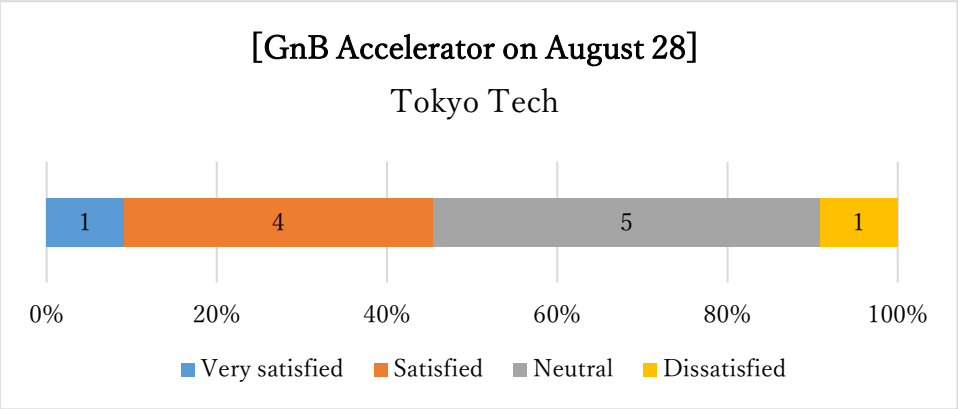


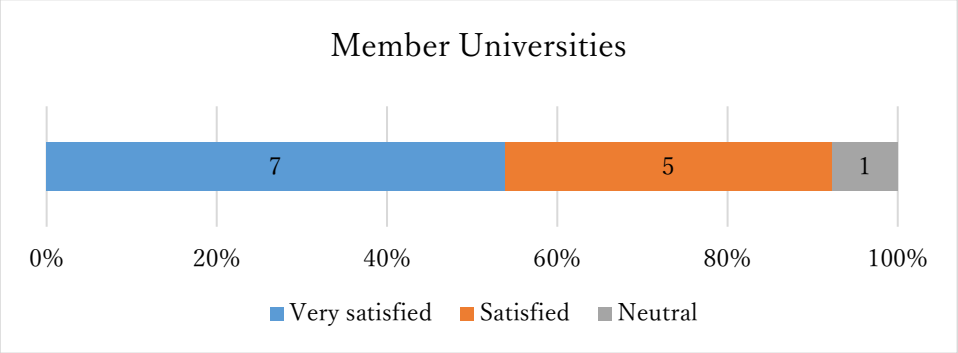


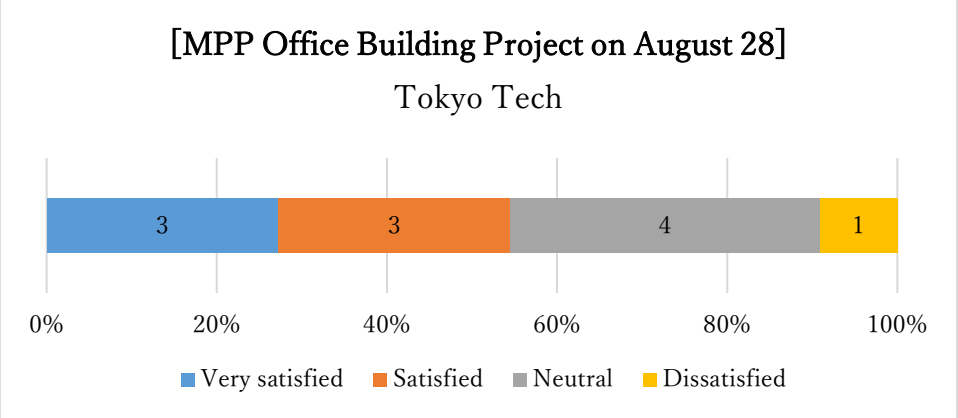
Q-7. Please indicate your level of satisfaction with each of the tours and visits.

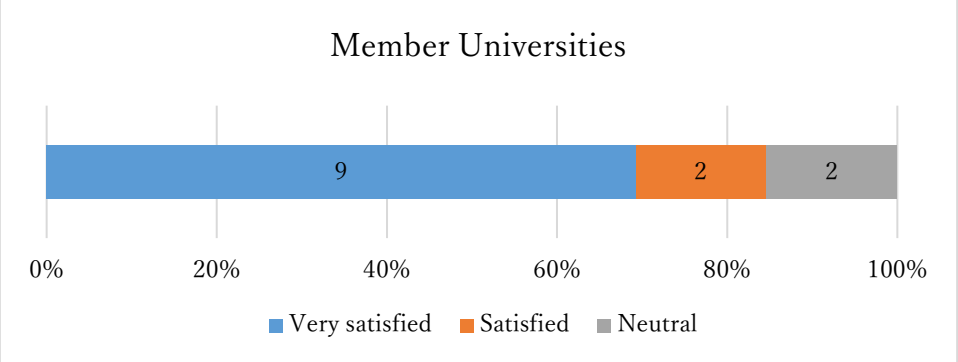




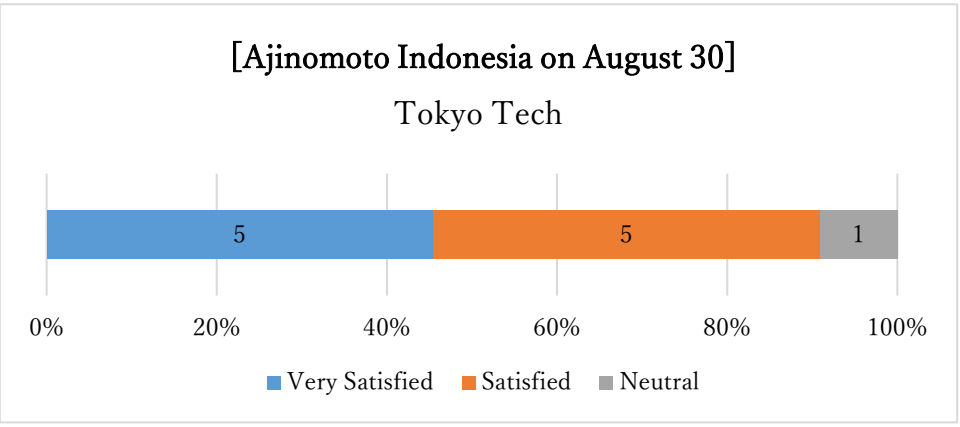

[GnB Accelerator on August 28]
Tokyo Tech
1
4
5
1
0%
20%
40%
60%
80%
100%
Very satisfied
Satisfied
Neutral
Dissatisfied

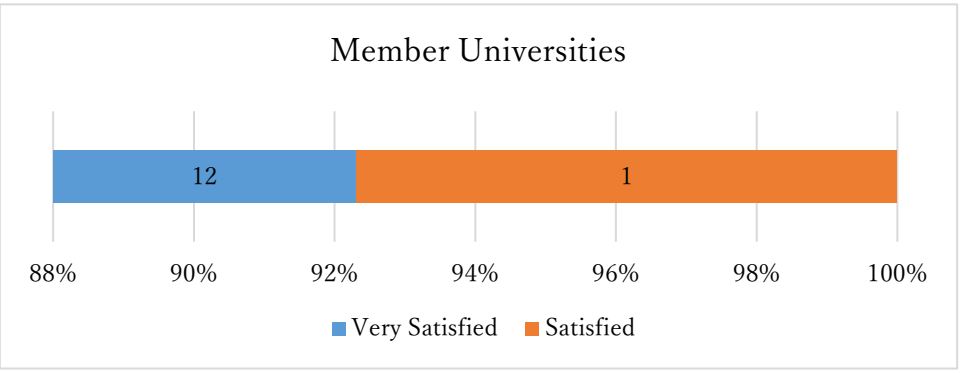

Member Universities
7
5
1
0%
20%
40%
60%
80%
100%
Very satisfied
Satisfied
Neutral


[MPP Office Building Project on August 28]
Tokyo Tech
3
3
4
1
0%
20%
40%
60%
80%
100%
Very satisfied
Satisfied
Neutral
Dissatisfied

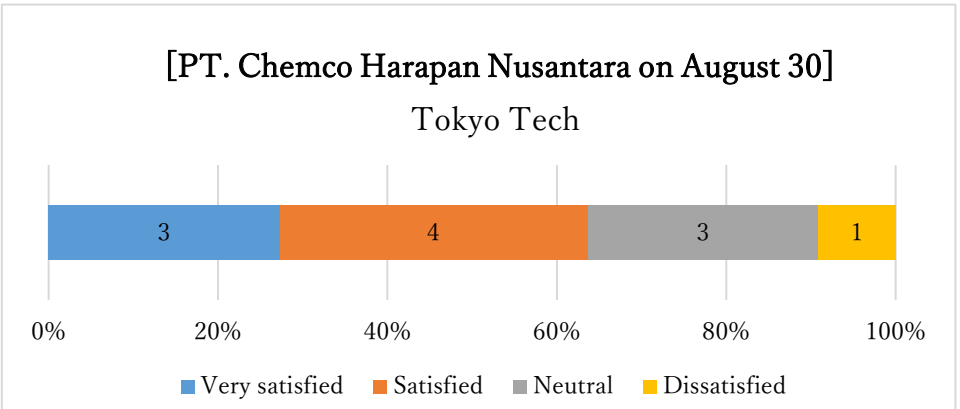

Member Universities
9
2
2
0%
20%
40%
60%
80%
100%
Very satisfied
Satisfied
Neutral

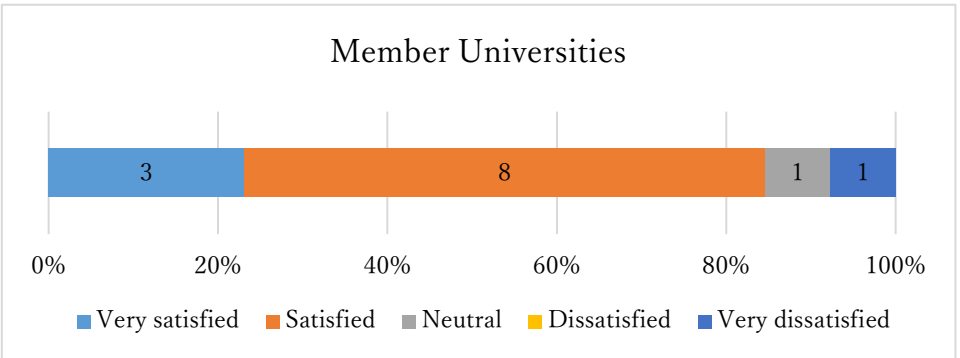
[Ajinomoto Indonesia on August 30]





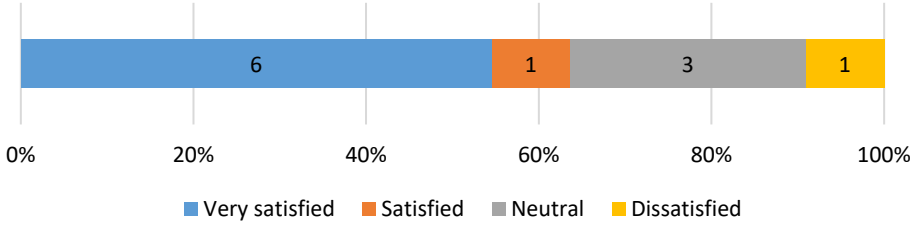
[PT. Chemco Harapan Nusantara on August 30]



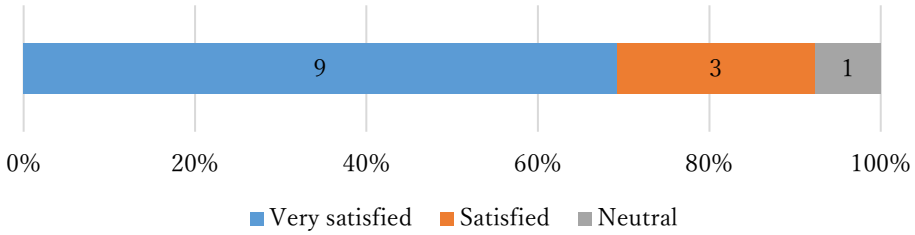


[Patimban Port Development Project on September 3]

Tokyo Tech

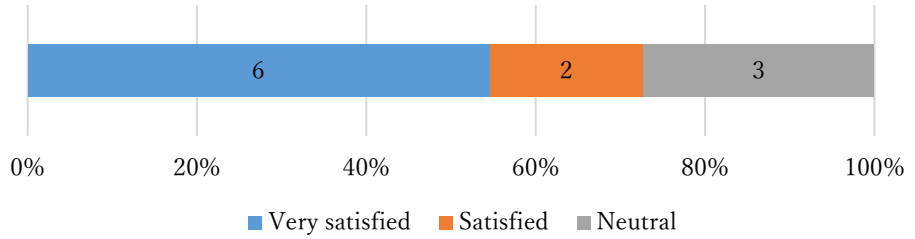


Students in Member Univesities

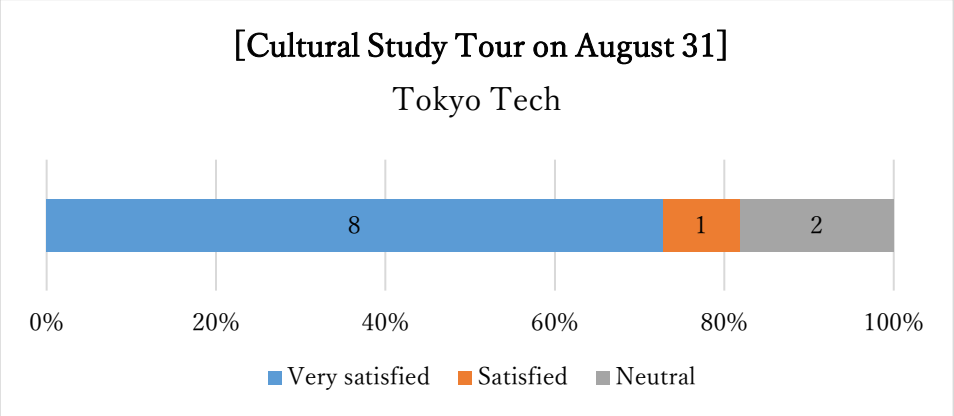


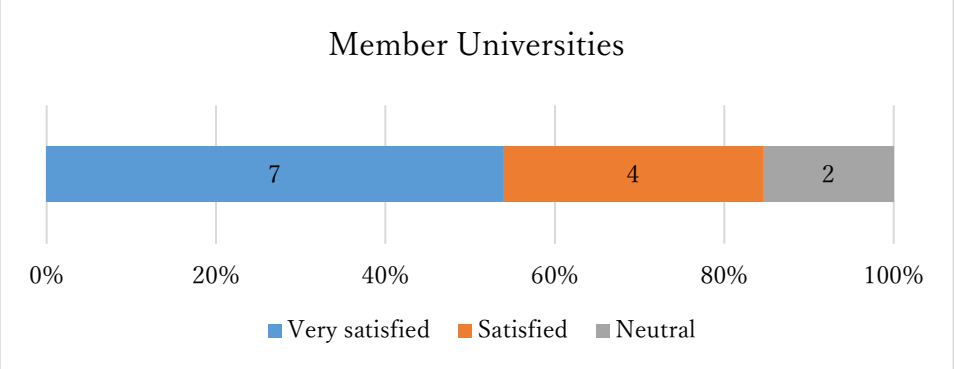
[PT Astora Honda Mortor on September 4]

Tokyo Tech



Member Univesities


[Cultural Study Tour on August 31]
Tokyo Tech
8
1
2
0%
20%
40%
60%
80%
100%
Very satisfied
Satisfied
Neutral


Member Universities
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4
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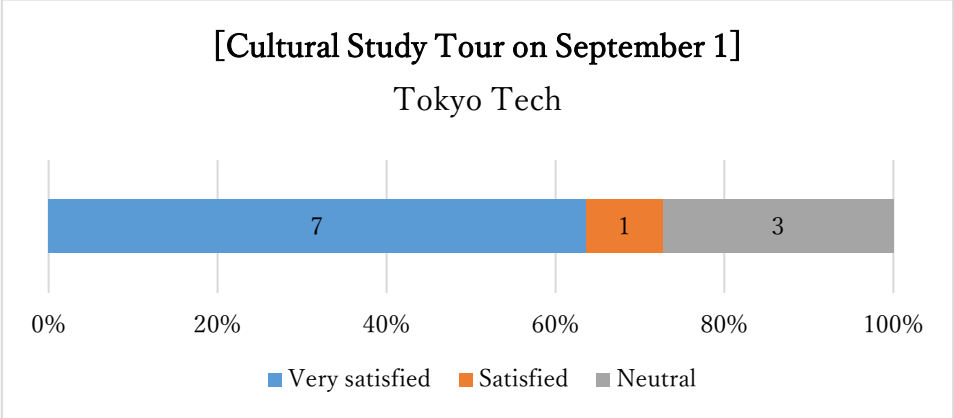
100%
Very satisfied
Satisfied
Neutral


[Cultural Study Tour on September 1]
Tokyo Tech
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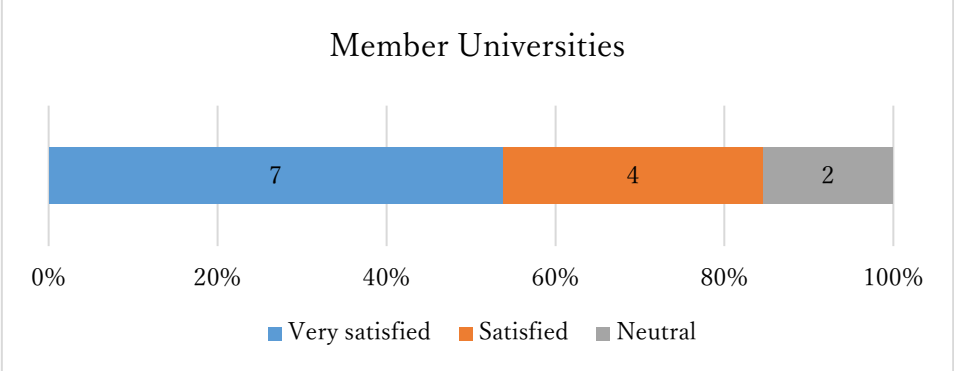
3
0%
20%
40%
60%
80%
100%
Very satisfied
Satisfied
Neutral


Member Universities
7
4
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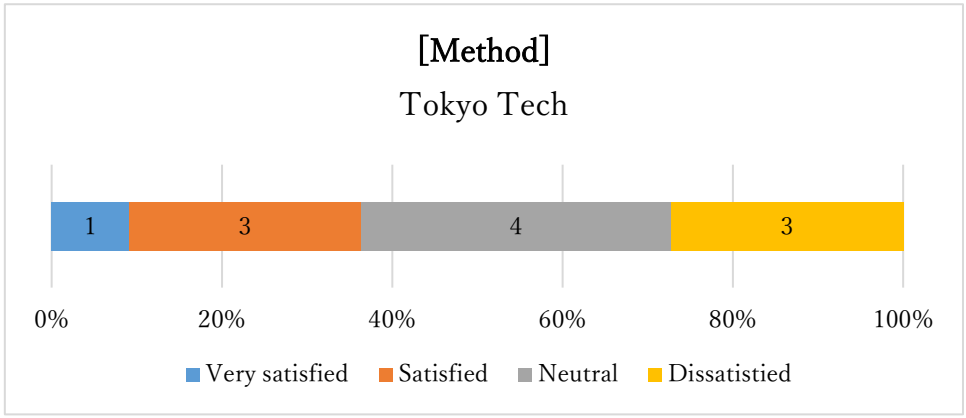
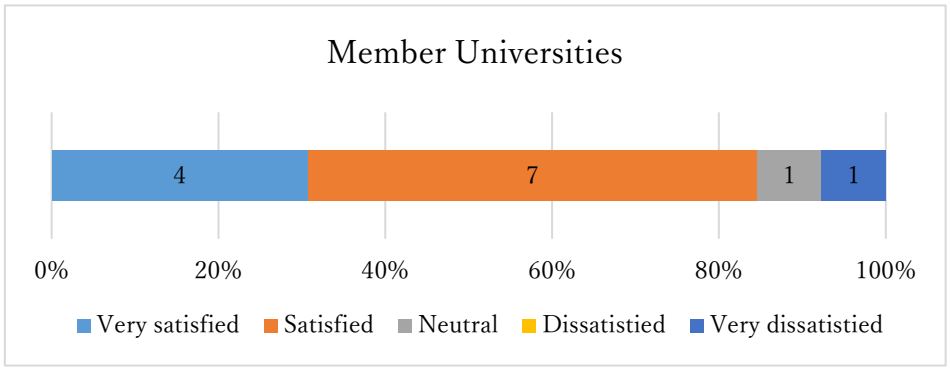
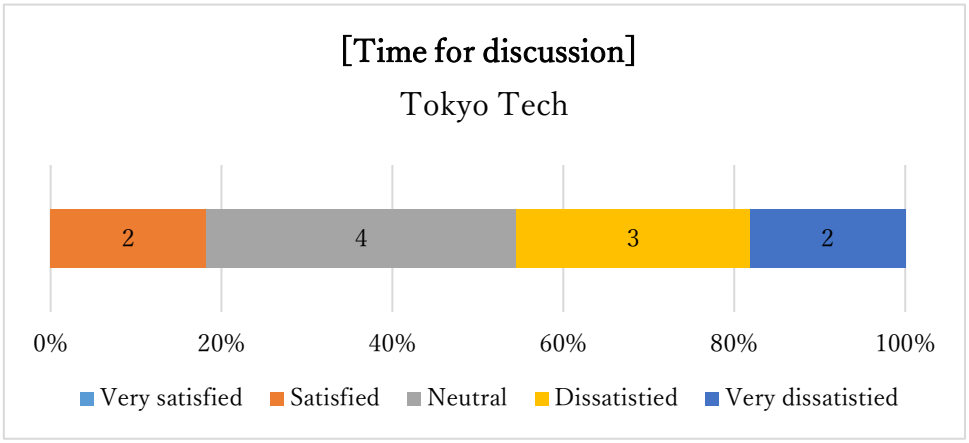
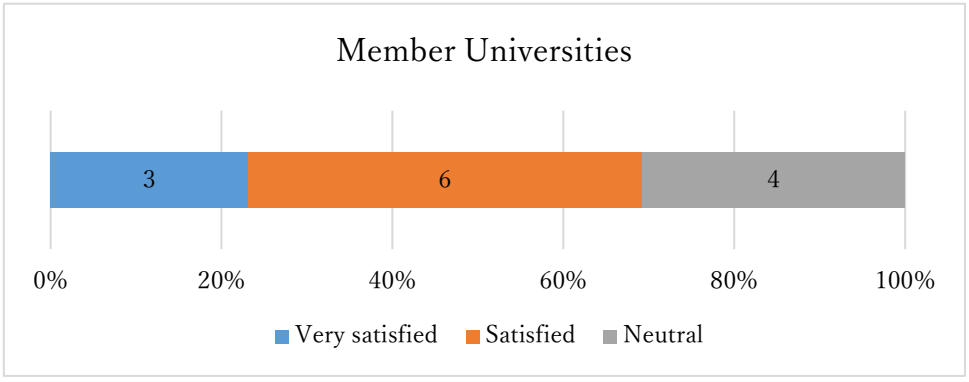
80%
100%
Very satisfied
Satisfied
Neutral

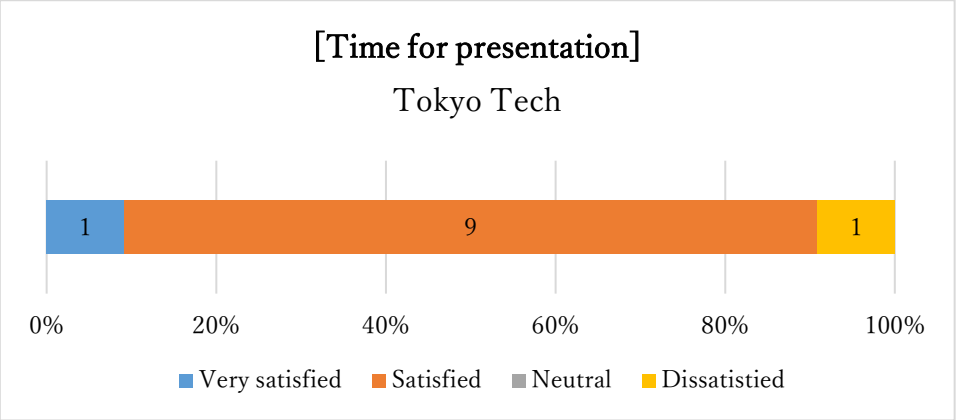
Q-8. Please indicate your level of satisfaction with the "Discussions and Presentation"

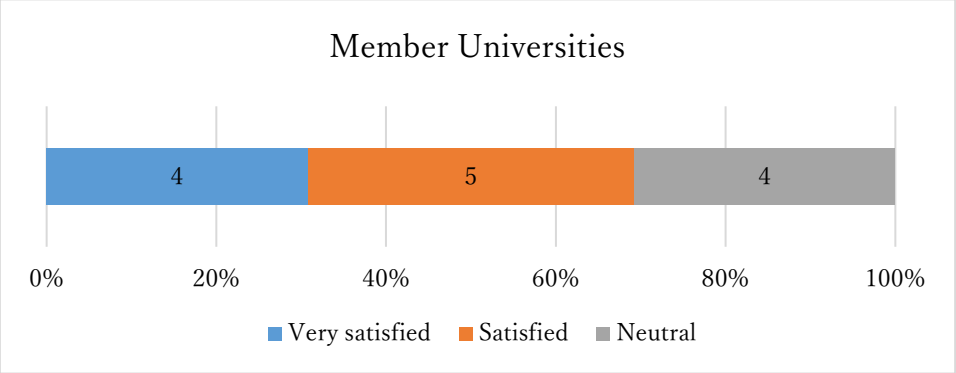




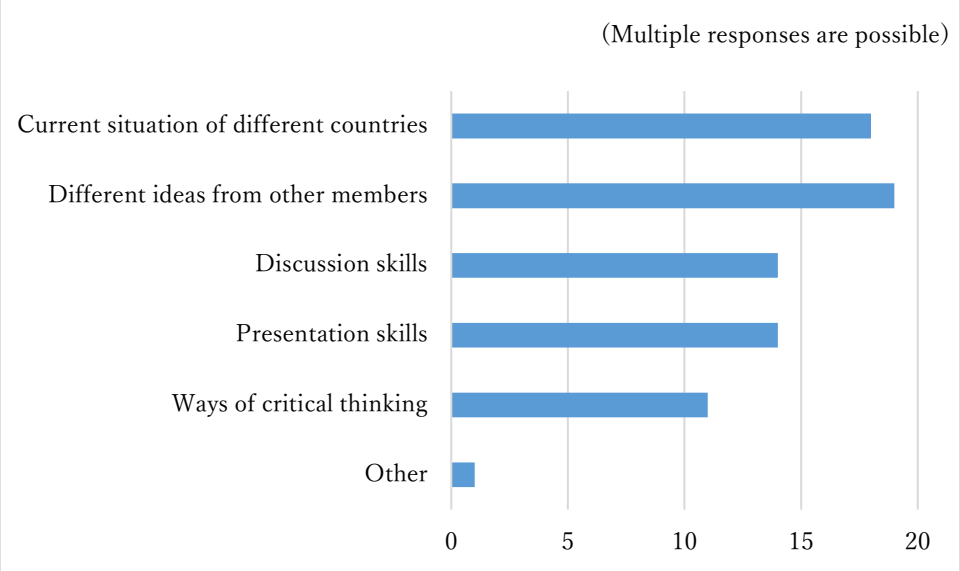








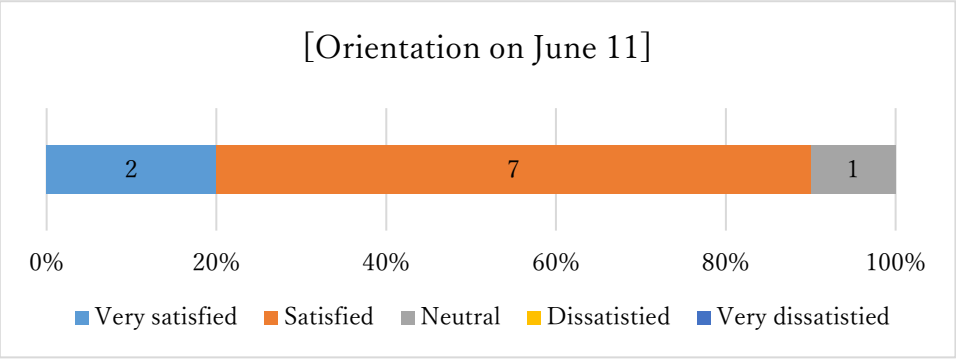
Q-9-1. Please answer what you learned through discussions during the program?

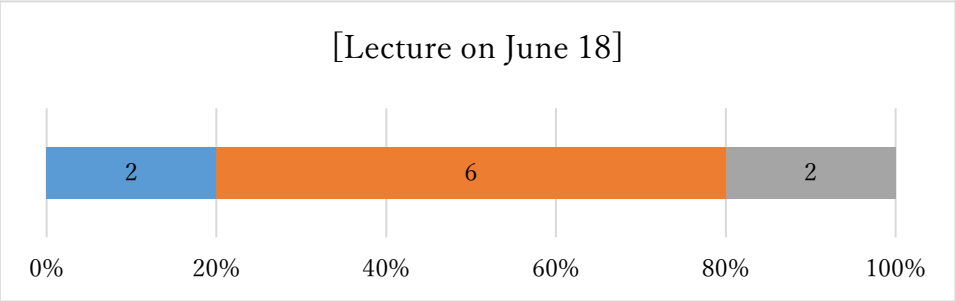


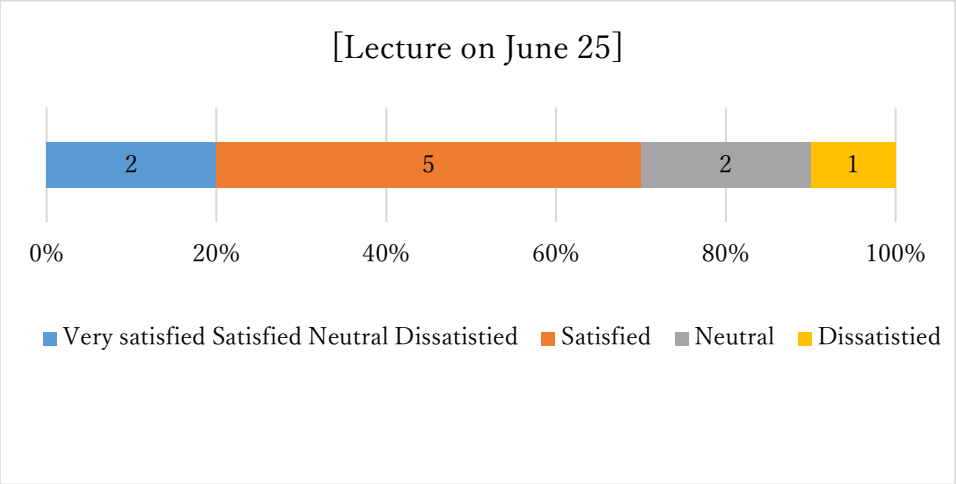
Q-9-2. If you chose "other", please describe a specific answer.

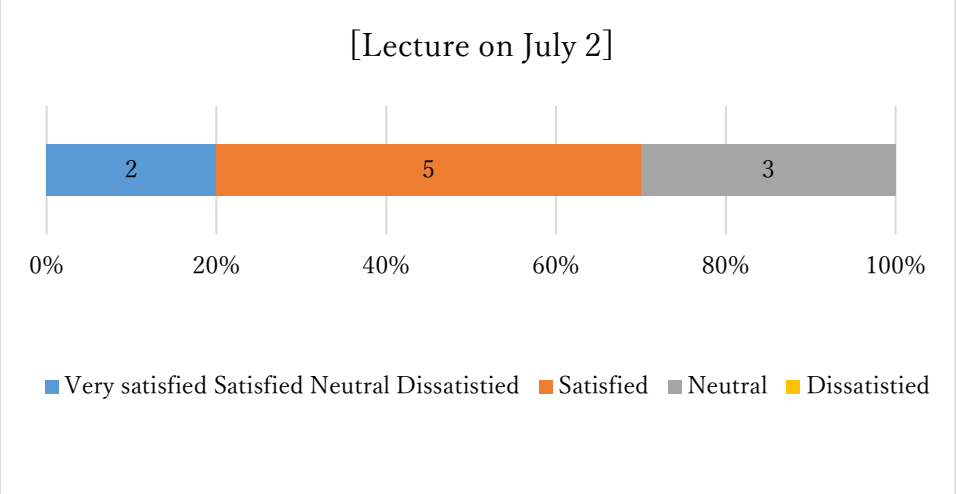
- The way to integrate my ideas to others'
- I learned how to think on a global-leader-scale.

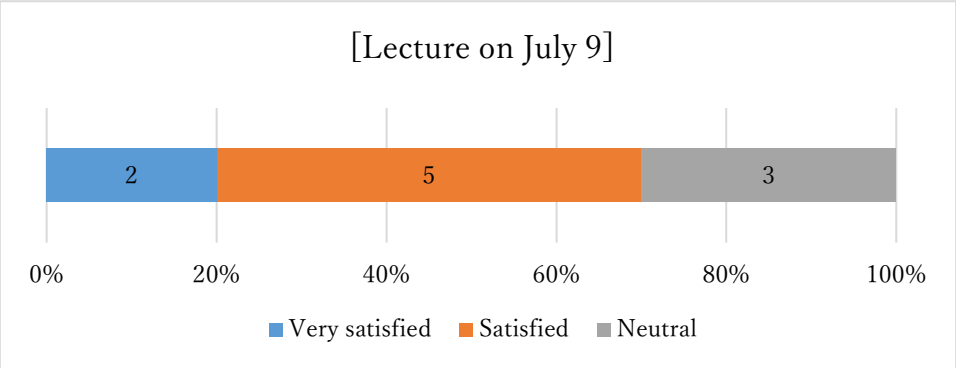
Q-10. (Only for Tokyo Tech Students) Please indicate your satisfaction with pre-study session.

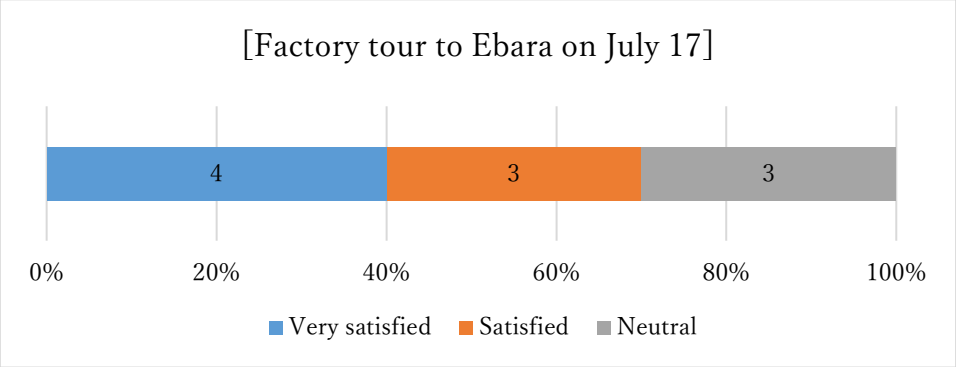


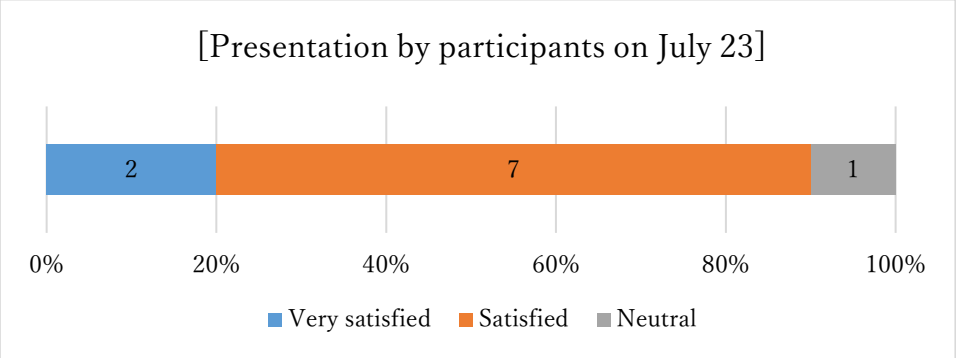




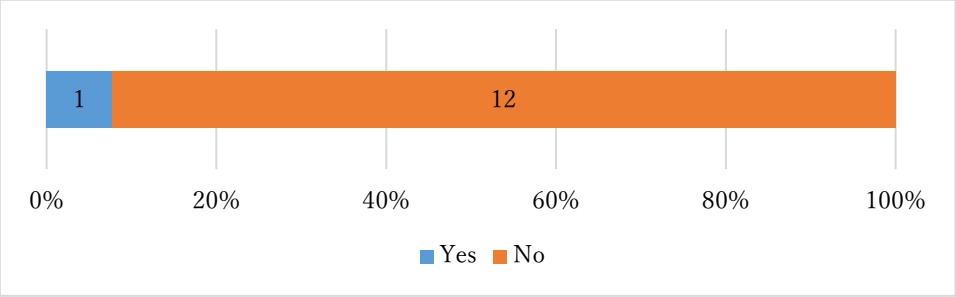




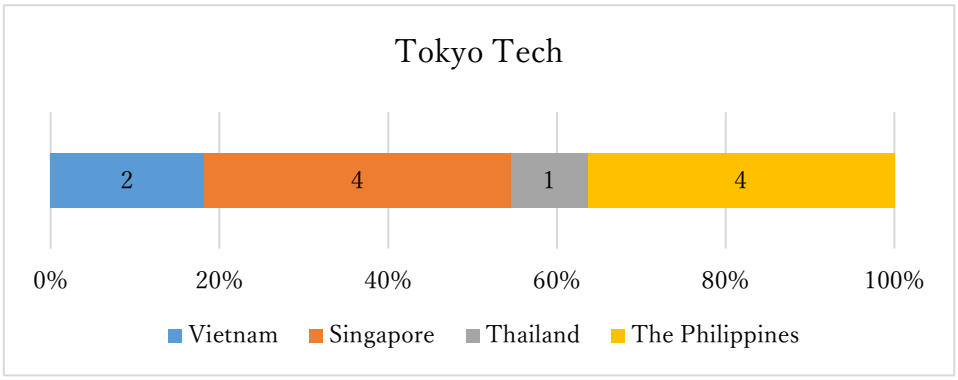


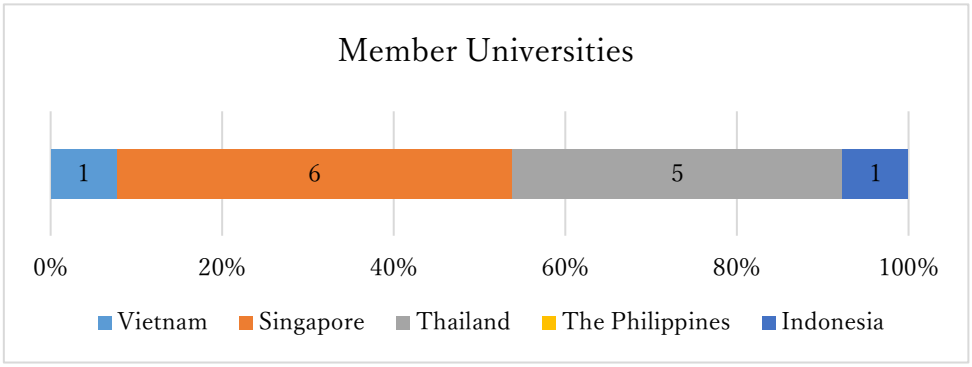


Q-11. (Only for member universities' students) Did you have an interview test in your university after sending application form?

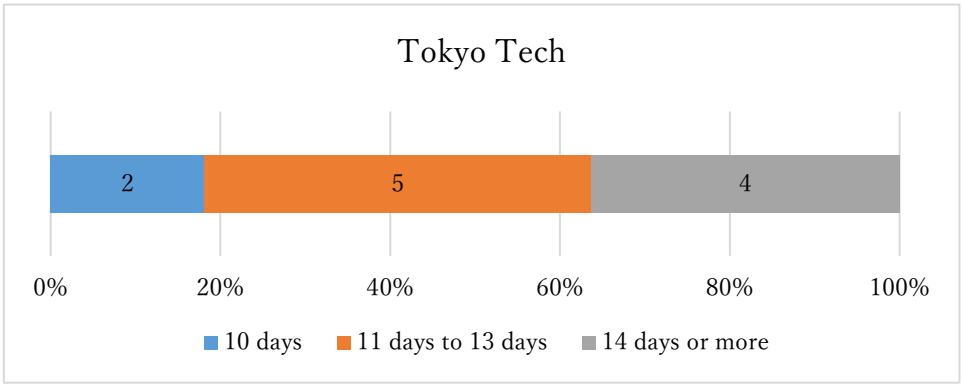


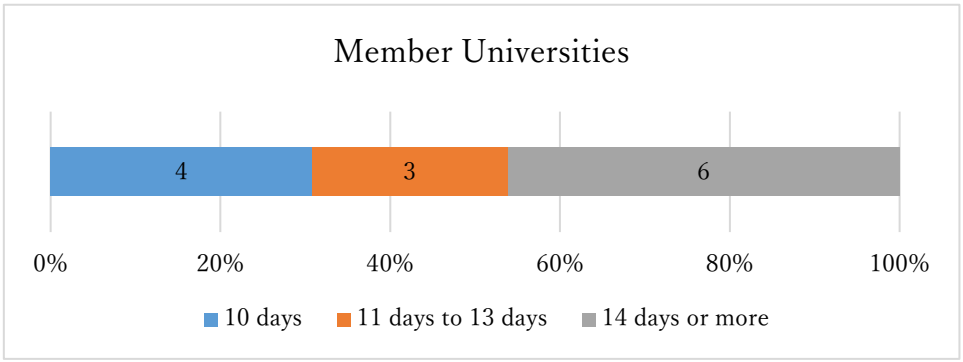
Q-12. If you were participating in AYSEAS 2020, which country would you like to visit?





Q-13. How many days would be best for Tokyo Tech-AYSEAS?





Q-14. What discussion topics would be of interest to the participants?

- About nature
- Aerospace Engineering
- Cultures of each country
- Difference between Japan and the host country.
- Energy problem in Asian country
- Engineering and Scientific Advancements as Tools for Creating Solutions on Current Social Issues
- Global Energy for the future
- Global warming because humanity is doomed by it
- How to develop eco-friendly technology
- If you make a country from scratch, what kind of country will you make?
- Industrial revolution 4.0
- Problems of mono-supplying industry
- SDG 2030 in each participant's country
- Sustainable Development
- Travel and tourism to attracts foreign
- Why has Singapore developed itself much more than other South East Asian countries, and what can other South East Asian countries can learn from success in Singapore.

Q-15. Please describe your suggestions, idea, and comments for Tokyo Tech-AYSEAS.

- 1. The schedule too tight. It is not in Japan, you have to prepare for the traffic jam. Besides that, there is prayer time for Muslim, please accommodate it. 2. Please tell the local students before about the restriction that overseas students have so the local student can prepare for it (example: cannot eat spicy food at all). 3. Please arrange the activity in detail. On the day when visit Patimban port, the lunch has been arranged by the committee. Unfortunately, it was too spicy for the overseas student. On the day when visiting the MPP project, fortunately there is space for the bus to park, so please pay attention to something like this. On the second day, the committee has not prepared the place for group discussion. Fortunately, the hotel staff is so kind so she can give the place for free.
- Everything is already prepared really well, I do satisfied with the program thank you very much to let me be of the participant, a whole new good experiences for me. Maybe it is needed to make 1 day just to prepare the presentation since the schedule is tight.
- Everything is very satisfied but if there are more conditions to support students financially it will be better.
- Great event, but I think the schedule is a bit too tight and we have time for rest too little, so I hope for the next AYSEAS to concern about this. Thank you

- I am really glad to take part in this program. Through this program, I learned many things like communication skills, religions, and so on. I wanna be able to speak English more frequently!! It gave me the motivation to learn English more! At last, I am really grateful to Ms.Yanagi, Mr.Nakashima, and Mr.Nagai. Thank you so much!!
- I appreciate how professional Astra Honda Motors was during our plant visit especially with how they prepared their company was because of them having a live interpreter during our visit and even provided each of one of us a headset to hear the speakers clearly and effectively. I hope PT CHEMCO does the same in the future because, in my group, the engineer touring us around can only speak Bahasa fluently which affected the quality of our plant visit experience. Moreover, I really appreciate how our Tokyo Tech and ITB professors how supportive and encouraging throughout the program and for our future endeavors, and even the way they disciplined us. I also hope that the professors can give the groups more defined criticisms after the final reports because I personally wanted to hear more in-depth comments that can mold us better as presenters, students, and global-leaders. Nonetheless, I am grateful to learn from constructive criticisms that our professors gave us after our final presentations.
- I felt English level of Japanese students is terrible.
- I think for the next Tokyo Tech-AYSEAS should to visit or learn from government (not only from industries)
- I think this is a very good program. I wish there were more days for stay.
- I understand that this program was not a trip but a study program, but I wanted to visit more historical sightseeing spots.
- Make an off-day (whole day)
- Make schedule a little bit loose.
- Maybe it would be better if the participant which dominating is not only from TokyoTech and host university, but also other universities member. So, the experience will be greater, maybe. Also, for the best experience on kinship of participants, maybe it would be better if all participants stay in the same place (e.g. hotel) during the program.
- Overall so great!! I enjoyed it so much. Thank you!
- Thank you for the opportunity of joining AYSEAS 2019. Any suggestion maybe it would be great if we make summary/ discussion for what we've done on this day. What is the good and the bad, the suggestions. We should be more close to each other whether it's students or teacher.
- The activities in Tokyo Tech-AYSEAS in Indonesia brings so many insightful and experience to me.
- The discussion must be more tight. We need to learn about design thinking, to solve the problem.
- The schedule was very tight especially in the morning

- This program Not only gave me motivations in engineering but also open my mind a lot about Japanese cultures and inspire me to learn more languages.
- Thank you very much for planning this program. It was so fun that it felt like less than a week. It felt too short!! I hope next year's program is longer than this year!!
- Tokyo tech students should have opportunity to know about AYSEAS in their university.
- Watch out for love drama between participants. Very fun to watch if you realize what's going on haha

Tokyo Tech-AYSEAS 2019:

Tokyo Tech-Asia Young Scientist and Engineer Advanced Study Program 2019

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