

Annual Research Report, 2015
Super Global High School Project

Date: February 26th, 2016

Place: Suda Hall, Akita International University

Participants: 275 students, 1st grade and 13students, 2nd grade

Visitors: Guidance committee, Akita Pref. University, Akita Chuo High School, as a Super Science High School, Field work acceptance cooperation institutions, Akita Prefectural Board of Education, Akita International University officials, and parents.

Purpose: Research reports

Presenters: 7 representative groups from 1st grade and 4 groups from 2nd grade.

Cooperation: Dr. Takeshi Akiba, Akita International University
Dr. Naoko Araki, Akita International University
Akita Prefectural University
Akita Economic research Center
Akita Chuo High School, Super Science High School

AM: Each Class presentations



Each group had 10 minutes, 7 min. for presentation and 3 min. for Q &A.

Comments:

The students could choose the presentation tools, poster or power point. Question and answer session should be more active. The 3rd grad students who already pass the college exams were arranged each class as a facilitator. Each class teachers instructed well and instruction levels are improved.

PM: Research report in Suda Hall, AIU



1. Each class representative's presentation and Q & A.

- i. Class C: "Can we solve the food issues in Samaria by using a Food Bank?"
In order to support Samaria, we can use the Food Drive system to collect the food. After collecting the food, it would be sent to Second Harvest Japan. We cooperate with Cargill Japan to transport the food to Samaria.

Q1: What kind of food will you send to Samaria?

A1: We have not decided yet. It should be familiar food found in Samaria.

Q2: How will you transport the food?

A2: We interviewed the transportation company, Cargill Japan. They said it takes 27 days by ship.

Q3: How about food damage?

A3: We didn't research that.

*Comment from Ms. Hayashi, Food Bank Akita.

ii. Class A: "Support for Muslim people with Akita food."

We suggest that Akita's famous Hinai-jidori (heirloom chicken) get a halal certification. The combination of stock farming and organic farming will be possible to do eco-friendly farming for Hinai-Jidori.

Q1: I believe that Hinai-Jidori is very expensive because of the brand name. How about the production cost?

A1: Some productions succeeded in using the brand name.

Q2: What do you use for a stable supply of feeding?

A2: Taking Aomori Shamo chicken, with a Halal certification for instance, the organic corn is the main food for it. I learned in Australia that worm compost is one of the possibilities for organic farming.

*Comment and advice from Akita Animal research center.

iii. Class B: "The spread of Japanese flour and an appropriate compounding amount of world flour. *Second prize

We focus on the world allocation of wheat as a grain. Food production is enough for the world population, but it is not equally delivered. To increase the amount of wheat grown within Akita, the amount of wheat export will be reduced in Japan.

Q1: Is there any cultivation limit in Akita?

A1: Grown in Ogata village. Usually, some wheat grows in warmer areas, for example in the southern part of Akita pref. because of the technology development. If the demand increases, the technology development will be more expected.

Q2: How come you can say that wheat growth in Akita can save the world food issues?

A2: Japan is the 5th in the world for wheat exports. If we can grow more wheat within Akita, then other countries can import more wheat.

Q3: How do you think that the reduction of wheat export might be afraid of trade conflict?

A3: The import and export problems are not only Japanese problems.

Q4: You exaggerated the graph, I think.

A4: I chose to explain the advantages of this graph.

- iv. Class F: "Solve the water shortage by using lichen power" *First prize
The strong grains, such as wheat, corn, or soybeans, will be grown by Agrobacterium method, one of the genetically modification methods.

Q1: How much water you can save with lichen power?

A1: We don't have enough data.

Q2: If you grow new plants for preservation of desertification, will the new ecosystem grow around that area?

A2: Certainly. We need to verify the safety with GM technology.

Q3: It is possible to certify the safety of GM, but do some people refuse it because of religious reasons?

A3: We should take the time to explain and communicate with opponents about GM.

Q4: Do some Japanese people disagree with the GM itself?

A4: We need to explain the safety of GM. It is one of the methods with scientific basis.

Comment from the facilitator. It is absolutely essential for researchers or engineers to discuss ethics with ethic philosophers.

- v. Class E: "Revolutionary ideas, No more food loss"
Food loss is a big problem in Japan. We suggest that people should bring home their leftovers from restaurants. "Mottainai" is a Japanese term conveying a sense of regret concerning waste.

Q1: I am afraid that only revolutionary ideas can help world food problems.

A1: Certainly, it is not an immediate affectivity, but the first step is to change our mindset to not waste food.

Q2: How about the hygiene management of doggy bag food?

A2: If people choose a restaurant that provides doggy bags, they show their

understanding for it. Hygiene management is still important.

vi. Class G: "How to use Nerica- for Burundi's Children"

Nerica is the best species for the African environment. We suggest solutions for the problems, such as water shortage, weeds, and bird damage. We will try to grow Nerica rice in Akita.

Q1: Do the noises from the bird damage prevention tool annoy the neighbors?

A1: Cans as tools for bird damage is not always hanging during the daytime. The actual sound is not so bad.

Q2: Can the birds come into the rice field from the side?

A2: No. They are afraid of the sounds.

Q3: You should consider the environment of Burundi to grow rice.

A3: Certainly. We will keep researching for this.

vii. Class D: "SOS from Africa, soy beans save African's stomachs."

To prevent African hunger, the cultivation method in Mozambique is the combination of growing soy beans and corn together. The irrigation system which was taught in Australia will be adapted in Mozambique. Then new cultivation method of soy beans will be spread all over Africa with company's financial support.

Q1: How about the conflict-affected area?

A1: It is too dangerous.

Q2: Is African soil suitable for pumping up?

A2: There is no problem with them.

Q3: I heard that Africa has a lot of pest damage.

A3: We should get the cooperation with companies for preservation.

*Comment from JA, Japan Agriculture.

2. Report of Oversea Field work, in English

Mr. Asari acted as MC in English. The students reported what they researched in Melbourne, Australia. They tried to answer the questions from audiences.

They got better at answering the questions in English.

3. 2nd grade students presentations

- i. Create the web page about matching farmers with new agricultural products
- ii. The steps to deal with decreasing the number of farmers in Akita
How to get involved to young people in farming
- iii. Calcium helps young people.
The importance of a well-balanced diet
- iv. Solve economic and environmental issues by reduction of food production or sales loss.

Comments:

Dr. Akiba, AIU was a facilitator of this conference. Each group presentation was well-done. The students did a great job on their presentations. We thanked Dr. Akiba for his wonderful coordination of this conference.

2nd grade students showed their leadership to 1st grade students. The students of Super Science High School, Chuo High School, asked some scientific questions about their presentations.

In the group of oversea field work in Melbourne, students tried to speak more challenging English than before. They were able to have an active exchange of opinions.

In the guidance committee, we got a high evaluation of this research report meeting. The progress will be expected next year.

Feedback:

Classroom presentation:

- Each group had a great presentation.
- 3rd grade students in each class acted as facilitators.
- I should have been careful with time designation.

- We needed more practice. Other groups were much better than us.
- We had a great chance to evaluate each other in class.
- I could get feedback from our audience.
- We need to do more research about our theme.
- There were similar themes, but it was interesting that each group had different points of view.

Conference in AIU:

- Each group built good hypotheses.
- I liked the group which involved a lot of audience participation.
- It is important how to speak or perform in the presentation.
- It was a great experience to have presentations in front of huge audience; even though it was very embarrassing to speak.
- I enjoyed the presentations because the students had fun speaking.
- It is very hard to ask questions in front of a huge audience. I need courage.
- The presentations include a question-and-answer session.
- The English presentation was great, and the Q & A session was greater.
- I understood the English presentation, but I was not able to ask questions in English. I need more practice to speak English.
- All English presentations are challenging, but I want to try it.
- The presentations of 2nd grade students were excellent. There was a lot of data and information.
- In the question-and-answer session, their responses were perfect.