2020/5/15

AY 2019 Project Achievement Report of ALL DOSHISHA Co-Learning Program

Project Title
酒の文化を科学の観点から楽しもう！ Let's learn and visit sake factories from the perspective of chemistry and engineering!

Project Members			
Role	Name	Major	Grade
Group leader	Aguru Sakai	Department of Mechanical and Systems Engineering	B1
Sub-leader	Jessica Mieko Dias Onaka	Department of Electrical and Electronic Engineering	M2
Negotiator	Tomohito Kita	Department of Mechanical and Systems Engineering	B4
Public Relations	Manaya Yonemitsu	Department of Intelligent Information Engineering and Sciences	B1
Public Relations	Ayumu Takeuchi	Department of Mechanical and Systems Engineering	B2
Questionnaire	Aliena Mari Paraiso Miranda	Department of Electrical and Electronic Engineering	M2

Expenditure			
Expenditure Items	Unit Price	Quantity	Amount
Transportation Fee			
Advanced meeting at Kitagawa Honke (Kyoto City)	1,120	1	1,120
Visit the factory of Takara Shuzo (Kobe City)	1,940	8	15,520
Honorarium			
Lecturers and interpreters of Kitagawa Honke	10,000	3	30,000
Appreciation Gifts			
Visit the factory of Takara Shuzo	2,268	1	2,268
		Total	48,908

Purpose of the Project and Reasons
Sake, which is one symbol of the Japanese culture, has scientific elements such as fermentation and engineering elements where mechanization leads to progress in manufacturing processes and manufacturing methods. We thought that it would be possible to attract the interest of international students by holding an event to learn about sake from a scientific point of view. We also thought that it would be possible to increase the number of international students by transmitting our activity results on the University website.

Details of Project Implementation (More than 1 page)
●Describe specifically your group project implementation in chronological order. ●Describe the roles of your group members and what they actually did for the project. ●Appropriately, you can attach photos by which we can see your work if you have. (Less than half of the format)
・May At the end of May, all members of the group began filling up the application form and repeatedly fixed it, based on advice from the faculty office of Science and Engineering, comparing the proposal with the events in the previous year. ・June We submitted the form in the middle of June. It was decided to carry out a project to learn about sake, which has scientific and engineering elements in its manufacturing process and manufacturing method, from a scientific point of view. When we planned the event, we thought that if we could compare cultural and scientific elements in sake and other forms of alcohol, we could learn more deeply not just about Japan and sake, but also about working together. We made Plan 1 to visit Kitagawa Honke and Suntory from the perspective of alcohol, and Plan 2 to visit Kitagawa Honke and Kizakura Co., Ltd., from the perspective of sake. On June 25, we had the first meeting with Professor Sato, the adviser of our project, and explained the plan to him. ・July On July 11th, at an all member meeting, we handed out planning materials and briefly verbally introduced the outline of our project to the members of other groups and advisors. Mid-July, since member Jessica was connected to the Kitagawa Honke person, we got an appointment to talk about the factory visit to learn sake scientifically with international students under the Co-learning program. On July 28th, Mr. Kitagawa came to Doshisha University, so Jessica, Ali, and Takeuchi had a meeting with Ms. Kitagawa to decide the tour and lecture details. It was roughly decided that the contents of the visit were lectures and factory tours. The lectures were about the history of sake making at Kitagawa Honke and the science behind it.

・August

On August 25th, Jessica, Ali, Takeuchi, Yonemitsu and Kita had a meeting at Kitagawa Honke to finalize the details of the lecture and factory tour. After that, Jessica contacted Ms. Kitagawa and the visit date was set on November 30.

・September

In early September, we decided to proceed with Plan 2 because it would allow an experience where participants can compare companies like Kitagawa Honke, where sake is made using traditional methods, with companies that promote the production of sake by mechanization, so that participants can deepen their understanding of sake. Kita was in the charge of negotiations and started to create an e-mail document for an appointment with Kizakura Co., Ltd, which was revised by the office.

・October

In early October, we made an email-based appointment with Kizakura Co., Ltd., but the plan did not push through. At the end of October, the visit to Kitagawa Honke Co., Ltd. was approaching, so Yonemitsu, who was in the charge of Public Relations, started to make posters to promote the event and to inform students.

・November

In early November, it was found that the schedule for visiting the Kitagawa Honke Co., Ltd. had not been reported to the faculty office of Science and Engineering when it was decided. It was a dangerous situation. Based on the advice from the office, we discussed the situation with the members of the group and thought of postponing the event. I asked if the Kitagawa Honke could shift the visit schedule, because there was no staff from the office available to accompany the group and the participants and another group was holding an event in the same period, causing us to compete with them for participants; however, due to the schedule of the brewing process, it was difficult to change the factory visit date. Therefore, the group discussed whether to give up on the Kitagawa Honke visit and proceed only with another company, or to manage the Kitagawa Honke visit on November 30 and proceed as planned. We chose the latter and showed our intention that we will recover from this mistake as we proceed with the second company visit, so we want to proceed with the Kitagawa Honke visit. We made and submitted a request for the selection of office staff to accompany the event to the Co-learning program committee to manage to hold the visit on November 30th. The program committee gave its approval for the event to push through. In mid-November, Yonemitsu, who is in the charge of Public Relations, created a mailing list, and from November 18, we started to inform the students by sending them the promotional poster through the mailing list. At the same time, we were looking for an alternative company to replace Kizakura Co., Ltd. Prof. Tsuchiya, an adviser of our program, introduced us a to a chief sake brewer (Toji) at Shirakabe-gura of Takara Shuzo Co., Ltd. Then Prof. Tsuchiya took the time

to negotiate for a factory visit for international students to learn about the engineering behind the modernization of traditional sake industries. Negotiations went well and the event pushed through. The deadline for recruiting participants for the Kitagawa Honke visit was November 25, and the number of participating international students was five. On November 30, we visited Kitagawa Honke Co., Ltd.

●Visiting Kitagawa honke Co., Ltd.

The visit consisted of an hour and a half lecture, a plant tour for about 30 minutes, sake tasting, and a question and answer session. In the lecture, the Toji of Kitagawa Honke explained about the history of Japanese sake production in the Fushimi area where Kitagawa Honke is located, the ingredients of sake, the fermentation process, the difference in the fermentation process with wine and beer, and the flavor of sake depending on the polishing rate. At the factory tour, participants actually saw the mash and smelled it, and participants over the age of 20 had an experience of drinking freshly squeezed sake. During the tasting session, the Toji explained the elements that he evaluated when tasting sake and demonstrated professional sake tasting done in sake competitions. After that, participants over 20 years old compared four types of sake. In the question and answer session, we learned that the quality of wine was determined by its raw grapes, whereas the quality of sake was determined by the technology of fermentation and other processes. This means that for wine breweries, agriculture played a big role, while for sake breweries, the skills and techniques used for brewing the sake has a big impact on the taste of sake.
After the visit, we asked the participants to complete the questionnaire and thought it would be useful for the second visit.

・December

We started preparing for the mid-term presentation on December 12. Ali created a PowerPoint, and Sakai created the script for the presentation in English to report the purpose of the event planned by group B, the outline, what was achieved by the mid-term presentation, and future challenges.
On the day of the mid-term presentation, leader Sakai gave a presentation, and Ali and Jessica supported the question and answer in English. In late December, Sakai got in touch with Mr. Ishihara, who is the Toji of Takara Shuzo, and the date of the visit to Takara Shuzo Co., Ltd. was set on January 26.

・January

In early January, due to a request from Takara Shuzo Co., Ltd., the date was changed to February 9. It was decided that Mr. Ishihara would come to Doshisha University on January 28 and we held a meeting. In the meeting, it was decided that Mr. Ishihara gave explanations each time in factory tour instead of giving lectures, and the Japanese members Sakai, Takeuchi, and Yonemitsu translated the explanations one by one. Yonemitsu, who is in the charge of Public Relations, made a

poster to inform students about visiting Takara Shuzo in mid-January. From 31st January, we started to inform the students through posters and mailing lists.

・February

On February 9, we visited Takara Shuzo Co., Ltd. There were four participating international students.

●Visiting a Takara Shuzo Co., Ltd.

The visit consisted of watching an English video presentation about sake production at Shirakagura, a factory tour, and tasting.

In watching the video presentation, we learned about the mechanized manufacturing process of Shirakabe-gura. In the factory tour, we first learned the tools used in the past, the rice used for brewing, and the polishing of rice by actually seeing and touching rice samples.

We proceeded with observing the machine for washing and polishing rice, and after that, we had the experience of adding koji mold to steamed rice. Participants were able to actually see what the koji mold was and bring back the steamed rice coated with the koji mold to allow participants to observe the changes in the coated rice.

After that, comparing the changes of the fermentation process of mash, the participants over 20 years old experienced the difference in taste. Finally, participants over the age of 20 tasted freshly squeezed sake and sake lees. At the tasting session, participants over the age of 20 tasted four types of sake.

After visiting the two companies, the leader Sakai wrote an activity report and asked the two companies to check the contents.

・March

After revisions, it was submitted on March 16. In April, a final report was created as the final activity of the Co-learning program.

Acquirement of Competences through the project (More than 1 page)
●Describe the results compared with the goals and objectives in your project proposal. ●Describe what kind of skills and abilities you improve since the project started. ・3 elements of global mindset （①Global vision, ②Respect for diversity, ③Intercultural understanding） ・Fundamental competencies for working persons (3 Competencies/ 12 Competency Factors) ①Ability to step forward (Action) ②Ability to think through (Thinking), ③Ability to work in a team (Teamwork) ●In the case of non-achievement of the goals, please write specifically ①what you could not have done in the plan, ②the factors, ③the solutions.
The goal we initially planned was to hold events to learn about Japanese sake, one of the symbols of Japanese culture, from a scientific and engineering perspective in order to catch the interest of international students. To achieve our goals, we focused on sake and planned to visit Kitagawa Honke Co., Ltd. and another company that can be compared with Kitagawa Honke. The final result was that we were able

to visit Kitagawa Honke Co., Ltd., which carries on the traditional manufacturing method in the Fushimi district, which was famous for sake brewing, and Takara Shuzo Co., Ltd., which is promoting mechanization in the Nada district which was also famous for sake brewing. In addition, tours were planned to include interactive experiences, and scientific and cultural insights on manufacturing, fermentation processes, history development of brewery machines, and sake tasting; however, earlier plans aimed at the second factory tour to be at Suntory, for beer and other alcohol, or Kizakura Co., Ltd. for a different perspective on sake, but it was not possible to arrange a visit to these companies. In addition, we were not able to achieve the schedule that was set to achieve our goals. The schedule considered at the start of the program is as follows.

Mid-July company selection
August Corporate appointment held
Early September Students familiarization
Late September Questionnaire creation
October or November Lecture / factory tour, questionnaire collection
November Questionnaire analysis, report preparation

The first point we missed was the second company appointment. We think that we were slowed down by the early achievement of the first Kitagawa Honke's appointment, and we delayed writing emails for the second appointment. To prevent this, it is necessary to keep the motivation formed at the beginning of the program and, when one company's appointment is made, we needed to reconfirm details earlier. Furthermore, when Kizakura's appointment failed, we thought it was better to focus on sake and turned to a new company rather than Suntory. We think this is because the plan we made at the stage of making the first proposal was not well-planned. It might have been possible to avoid changing the plan easily if more discussions were made when creating the plan. Since the corporate appointment was delayed, all the scheduled activities to follow it were also delayed. In addition, while planning the Kitagawa Honke visit, we neglected to report, contact, and consult, and the visit that had been decided with the company might have not been held. It would have been possible to prevent this by frequently reporting and communicating with the faculty office of Science and Engineering and the supervising professors on what was decided during discussions with the company, and what was decided among the members of the group, so that we can actively consult the office and the professors with uncertainties and doubts about the project.

About the ability improved from the project

Since there were Japanese students and international students in each group, by acting as a group, we felt the difference in the aggressiveness of the international students in expressing their opinions and the difference in their awareness of meeting time, we deepened our understanding of vision, diversity and different cultures. In addition, independence and the ability to work have grown to the point where we have more experiences of working with companies and communicating plans and contents that we want to do. In addition, when we proposed ideas to the company, thought about the contents of the plan, and when we found a problem, we had to think about how to deal with it. So, we were able to improve our creativity and problem solving skills. Lastly, we think that discussing with the members of the group and companies, listening to others' opinions and expressing our opinions gave us the ability to work as a team. When Kizakura Co., Ltd.'s appointment failed, we were able to understand the situation, make an appointment with a new company, and achieve our goals. So, we were able to improve flexibility.

Future Expected Results of Ripple Effect (Within 1 page)

●Describe how it will be desirable that the University will use your project outcomes in the future.

●Write the approaches as many as possible for more spreading out the project outcomes.

Doshisha University will continue the All Doshisha Co-learning program in the future, so in each year's program, one group plans to touch on Japanese culture from a scientific perspective. We hope that by making it possible for students of the partner schools to collectively view the results on the university's website, Doshisha University can xadvertise that there is an opportunity to certainly participate in the program to experience Japanese culture when studying at Doshisha University and get the more international students. My idea for spreading the results is to create posters containing the results of each group and send them out on the mailing list, etc., so that Doshisha students and students of partner schools who don't know well about the All Doshisha Co-learning program can learn about it easily.