

2017 Tokyo NODAI Long-Term Program

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1. REASONS FOR PARTICIPATING IN THE STUDY ABROAD PROGRAM.

When I was thirteen years old I felt a strong interest in learning the Japanese language since I liked the animes and their soundtrack. Therefore, I decided to start Japanese courses at Chapingo Autonomous University.

I was amazed with the language since the beginning of the course, due to It was fascinating to learn to write and read hiragana and katakana.

As time goes by, thanks to my Japanese teachers Mariko Kawaminami and Takuo Hozumi, I got to know and discovered more about Japanese culture which caught my attention, for example, the art of origami, the ikebana, the furoshiki, the gastronomy and the traditional costumes.

Afterwards, when I started University, thanks to my Japanese teachers again and to the Department of Academic Exchange of my University, I found out that there was a possibility of traveling to Japan to do my pre-professional stay at Tokyo University of Agriculture. I did not think twice about it, I decided I wanted to go to Japan.

I wanted to see for myself all the incredible things that are said about this country, the values, the daily life, the education, the technology, the entertainment, the culture, etc. I also wanted to improve my Japanese language and meet new friends and places.

On the other hand, as I progressed in my university studies, I realized that Japan is a very important country in the field of food science. As a result, my motivation increased when I knew I could go to study their food production processes, as well as belonging to a laboratory and carrying out an investigation in my field of study.

Throughout my studies at University, I was always interested in the sensory properties of food, as well as the innovation of food products, so when I knew that there is a Department of Fermentation Science at NODAI, I was attracted to the Laboratory of Seasoning Food Science since I saw that, at this laboratory, the lines of research are focused on the sensory properties of the fermented products, therefore, I decided to apply to carry out an investigation at this laboratory.

2. ACTIVITIES YOU DID DURING THE PROGRAM (BOTH EDUCATIONAL AND CULTURAL).

1. Courses offered at Tokyo NODAI

During my stay at Nodai, I had the opportunity to attend three courses in English that are offered as part of the international program of the Tokyo University of Agriculture.

The first course is called “Molecular Biology and Biotechnology”. I found this course very interesting since many professors from the Department of Bioscience participated. In each class, the professor in turn explained us about one of his researches. This was very enriching owing to the teachers complemented the theoretical knowledge together with the results obtained in their researches. The main topics that were covered in this class were plant breeding for osmotic stress, challenges to environmental problems using plant technology, signal transduction in plants, screening of heat tolerant genes and its application to crops, and mechanisms of gene expression.

The second course I attended is called “Food and Health 2”. I found this class very interesting due to it is closely related to the food science field, which is what I study. Many teachers from the Department of Nutritional Science and Food Safety participated in this class. I liked this class a lot because I learned many things about functional foods, the phytochemicals that can be used to create functional foods and the efforts that are made in Japan to classify them. My favourite part was when we covered the topic of flavour, as I learned how flavours develop in foods and how we perceive them in our body; I also liked when we covered the topic of food rheology and texture, since it is an issue that I am interested in since the beginning of my career.

The third course I attended is called “Comparative Developing Agriculture”. I was very interested in this class because the syllabus includes making a comparison between Asian

and African agricultural techniques, so I could expand my knowledge about the agriculture development in other continents, not only mine (America). I liked the class a lot because the teacher Nina Shimoguchi encouraged us to participate a lot, so the knowledge was enriched due to the presence of many foreigner students from France, The Netherlands, Japan, Nepal, Peru, Mexico, Brazil, etc. I also had the opportunity to read very interesting readings about the agriculture in Asia and Africa, as well as to meet very important people in the field of the agriculture development, since there were several special lectures where people with experience in the development of agriculture came to give speeches about extension in Japan, etc.

2. Japanese language class.

On the other hand, I had the opportunity to attend a Japanese course at NODAI along with some international students from Vietnam, Myanmar, Thailand, Sri Lanka, Brazil, Tanzania and Cambodia. Throughout this course I learned many new things about the Japanese language such as vocabulary, grammar and use of language in specific situations (for example, when you visit a friend or when you invite a friend, etc.), this helped me a lot to improve my language skills because I put into practice everything I learned in this course during my daily life in Japan, for example, when I went to the library or when I went shopping.

I also could learn several kanjis. This was very useful for me due to, by learning kanjis, Japanese daily life became easier with the passage of time since I was able to understand important things and signs on the street, in the subway, at school and in stores.

Although this class was a bit difficult because we had to take an exam every week and the classes were very long, it was one of the most profitable classes for me owing to one of my goals was to improve my Japanese language skills. In addition, the teachers were always very patient, and they explained carefully the topics and applied different dynamics to learn such as songs, videos and plays.

3. Laboratory

I belonged to the Laboratory of Seasoning Food Science at the Department of Fermentation Science. My host professor was Ph.D. Maehashi Kenji.

At this laboratory, I carried out a research about Japanese Fermented Products along with my Mexican partner Yadira Reyes.

In this research we studied mainly two Japanese products: Kurozu (black vinegar) and shio koji, however, we also had the opportunity to study products like miso and sake due to at the beginning of our stay we made lab-scale miso, so we learned its production process, the technology used and the characteristics of this product. In addition, we visited a sake factory.

The main objectives of this research were to analyse the different types of fermentation (lactic, alcoholic, acetic) and saccharification in the making process of kurozu and to determine the chemical and sensory characteristics of the herb shio koji and its preference according to its sensory attributes.

Regarding kurozu, 8 treatments were studied. The difference between the treatments was



the starter culture (tanezu or AAB), the concentration added to each treatment and the period in which the starter culture was added. In order to analyse the saccharification and the different types of fermentation, it was necessary to take samples from each of the treatments throughout the fermentation process and to analyse the pH, the concentrations of acetic acid, ethanol and lactic acid of each of the samples. Subsequently, an analysis and a graphic representation of the results were made.

As far as shio koji is concerned, 7 treatments were elaborated with 6 different herbs and a control. The herbs used were oregano (*Origanum vulgare L.*), coriander (*Coriandrum sativum L.*), lemon balm (*Melissa officinalis L.*), rosemary (*Rosmarinus officinalis L.*), dill (*Anethum graveolens L.*) and sage (*Salvia officinalis L.*). The concentration of glutamic acid and glucose was measured in each of the treatments, as well as the enzymatic activity of the α -amylase and the acid carboxypeptidase. Subsequently, a sensory evaluation was carried out in which the characteristics that shio koji contributes to beef and chicken were described, when these are marinated with shio koji before being cooked. Finally, a preference test was carried out in which the attributes taste, smell and

texture of each of the treatments were evaluated. All the results were analysed and represented graphically.

4. Visits to agricultural facilities.



I visited many agricultural facilities at NODAI because of the courses I attended during my stay.

In the Molecular Biology and Biotechnology course we visited some of the greenhouses of NODAI. To be honest, it was amazing to see all the infrastructure and technology they have.

In the Food and Health 2 course some of the teachers took us to their laboratory where they gave us a tour of it and some of the students presented their research work to us. One of the laboratories that I liked the most was the Laboratory of Food Processing, where the teacher Akuzawa Sayuri is, because I got to know equipment like texturometers to evaluate the rheology of food.

In the Comparative Developing Agriculture class we did not visit any laboratory, however, we visited the Cup Noodles Museum in Yokohama. I liked this visit a lot because I learned the production process of the Cup Noodles and the technology applied during its manufacture, as well as the history and evolution of this innovative product. Besides, I created my own completely original Cup Noodles package and tasted many kinds of noodles from around the world.

Finally, thanks to the effort made by our host professor Maehashi Kenji and our laboratory mates, we visited a sake factory called "Aiyu Shuzo" at Itako, Ibaraki. Along this visit, we did a tour of the factory where the owners and the workers explained us each of the stages of the sake production process. This visit was fascinating because we were able to observe the equipment used, the materials, the facilities and the true process of making sake. At the end of the visit, we went to the company store, where we tried different kinds of sake, they also gave us brochures with very important information about sake and we bought some bottles of sake and different items such as sake cake as well.



5. Interactions with students of Tokyo NODAI.

While I was at NODAI I met many people with whom I shared very good moments. I had the fortune to meet people from many countries such as Brazil, Peru, Thailand, Vietnam, Myanmar, Cambodia, Sri Lanka, Tanzania,

Argentina, Indonesia, The Netherlands, France, Taiwan, and obviously, Japan.

I met them because they belonged to the same exchange program, in my Japanese course, in the courses that I attended, at the laboratory, in activities like the Latin America Coffee or because we had friends in common.

We shared many good moments like parties, trips, food, laughs, movie nights, drinks, dances and smiles.

What I liked the most about spending time with NODAI students was that they were always very kind and patient with me. They taught me the casual language and helped me to improve my language skills. They were also very warm as they always tried to include me in their activities, they organized parties for us, they taught us to use the equipment at the laboratory, they took care of us, they helped us to look for information about the shops and places to visit and, in some cases, we made trips together to places like Shibuya, Kamakura, Yokohama, Disney Land, etc.

Finally, everyone made me feel special when the time to leave Japan came because they organized farewell parties for us, gave us gifts and accompanied us to the bus terminal to say goodbye. We shared very special moments that I will always remember with a smile, to make friends at NODAI was undoubtedly the best experience of all.

Regarding cultural activities, I visited many important places and museums at Tokyo, for example, Asakusa, Ueno Park, Shibuya, The Imperial Palace, Tokyo Tower, Shinjuku, Tokyo Open Air Architectural Museum, Tokyo National Museum, etc. I also had the fortune of making a trip to Kyoto and Osaka with my Mexican friends where we visited many important places and tried many typical sweets.

3. Explain what you accomplished and learned through this programme.

There are many things that I learned during my stay at NODAI. The first one was that I learned many things about fermentation of food, Japanese food products, laboratory techniques such as HPLC, spectrophotometry, etc., I learned how to use different equipment and materials in the laboratory, theoretical aspects of fermentation, production processes of sake, miso, kurozu and shio koji, etc.

At the courses I attended I learned many things about the agriculture in Japan and another Asiatic countries, as well as in Africa; I also learned about the diet and health of Japanese society.

At the Japanese class, I was able to learn many things about this language such as grammar, vocabulary, expressions, kanjis and how to use the Japanese language in a polite and casual style.

On the other hand, not only is the academic learning that I acquired during three months at NODAI, but I also learned things that made me improve as a person. As a result of being away from my family, I could realize how difficult it is to live alone, I learned to manage my money, to cook, to take care of myself alone, etc., this learning is just as important as the academic and, to be honest, it is fascinating to know that I am able to take care of myself and enjoy myself every moment of my life.

In addition, I learned many things about Japanese life, lifestyle, way of thinking, way of acting, culture, music, traditions, history; However, since there were many international students, I also learned things from different countries, thanks to the cultural exchange that is experienced every day. This helped me to have a better vision and to expand my horizons.

Finally, I finished my studies at my home University, since this stay was the last stage of my university career. Consequently, I obtained my transcript of my university studies.

4. How did this program shape your career and how will you apply what you learned in the future.

Academically and professionally, this program gave me many theoretical and practical knowledge thanks to the classes attended. In particular, the knowledge I acquired at the

laboratory helped me to gain experience in the research and laboratory work, so now I can apply different laboratory and research techniques in my thesis and in my next research work.

Overall, thanks to the classes and the laboratory, I understood the way food is produced in Japan and the characteristics that are evaluated when creating a new product, so I can compare it with the Mexican production forms and thus have a better vision about food production. In the future I would like to create my own food company, so I will be able to develop innovative products which meet needs and include fermentation techniques, making them more functional for the society.

As a consequence of carrying out a research of this type, I reinforced my interest in the fermentation of food and in the innovation of food products. Therefore, I would like to study a master in these lines of research, which, at the same time, would help me to insert myself in the labour field of Research and Development of food products and in the creation of my company.

On the other hand, I will continue applying all the personal learning obtained, which will help me to grow as a person, to be more independent and to improve my personal and professional relationships.

Finally, learning Japanese is still being one of my biggest personal challenges, so I will continue studying this language and improve it every day.

5. Any advice for future study abroad students.

Some tips that I would like to give to future study abroad students are the following:

- Manage your money well.
- Get out of your comfort zone and dare to do new things. Yes, it is true that traveling to another country to study means to leave your comfort zone but make a bigger effort so as not to be stuck missing your country and your family. Experiment, enjoy and strive every day to learn something new, something that improves the person you are, whether in the academic or personal aspect.
- Make the most of the knowledge that teachers give you at different classes. If you have doubts, ask. The teachers will always be there to support you.

- Protect your own image, your university's and your country's image. Remember that when you travel to a foreign country you represent your country, so it depends on you to provide opportunities or not to your colleagues and to yourself.
- Forget your shyness. At first it may seem difficult to get to live with Japanese people or foreigner students as they can be shy or introverted, however, forget your shyness, come talk to them, show them that they can trust you and you will surely make very good friendships.
- Keep an open mind always. This will help you to understand other cultures and to better coexist with people and with your friends.
- Get involved in Japanese culture. Visit many places, try a lot of food, know its history, get involved in the activities of a club or an organization, etc. This will help you to understand better their traditions, their culture, their religion and it will be easier for you to get used to the Japanese way of life and adopt their customs and values.

6. Any suggestions to improve the program

I think that this program is very good and I feel very thankful with all the people that helped me to make my dream come true and who supported me during my stay at NODAI.

I consider that one improvement that can be done to the program is to receive more support when arriving and leaving Japan, because it is very difficult to travel by public transport with big luggage. So, it would be nice to pick up and leave the students at the airport by private transport so as to make the transportation easier.

Another improvement that can be done is to give an induction to the Japanese lifestyle due to when the students arrive to Japan do not know anything about it and, sometimes, they can make some mistakes. It also will help the students to get used to the Japanese daily life easier.

Finally, I suggest that it would be good to make a final presentation about the results obtained during the exchange program with all the international students who belong to the program in order to share experiences, knowledge and also to encourage students and teachers from NODAI to take part in this program.