

(For JSPS Fellow)

Form B-5

Date (日付)

24.10.2014 (Date/Month/Year: 日/月/年)

Activity Report -Science Dialogue Program-

(サイエンス・ダイアログ事業 実施報告書)

- Fellow's name (講師氏名): Josefine Nestler (ID No. P 14704)

- Participating school (学校名): Ichikawa Gakuen Ichikawa Senior Highschool

- Date (実施日時): 14.10.2014 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): (in English) From plant biology to molecular genetics

(in Japanese) 植物学から分子遺伝学へ

- Lecture summary (講演概要): Please summary your lecture 200-500 words.

The lecture I gave at the Ichikawa Senior High school had several parts. (I) living in Germany part, (II) why English is important (III) a general overview of the science fields I'm working in, (IV) a very short overview of my PhD thesis and (V) the project I started here in Japan. I ended the lecture in presenting a little experiment of DNA isolation (VI).

First, I tried to give the students an overview of everyday living in Germany including some information on foods & drinks, but also inventions made in my home country that still have an impact today. I shortly spoke about the foundation of Germany and our most important national holiday (Oct 3rd) as it was still close. To give an impression on how you become a scientist I shortly introduced my CV. Hiura-san of the Ichikawa Senior High school asked me to not just give the lecture in english, but also to try to make the students understand why learning english is very important today. I tried to access that point by showing an overview of the variety of languages and writing systems and briefly summarizing why English is an easy language compared to many others.

To introduce the fields of biology (plant biology and molecular genetics) I'm working in or am trained in, I used a lot of example pictures. I gave an overview of the many subfields possible to increase interest in research related to plants. For the more modern fields of plant-related research I gave an overview of the most-used techniques and tried to explain them in easy wording. In order to explain parts of my PhD thesis I attempted to teach them the difference between genotype and phenotype as well as how mutants can be identified and genetically mapped. As an explanation point for my recently started project funded by the JSPS I introduced natural variation in rice mainly by pictures to make it easy to understand.

The last part of my lecture was an easy experiment designed for high school students. It is to demonstrate that DNA is part of every living thing as well as how easy it is to isolate even with

materials you can buy in a supermarket. I demonstrated it using small parts of a mango and it resulted in DNA quantities easily visible with bare-eyes.

- Language used (使用言語): English

- Lecture format (講演形式):

◆Lecture time (講演時間) 90 min (分), Q&A time (質疑応答時間) 5 min (分)

◆Lecture style (ex.: used projector, conducted experiments)

(講演方法 (例: プロジェクター使用による講演、実験・実習の有無など))

Powerpoint presentation with projector, Experiment: DNA isolation from fruits with household methods

◆Interpretation (ex.: assistance by accompanied person, provided Japanese explanation by yourself) (通訳 (例: 同行者によるサポート、講師本人による日本語説明))

One question (+ my answer) was translated, everything else done in English

◆Name and title of accompanied person (同行者 職・氏名)

B.sc. Erina Shimamura

◆Other note worthy information (その他特筆すべき事項):

- Impressions and opinions from accompanied person (同行者の方から、本事業に対する意見・感想等がありましたら、お願いいたします。):

今回、先生のほうから「生徒たちから質問があったり、わからないというそぶりを示されたりするまでは、できるだけ通訳をしないでほしい」という依頼を受けていました。そこで、参加生徒たちの様子を観察していたのですが、表情や動作の変化が乏しかったため、「理解できていない」という確証を得るまでには至らず、結局ほとんど通訳しない結果となりました。

実際、参加生徒の英語力は、背景知識のほとんどない話題を理解するまでには達していない印象を受けました。ドイツの紹介のときにはわかりやすかった反応が、専門的な内容に入ると極端にわかりにくくなったためです。そこで、JSPS フェローに英語で授業をしてもらうときは、参加者により英語力の高い生徒を選抜したり、あらかじめどの程度まで深く話すべきかをより細かく設定したり、実験やアクティビティを中心にするよう指示したりするなどといったことが必要なのでは、と思いました。また、少しでも理解していないかもしれないと感じたらすぐ通訳するべきであったと反省しました。

尚、実験の時間は生徒にとっても好評で、遺伝子の抽出について理解し、楽しんでもらえたようでした。やはり、まだ専門知識の乏しい高校生へは、実際に見せることが最も効果的なようです。